ORGANISATION FOR THE PROHIBITION OF CHEMICAL WEAPONS

Compilation of Codes of Ethics and Conduct

A Collection of Codes of Ethics and Conduct (and Related Guidelines) Compiled for the Workshops on Ethical Guidelines for the Practice of Chemistry under the Norms of the Chemical Weapons Convention

September 2015

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Foreword

This document includes a collection of codes of conduct and codes of ethics (and related documents such as guidelines for such codes) that were obtained by internet searches and/or provided by chemistry practitioners. These documents were used in a text analysis presented in the Workshops on the Ethical Guidelines for the Practice of Chemistry under the Norms of the Chemical Weapons Convention.[1] The collection is by no means comprehensive and furthermore has been limited to English language documents for direct text to text comparisons. The documents reflect the versions that were available as of September 2015; updates to any of the compiled codes made after September 2015 would not be reflected in the material contained in this compilation (or the analysis presented in the workshop reports).

[1] Report of First Workshop:
https://www.opcw.org/fileadmin/OPCW/SAB/en/March_2015_Ethical_Codes_Workshop-Report.pdf

Report of Second Workshop:
https://www.opcw.org/fileadmin/OPCW/SAB/en/Hague_Ethical_Guidelines_2nd_Workshop_Report.pdf

Académie Royale des Sciences ET AL.

Region: Western Europe and Others Group

Country: Belgium

Type of Organisation: Science (including chemistry)

Type of Document: Code of Conduct

Rigour and caution

A. RIGOUR

A researcher's work is deemed to be rigorous when he/she applies the generally acknowledged rules of his/her discipline with precision.

1 The researcher acts in a precise and nuanced manner when carrying out research and publishing its results. The obligation to obtain results should not interfere with this principle.

2 Researchers must conceive and undertake their protocols as precisely as possible. In their research work, researchers must take into account the latest state of the art in their domain. They must obtain the necessary skills beforehand in terms of knowledge and mastery of the techniques, while developing a critical mind. Assignments for which they are not qualified or that can be reasonably considered as impossible to execute must be refused.

3. The researcher must check whether the tools he/she intends to use (for instance, laboratory equipment, measuring material, standard questionnaires) are adapted to the work to be undertaken and ready to be used in optimum technical conditions.

4. The person in charge of the research must exercise sufficient control over the implementation of the research by his/her team members. The responsibilities pertaining to this research must be clearly defined and always respected.

5. In media communications or presentations, the researcher must present his/her research results in a truthful and comprehensible way. He/she must avoid arousing unjustified fears or hopes.

6. A researcher assumes his/her responsibilities as regards the development of his/her discipline and, consequently, commits oneself to participate in peer review.

B. CAUTION

A researcher's behaviour is deemed to be cautious when he/she acts with foresight and precaution and is guided by the concern to avoid harm to anyone else.

1. Although the researcher's primary concern is to acquire or increase his/her knowledge, caution requires him/her not to impose unnecessary or disproportionate risks. A careful analysis of the advantages but also of the short- and mid-term risks of a research project must be done and, in case

of a risk for third parties, must be submitted to a peer review (or, if necessary, the ethics committee if it exists).
2. The researcher must show respect for the subjects/respondents of experiments, investigations and surveys, all the more so if the subjects are in a vulnerable position. The subjects of experiments and respondents must give their informed consent: they have the right to know they are the subject of research, they must be given the most complete information possible and give their prior consent with full knowledge of the facts. Any deviation from this principle must be submitted for approval of the persons or the institutions qualified to provide an opinion on both the scientific aspects and the ethical aspects of the matter (ethics committee, programme monitoring committee, academic authorities, etc.).
3. Animals used in experiments must be treated with care by minimizing the number used and their suffering, according to the three R's (reduction, replacement, refinement).
4. As regards experiments with a potential impact on the environment, the investigator must take into account the principle of precaution.
5. In the case of projects abroad, the researchers must apply the present code while also taking into account any existing codes and rules in force in the countries concerned. Within this context, respect for local culture and environment is of utmost importance. This concern will be even greater in cases where local rules and codes of ethics are absent or are not applied.
6. Responsibility must be taken for any errors or omissions made, as well as any resulting damage to third parties, and maximal compensation should be pursued.

CODE D'ÉTHIQUE DE LA RECHERCHE SCIENTIFIQUE EN BELGIQUE

Reliability and verifiability

A. RELIABILITY

Researchers are deemed to be reliable when they act in such a way that third parties can trust them to proceed in a professional manner, both in their scientific work and in their manner of reporting on it.

1. Researchers will endeavour to present their expertise, work and results as accurately as possible and will, in all cases, avoid creating a misleading or overrated idea of their work among their sponsors and colleagues, the press or any other third party.
2. Data arising from observations, experiments or existing literature should not be invented nor falsified. Researchers should not give the impression that empirical data is available if this is not the case. Sampling, analysis techniques and statistical methods should not be chosen or manipulated with a view to obtaining or justifying a result defined in advance.

3. The research results must appear in full in publications, and unwanted results must not be selectively omitted. Results which do not correspond to the stipulated hypotheses must always be mentioned in the publication of the research results. The level of uncertainty and the limits of the results must appear clearly in the publications, presentations and reports.
4. In their reports and communications, researchers must establish a clear distinction between the research results and the conclusions on the one hand, and hypotheses and speculations on the other.
5. The general principles in terms of intellectual property must be respected. Researchers may not present fieldwork, data and results obtained by other researchers as their own; they must not plagiarise other people's publications. People who have collaborated on a research project must be correctly cited; only those who have actually contributed to the research may be mentioned as (co-)authors.
6. Colleagues' and researchers' beliefs must be respected; their ideas must not be wrongfully appropriated. This is especially valid in the case of new themes in research, theories or technologies that are still in the development stage.
7. Researchers must not simultaneously publish the same test in several international scientific journals with peer reviewed. Neither should they submit the same text at the same time to several journals for evaluation.

B. VERIFIABILITY

Researchers' work is deemed to be verifiable when it allows colleagues to follow the progress of the research and to reproduce it, if need be.

1. The information given should be verifiable. The results of the literature study, the hypotheses, the organisation of the research, the research and analysis methods, as well as the sources, are described in detail (in a research logbook, a laboratory diary or a progress report) so that other researchers can verify the accuracy of the process and reproduce it. If the subject of the observation is destroyed (for instance, during excavations), these observations must be recorded as well as possible. All the agreements and decisions must be written down and saved.
2. The publication of results is at the basis of the evaluation by peers. The results from a research project should be published and/or made accessible to other researchers as soon as possible. In some cases, agreements may be established concerning publication times.
3. The primary data of a research project and the protocols must be kept and made accessible during a determined and sufficient period of time. When publications, especially review and summary articles, do not contain all the necessary data for verification, the data should nevertheless be available.

Independence and impartiality

A. INDEPENDENCE

In their scientific activities, researchers are guided by rules of a scientific nature, which are a condition of their independence.

1. Researchers must be able to carry out their research in complete freedom and independence since their creativity depends on it.
2. Commissioned scientific research is carried out without interventions from the sponsor during the execution of the scientific work entrusted to the researcher. The sponsor's policy (public or private) is expressed in the choice of research themes. The researcher does fail his/her independence by accepting contracts or in responding to calls for proposals within this context, insofar as he/she retains his/her freedom in the execution of the research, as regards the organisation of the research, the hypotheses, the methods used and the formulation of conclusions. A scientific conclusion can only be formulated on the basis of scientific arguments.
3. Commissioners and external sponsors, as well as their relations with the researcher, are mentioned in the publications of the results. The possible links between sponsors and researchers, such as their expert or advisory role, will also be mentioned. Any conflicts of interests must be mentioned in scientific communications and publications.
4. Commissioners institutions must elaborate clear contractual conventions, as regards, among other things, the freedom of publication and the ownership of the results. If restrictions on the freedom of the researcher have to be imposed, this will be explicitly mentioned.
5. If a project is carried out by a team, the rights and obligations of the various parties involved must be specified, including the research institution where the research is being carried out as well as the bodies that are the source of financing. The agreements relating to the ownership of results, their use and their dissemination must be clearly established.

CODE D'ÉTHIQUE DE LA RECHERCHE SCIENTIFIQUE EN BELGIQUE

B. IMPARTIALITY

Researchers are deemed to be impartial when they do not allow themselves to be influenced by their preferences, sympathies, interests or personal prejudices in the execution of their scientific work.

1. Researchers have a right to their opinions and preferences (for instance, as regards the economic or societal usefulness of certain activities) though these should not interfere with their

scientific work.
2. If there is a risk that there could be a conflict or a confusion of interests, the researcher can only accept to carry out the research if his/her impartiality will not be jeopardised. His/her solution to this problem will be explicitly mentioned during the presentation of the research results.
3. In the publication of the research results, especially the conclusions and recommendations for application that could drawn from them, the researcher must make a clear distinction between his/her scientific judgements and his/her personal preferences.
4. By participating in peer review, the researcher should only be guided by considerations of a scientific order.
The confidentiality of the information should be guaranteed.
5. The assessment of manuscripts for scientific journals must be carried out in an impartial manner and within a reasonable deadline.
6. Any disagreements with the scientific views of other researchers will only be discussed on the basis of scientific arguments.

Academy of Toxicological Sciences
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Science (including chemistry)
Type of Document: Code of Conduct

Code of Ethics

Academy of Toxicological Sciences certifies toxicologists who are recognized by their peers for their expertise and sound scientific judgment. The purpose of the recognition and certification is to ensure the competence and experience of professionals whose work affects public welfare.

In attaining this goal, each Fellow must maintain high ethical standards, recognize a duty to share this knowledge with the public and be a thoughtful advocate for human, animal, and environmental health. To this purpose, this code requires a personal commitment. Fellows of the Academy of Toxicological Sciences: Conduct their work and themselves with objectivity and integrity. Hold as inviolate that credible science is fundamental to all toxicologic research and forms the basis for communicating results. Recognize a duty to communicate information concerning health, safety, and toxicity in a timely and responsible manner, with due regard for the significance and credibility of the available data. Give due consideration to the ethical, legal, social and policy implications of their research and communications.

Be a thoughtful advocate for human and environmental health. Abstain from professional judgments influenced by undisclosed conflict of interest, make reasonable efforts to disclose any material conflicts of interest and, insofar as possible, avoid situations that imply a conflict of interest. Observe the spirit, as well as, the letter of law, regulations, and ethical standards with regard to the welfare of humans and animals involved in their experimental procedures. Practice high standards of occupational health and safety for the benefit of themselves, their co-workers, trainees, and other personnel.

Claims that fellows of the Academy of Toxicological Sciences have not adhered to the code in a material way shall be submitted in writing to ATS Headquarters. The ATS legal counsel will review the documentation and make recommendations to the Board. The Board can take action in response to objections only when those objections or comments have been acted upon by adjudicative bodies. In cases where the claims have been substantiated, the Board shall decide upon and undertake appropriate action as it pertains to a prospective fellow and/or a fellow.

Air Liquide
Region: Western Europe and Others Group
Country: France
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Key Principles of Code of Conduct* is available at https://www.airliquide.com/group/key-principles-code-conduct.

Air Products
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Employee Code of Conduct* is available at http://www.airproducts.com/Company/governance/commitment-ethical-business/employee-code-of-conduct.

AkzoNobel
Region: Western Europe and Others Group
Country: Netherlands
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at https://www.akzonobel.com/system/images/AkzoNobel_Code_of_Conduct_tcm9-3675.pdf.

Alfa
Region: Group of Latin American and Caribbean Countries
Country: Mexico
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.alfa.com.mx/NC/philosophy.htm.

Al Hosn Gas
Region: Asia-Pacific Group
Country: UAE
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at https://www.alhosngas.com/SiteDocuments/Ethics%20Book_EN.pdf.

ALTANA
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at http://www.altana.com/company/corporate-governance/compliance/code-of-conduct.html.

American Association for Clinical Chemistry (Code of Conduct)
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry
Type of Document: Code of Conduct

The *Principles of Ethical Conduct* are available at http://ethics.iit.edu/ecodes/node/3878.

American Association for Clinical Chemistry (Code of Ethics)
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Ethics Guidelines* are available at https://www.aacc.org/about-aacc/governance/ethic-guidelines.

American Chemical Society
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry
Type of Document: Code of Conduct

The Chemical Professional's Code of Conduct is available at http://www.acs.org/content/acs/en/careers/career-services/ethics/the-chemical-professionals-code-of-conduct.html.

American Institute of Chemical Engineers
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemical Engineering
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.aiche.org/about/code-ethics.

American Institute of Chemical Engineers (1913)
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemical Engineering
Type of Document: Code of Ethics

ARTICLE I.-PURPOSE OF THE CODE: To define the rules of professional conduct and ethics for the members of the Institute.
ARTICLE II.-THE ISSTITUTE **EXPECTS** OF ITS MEMBERS:
I. That in all their relations, they shall be guided by the highest principles of honor.
2 . The upholding before the public at all times of the dignity of the chemical profession generally and the reputation of the Institute, protecting its members from misrepresentation.
3. Personal helpfulness and fraternity between its members and toward the profession generally.
4. The avoidance and discouragement of sensationalism, exaggeration and unwarranted statements,
In making the first publication concerning inventions or other chemical advances, they should be made through chemical societies and technical publications.
5 . The refusal to undertake for compensation work which they believe will be unprofitable to clients without first advising said clients as to the improbability of successful results.
6. The upholding of the principle that unreasonably low charges for professional work tend toward inferior and unreliable work, especially if such charges are set at a low figure for advertising purposes.
7 . The refusal to lend their names to any questionable enterprise.
8. Conservatism in all estimates, reports, testimony, etc., especially in connection with the promotion of business enterprises.
9. That they shall not engage in any occupation which is obviously contrary to law or public welfare.
IO. When a chemical engineer undertakes for others work in connection with which he may make improvements, inventions, plans, designs or other records, he shall preferably enter into a written agreement regarding their ownership. In a case where an agreement is not made or does not cover a point at issue, the following rules shall apply:
a-If a chemical engineer uses information which is not common knowledge or public property, but which he obtains from a client or employer,

any results in the form of plans, designs or other records shall not be regarded as his property, but the property of his client or employer.
b-If a chemical engineer uses only his own knowledge or information or data, which by prior publication or otherwise are public property, and obtains no chemical engineering data from a client or employer except performance specifications or routine information, then the results in the form of inventions, plans, designs or other records should be regarded as the property of the engineer, and the client or employer should be entitled to their use only in the case for which the engineer was retained.
c-All work and results accomplished by the chemical engineer in the form of inventions, plans, designs or other records, or outside of the field for which a client or employer has retained him, should be regarded as the chemical engineer's property.
d-When a chemical engineer participates in the building of apparatus from designs supplied him by a client, the designs remain the property of the client and should not be duplicated by the without express permission.
e-Chemical engineering data or ,information which a chemical engineer obtains from his client or employer or which he creates as a result of such information must be considered confidential by the engineer; and while he is justified in using such data or information in his own practice as forming part of his professional experience, its publication without express permission is improper.
j-Designs, data, records and notes made by an employee and referring to his employer's work, should be regarded as his employer's property.
g-A client does not acquire any exclusive right to plans or apparatus made or constructed by a consulting chemical engineer except for the specific case for which they were made.
11. A chemical engineer cannot honorably accept compensation, financial or otherwise, from more than one interested party, without the consent of all parties; and whether consulting, designing, installing or operating, must not accept compensation directly or indirectly from parties dealing with his client or employer. When called upon to decide on the use of inventions, apparatus, processes, etc., in which he has *a* financial interest, he should make his status in the matter clearly understood before engagement.
12. The chemical engineer should endeavor at all

times to give credit for work to those who, so far as his knowledge goes, are the real authors of such work.
13. Undignified, sensational or misleading advertising is not permitted.
14. Contracts made by chemical engineers should be subject to the Code of Ethics unless otherwise agreed.
ARTICLE 111.-For the administration of this Code of Ethics, a Committee on Ethics shall be appointed by the president holding office at the time of the adoption of this Code with the approval of the Council, to consist of five members: one appointed for five years, another for four years, another for three years, another for two years, another for one year, and thereafter, the president then holding office shall appoint one member annually to serve for five years and also fill such vacancies as may occur for an unexpired term. All of these members shall be over forty years of age. The Committee shall elect its own chairman. The Committee on Ethics shall investigate all complaints submitted to them bearing upon the professional conduct of any member, and after a fair opportunity to be heard has been given to the member involved, shall report its findings to the Council, whose action shall be final.
ARTICLE ~V.-AMENDMEP:\ TTASd ditions to or modifications of this Code may be made according to Article VI11 of the Constitution.

American Institute of Chemists
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.theaic.org/about_ethics.html.

American Oil Chemists Society
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry
Type of Document: Code of Ethics

Chemistry and its application by scientists, engineers, and technologists have for their prime objective the advancement of science and benefit of mankind. Accordingly, the Society expects each member:

1. to be familiar with the purpose and objectives of the Society as expressed in its Articles of Incorporation; to promote its aim actively; and to strive for self-improvement in said member's profession;
2. to present conduct that at all times reflects dignity upon the profession of chemistry and engineering;
3. to use every honorable means to elevate the standards of the profession and extend its sphere of usefulness;
4. to keep inviolate any confidence that may be entrusted to said member in such member's professional capacity;
5. to refuse participation in questionable enterprises and to refuse to engage in any occupation that is contrary to law or the public welfare;
6. to guard against unwarranted insinuations that reflect upon the character or integrity of other chemists and engineers.

American Society for Clinical Laboratory Science
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.ascls.org/about-us/code-of-ethics.

Amman Code of Conduct
Region: African Group
Country: N/A
Type of Organisation: Chemistry
Type of Document: Code of Conduct

Draft Language

Code of Conduct for the Practice of Chemistry in the Middle East and Northern Africa

Preamble

Chemistry, the discoveries of chemists, and chemical products are vital and beneficial to daily life−from life-saving medicines and increased agricultural productivity to safe and clean water supplies and a wide range of products that enhance the quality of everyday life. Chemistry is a vehicle for development, and dealing with chemicals properly will lead to progress for countries in the Middle East and Northern Africa and around the world. We, the chemists from the Middle East and Northern Africa, recognize the need to ensure that the benefits of any chemical activity we undertake far outweigh the risks to mankind and the environment, and we state our confidence that the solutions to problems in chemistry can be found in chemistry itself. Accordingly, we pledge to abide by the principles in this code for the rational and responsible practice of chemistry.

Principles

We, as chemists, have a responsibility to practice chemistry with honesty, integrity, and professionalism. Relevant knowledge, chemicals, and equipment should be shared with and available to all chemists in the region regardless of nationality, race, religion, gender, disability, or age. The honor of our profession obligates us to:

- synthesize, consume, and handle chemicals according to international Good Laboratory Practice standards, specifying further that commercial facilities in the region develop and produce their products in compliance with Good Laboratory Practice and Good Manufacturing Practice. In addition, all chemicals synthesized in the region must carry clear and accurate labels about components, the safe use and handling of the chemical, and the environmentally responsible method for storage and disposal of it.
- conduct analysis with unbiased methods to prevent a misleading presentation of the results;
- report research findings with complete documentation and only after a validation process that demonstrates our data is accurate, precise, and reproducible;
- give appropriate credit for contributions to research and refuse unwarranted credit for the work of colleagues;
- vigorously engage in meaningful, practical, and effective peer review so that research findings of the highest quality and greatest benefit to mankind are widely disseminated and utilized; and,

- when biological activity of a chemical is expected, minimize testing of chemical products on animal and human test subjects and to carefully consider the need for such testing. When such testing is deemed necessary, it should be conducted according to accredited standards for humane testing with animals and with the advised consent of human subjects;

The honor of our profession also requires us never to:

- falsify data;
- fabricate data;
- plagiarize or steal the ideas of others; or,
- sabotage the work or reputation of fellow chemists.

We undertake to serve as role models and educators to fellow chemists about the responsible practice of chemistry and as educators to the public about the safe use of chemical products, the environmentally responsible disposal of chemicals, and community awareness of the potential hazards present at local chemical facilities.

We will also call attention to problems that we observe or behavior inconsistent with the principles stated in this code so that corrective actions can be taken as soon as possible.

We believe in a culture of responsibility for the safety and security of activities involving hazardous chemicals. Everyone engaged in the operations of a chemical facility—from the highest administrative level to the individual chemists, technicians, and other workers—must be mindful of and contribute actively to this culture of responsibility. Hazardous chemicals merit a cradle-to-grave approach for any activity involving such chemicals—from arrival at or synthesis at a facility through access to, use of, and disposal of these chemicals.

(add a sub-title, such as "Obligations" for example)

To establish and sustain the aforementioned culture, all chemists in the Middle East and Northern Africa have obligations to:

- take precautions to prevent accidents in the workplace by complying with pertinent safety rules and regulations;
- protect hazardous chemicals from outside theft, smuggling, diversion, unauthorized access, malicious destruction, loss, or other intentional crimes or damage; and,
- aim to minimize the production and use of chemicals, limit the use of solvents, recycle chemicals whenever possible, and employ appropriate pollution abatement equipment. All chemists should be taught the twelve principles of “green” or environmentally safe and friendly chemistry at the earliest opportunity, provided in Annex I to this code, and incorporate these principles into everyday practice.

To fulfill these obligations, all chemists in the Middle East and Northern Africa should strive to ensure that their facilities:

- are designed, built, and properly maintained to minimize safety, security, and environmental risks;
- have an institutional committee to conduct safety, security, and environmental risk assessments, which provide the basis to identify and fill gaps in the requisite plans,

policies, capacities, and procedures to deal with accidents and incidents in these areas. Thereafter, this committee should regularly review, update, and upgrade these plans, policies, capacities, and procedures. This committee should designate individuals responsible for critical safety, hazardous materials transport, environmental responsibility, security, and accountability activities;

- hire only companies qualified in safety, security, and environmental responsibility for the transport of hazardous chemicals to other facilities by air, rail, road, or sea;
- have a program of effective, qualified, mandatory training and continuing education covering safety, security, and environmental responsibility, including periodic drills with local emergency response personnel to mitigate the harm from worst-case accident scenarios. The aforementioned institutional committee should oversee appropriate training of all facility personnel in these areas and routinely coordinate with pertinent local agencies regarding response to accidents and incidents on site;
- have inventory policies and procedures to track all chemicals throughout their life cycle at the facility;
- use only certified containers to minimize leaks and accidents for storage of hazardous materials and during their transport to different locations within a facility; and,
- employ only environmentally responsible methods for the final disposition of chemicals, including sending excess chemicals back to the supplier and disposing properly of expired and unused chemicals and waste products, whether the facility conducts its own disposal operations on site or hires a company qualified in environmentally responsible disposal of chemicals.

(add a sub-title, such as "Chemists and the Chemical Weapons Convention" for example)

Chemical warfare is abhorrent. We call on the governments in the region that have not already joined the 1997 Chemical Weapons Convention to do so and we place responsibility on all governments for complying fully with the provisions of this Convention. We pledge not to engage knowingly or willingly in any activity that is against the Convention's prohibitions.

We further pledge not to engage knowingly or willingly in any activity that aids, abets, or otherwise assists the terrorist development, acquisition, production, and use of chemical weapons and explosives. We also agree to refrain from any activity that aids, assists, or otherwise abets the development and production of illicit, non-medicinal drugs and narcotics.

We call on our governments and the managers of chemical facilities to support the principles stated in this code by enacting laws, regulations, policies, and procedures consistent with this code and holding those who breech these principles accountable. We are ready to facilitate this process by providing technical advice.

Annex I

12 Principles of Green Chemistry*

1. Prevention:
   It is better to prevent waste than to treat or clean up waste after it has been created.

2. Atom Economy:
   Synthetic methods should be designed to maximize the incorporation of all materials used in the process into the final product.

3. Less Hazardous Chemical Syntheses:
   Wherever practicable, synthetic methods should be designed to use and generate substances that possess little or no toxicity to human health and the environment.

4. Designing Safer Chemicals:
   Chemical products should be designed to effect their desired function while minimizing their toxicity.

5. Safer Solvents and Auxiliaries:
   The use of auxiliary substances (e.g., solvents, separation agents, etc.) should be made unnecessary wherever possible and innocuous when used.

6. Design for Energy Efficiency:
   Energy requirements of chemical processes should be recognized for their environmental and economic impacts and should be minimized. If possible, synthetic methods should be conducted at ambient temperature and pressure.

7. Use of Renewable Feedstocks:
   A raw material or feedstock should be renewable rather than depleting whenever technically and economically practicable.

8. Reduce Derivatives:
   Unnecessary derivatization (use of blocking groups, protection/ deprotection, temporary modification of physical/chemical processes) should be minimized or avoided if possible, because such steps require additional reagents and can generate waste.

9. Catalysis:
   Catalytic reagents (as selective as possible) are superior to stoichiometric reagents.

10. Design for Degradation:
    Chemical products should be designed so that at the end of their function they break down into innocuous degradation products and do not persist in the environment.

11. Real-time analysis for Pollution Prevention:
    Analytical methodologies need to be further developed to allow for real-time, in-process monitoring and control prior to the formation of hazardous substances.

12. Inherently Safer Chemistry for Accident Prevention:
    Substances and the form of a substance used in a chemical process should be chosen to minimize the potential for chemical accidents, including releases, explosions, and fires.

*Source: Anastas, P. T. and Warner, J. C. *Green Chemistry: Theory and Practice* (New York: Oxford University Press, 1998), 30.

Association of the Chemical Profession of Ontario
Region: Western Europe and Others Group
Country: Canada
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.acpo.on.ca/ethics-and-by-laws/code_ethics_e.php.

Australian Research Council, National Health and Medical Research Council
Region: Western Europe and Others Group
Country: Australia
Type of Organisation: Government
Type of Document: Code of Conduct

The *Australian Code for the Responsible Conduct of Research* is available at http://www.nhmrc.gov.au/_files_nhmrc/publications/attachments/r39.pdf.

BASF
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at https://www.basf.com/en/company/about-us/management/code-of-conduct.html.

Bayer Healthcare
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Bayer Code of Conduct for Responsible Lobbying* is available at http://healthcare.bayer.com/scripts/pages/en/commitment/public_policy/codes_of_conduct/.

Board of Chemistry (Philippines)
Region: Western Europe and Others Group
Country: Philippines
Type of Organisation: Government
Type of Document: Code of Ethics

Code of Ethics
Board of Chemistry

Section 1. Every chemist, upon being admitted into the profession, shall be entitled to the full professional fellowship of his fellow chemists and shall be obliged to advance the art and science of
chemistry, to safeguard and uphold its standard of honor, and to conform to as well as abide by the
principles of ethical conduct set forth herein.
Section 2. It shall be the duty of every chemist to observe faithfully the laws, rules and regulations and to bear the responsibilities pertaining to his profession.
Section 3. A chemist shall not deliberately engage in work which by its nature is illegal or immoral, nor shall he cooperate with those who are so engaged.
Section 4. He shall refrain from associating with, or from the following, the use of his name by,
persons or entities of questionable character.
Section 5. He shall not act in any manner or engage in any activity or practice that casts, or tends to bring, discredit or dishonor to the dignity of the chemistry profession.
Section 6. He shall perform his professional work in a manner that is not only fair and reasonable to employers, subordinates, contractors, and clients but also in a spirit of friendliness and
harmony with the other members of his profession.
Section 7. He shall advertise only in a dignified and conventional manner, taking care not to cheapen the profession by using vulgar notices or false and misleading statements.
Section 8. He shall assist in improving and elevating the standard of the profession by exchanging relevant information and experience with his fellow chemists through the press or technical
societies of which they are members where such information does not conflict with the interest of his
client or employer. It is desirable that chemical inventions and researches be first published in scientific
journals and magazines instead of in the newspapers and that due care be taken so that credit for such
technical work is given only to the real authors or inventors thereof.
Section 9. If, in his opinion the work requested of a chemist by his clients or employers poses certain doubts as to its being productive of successful results, he shall so advise them before undertaking the work.
Section 10. He shall be conservative in all his estimates especially so if these pertain to the promotion of business enterprises and shall endeavor to be fair and accurate in his reports, testimony,
statements, etc.
Section 11. For any kind of work done, he shall not accept compensation, financial or

otherwise, from any party or parties interested therein except from the one who engaged his services.
He shall not accept any commission from outside parties on sales to clients or employers without their
knowledge or consent. He shall, however, be free to accept employment from more than one employer
where there are no conflict of interest.
Section 12. He shall not resort to any unfair, improper or dubious method in securing professional work and shall decline to accept payment or commission for such work.
Section 13. In securing professional work or employment, he shall use only fair and honest means and shall refrain from injuring whether directly or indirectly, the professional reputation,
prospects or business of his fellow chemist. In work or employment already given to fellow chemists, he
shall not seek to have them replaced in order to promote his own interest.
Section 14. He shall not knowingly accept employment from a client or employer against whom
there is a pending claim for compensation and/or damages filed by a fellow chemist previously
employed by the same client or employer, until such claim is finally settled through arbitration or by the
courts of justice or is not pressed through sheer neglect or abandonment.
Section 15. It shall be his duty to expose and bring to the attention of proper authorities any error, fraud, deceit or irregularity committed by fellow chemists in the practice of their profession, of
which he has knowledge.
Section 16. He shall report any infraction of these rules and professional conduct to the Ethics Committee of the national association of chemists for proper appraisal so that if the facts so warrant,
the matter may be referred for appropriate action to the Board of Examiners for Chemists or to other
legally constituted authorities with jurisdiction over such infractions.
Section 17. He shall not compete or attempt to compete with fellow chemists by reducing or offering to reduce the usual rates charged for his work in order to underbid his competitors.
Section 18. When holding any government position or office of public trust, he shall not take undue advantage thereof nor shall he engage in activities offering competition or causing damage to
private practitioners of the profession.
Section 19. He shall not accept any engagement to review the professional work of his fellow chemists, except journal articles, scientific publications and similar matters, without the knowledge of
such chemists unless their connection with the work is completely severed.
Section 20. Upon undertaking work for a client or employer, he shall enter into an agreement regarding ownership of any and all data, plans, improvements, patents, designs or other records which
may develop or discover while in the employ of such a client or employer. In the absence of a written
agreement, the following principles shall be held to apply:
a. When a chemist uses information obtainable only from his client or employer, which

is not common knowledge or public property, any result in the form of design, plans, inventions,
processes, etc., shall be regarded as the property of the employer.
b. When a chemist uses his knowledge or information or date which by prior publication or otherwise is public property, then the results in the form of designs, plans, inventions, processes, etc., remain the property of the chemist, and the client or employer is entitled to their use only in the case for which the chemist is retained.
c. All work and results accomplished by the chemist outside of the field for which he was employed or retained shall remain his property.
d. Special data or information obtain by a chemist from his client or employer or which he creates as a result thereof is to be held and considered confidential, and while it is ethical to
use data or information in his practice as forming part of his professional experience, its publication without prior permission of his client or employer is highly improper.
Section 21. He shall, as far as practicable, charge fees at such rates as are reasonable enough to warrant complete and adequate service in consulting work. Extremely low charges for professional
services tend to produce inferior and unsatisfactory work; hence, in fixing the fees, it is proper to take
into account the following considerations.
a. The time and labor involved, novelty and difficulty of the work, and experience and skill necessary.
b. Whether the employment precludes work along similar lines or involves financial sacrifice due to giving up of other business.
c. Customary charges of chemists for similar work or services.
d. The magnitude of the matter involved and the benefits accruing to the client as a result of the services rendered; and
e. The character of the employment, whether casual, temporary or permanent.
Section 22. While it is desirable that chemists engage in teaching and research and be permitted to use their technical knowledge and skill in their service to individual clients, they should
strive not to prejudice the welfare of the profession by disregarding such factors as ordinary costs of
equipment, supplies and overhead expenses in charging fees for their services.
Section 23. After fixing a fair or reasonable fee for work done to a client, he should oppose any
effort on the part of the latter to have the fee reduced without valid or justifiable reason therefore.
Wherever compatible with selfrespect and the right to receive just and reasonable recompense for
services rendered, controversies with clients regarding compensation should be minimized, if not
altogether avoided. He should, however, not hesitate to apply to the courts for redress so as to correct
or prevent any injustice, deceit, or fraud perpetrated on him by his clients.
Section 24. This Code of Ethics shall take effect on its approval by the Office of the President.

BP
Region: Western Europe and Others Group
Country: UK
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at http://www.bp.com/en/global/corporate/about-bp/people-and-values/code-of-conduct.html.

Braskem
Region: Group of Latin American and Caribbean Countries
Country: Brazil
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at http://www.braskem.com/site.aspx/principles-and-values.

Chemical Business Association (CBA) and Chemical Industries Association (CIA)
Region: Western Europe and Others Group
Country: UK
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

2009 CODE OF CONDUCT ON CHEMICALS SUBJECT TO TRADE & SECURITY CONTROLS. CBA/CIA PRODUCT STEWARDSHIP GUIDANCE

I INTRODUCTION

KEY ELEMENTS OF **THE** CODE

a) Compliance requirements **(bold = compulsory element of this code)**

• Chemicals covered by the code are classified under each type of control and are listed in Annexes 1-6. However any suspicious order or enquiry, regardless of whether the chemical is listed or not, should be reported by operators to the appropriate authorities.

• Each operator shall nominate one or more liaison officers as specified in Section A

• Organisational arrangements (see Section B).

• Operators shall have administrative systems in place as specified in Section C

• Security Code is at Section D

• **Operators must co-operate fu lly with government and** law enforcement **authorities (see Sections E & F)**

o (Optional) Registration as an Authorised Economic Operator (Section G)

b) How to respond to a suspicious order/enquiry for a listed chemical

• If the enquiry/order is from overseas

Check if destination country restrictions apply

(fo llow instructions in Annexes 1-6)

Use the checklist provided in Section C to verify the bona fides of the buyer

Contact the appropriate regulatory authority by telephone using the list of contacts at Section E.

• If the enquiry/order is from the UK

Use the checklist provided in Section C to verify the bona fides of the buyer.

If the enquiry raises suspicions (for example. because of consignment size/special delivery requirements). telephone the appropriate regulatory authority at Section E.

APPLICATION OF THE CODE

This Code of Conduct was jointly prepared by the Chemical Industries Association (CIA) and the Chemical Business Association (CBA) and is supported by the Crop Protection Association (CPA).

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ISSUed August 2009

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This Code has been approved by the CIA, CBA and adopted by CPA and is intended to apply to all members of these Associations. The provisions of this code shall be communicated to all members of staff and management involved in chemicals trade and, in particular, adequate training and instruction shall be provided for staff members to help them identify 'suspicious orders or enquiries or "consent" and "non-consent", as

appropriate.
Information provided in conformity with the provisions of this Code will be treated in confidence.
The compliance requirements on drug and explosive precursors, chemical weapon classified chemicals and prior informed consent arrangements are under continual review as are other security related controls. The legislative background and industry approach to product stewardship, under the Responsible Care programme, is outlined in Sections 7 & 8. Definitions are listed in glossary (Section 9).
Many chemicals to which this Code of Conduct applies are also classified as 'dangerous goods' within transport activities and as such subject to the ADR Chapter 1.10 Security Provisions. These chemicals may invoke additional requirements to be applied to sites holding or transporting them. Guidance documents are available on the Department for Transport website www.dft.gov.uklsecurity/dangerousgoods

OBJECTIVES

The objectives of this Code are to enable operators to establish a common system of practice to:

• Protect against the diversion of chemicals into the illicit production of drugs and weapons of mass destruction, or any other programme based on aggression;
• Co-operate fully with government and law enforcement authorities in the controlled delivery of chemicals destined for use in the illicit production of drugs and weapons of mass destruction, where this is expected to lead to the apprehension and conviction of criminals involved in such trade or production; and
• Promote sustainable trade in chemicals.

I SECTION A: THE APPOINTMENT OF COMPANY LIAISON OFFICERS

Compliance Officers/Responsible Officers

Each Association member shall nominate one or more compliance officers whose specific responsibility shall be to promote best practice throughout the company and provide for the full integration of export control and consent regulations with quality management and Responsible Care systems. Companies involved with category 1 and 2 Drug precursor chemicals are obliged to nominate 'Responsible Officers' to fulfil the requirements of the legislation. These personnel can be the same liaison officer responsible for the other sections within the code but will be subject to verification from the competent authority.
Given the varying size and structure of Association members within the UK it is for each to decide for itself how best to establish its system of liaison officers. Whatever its decision, the Association member shall advise IECC/SOCA, HSE, DECC and BERR of the areas of responsibility of each compliance officer with the member's total business organisation. Similarly the Association member shall notify the relevant contact point within their Association (See Annex 3) so that the Association can notify members of regulations and other changes to the code.
The Association member shall have a documented commitment to compliance and a control inventory that identifies, by name, the scheduled substances manufactured or traded which is the responsibility of each liaison officer. All of the Association members' businesses and all scheduled substances shall be covered by liaison officers.
Whenever possible, the person appointed as compliance officer should already have a certain status or position within the company, so as to be in a position to act as a representative of the operator and to make the decisions that are required for the fulfilment of his task. The responsible officer does not necessarily have to be a chemist. One of the main skills required from this person is the ability to recognise suspicious transactions, which requires "commercial alertness".
It is recommended that operators define clearly the position, tasks and powers of the

compliance off icer whom they appoint within the company. Section Z provides a comprehensive job checklist that might be useful to develop a job description. The information relating to the tasks and power of the compliance officer should be widely disseminated th roughout the company. Drug precursor regulations require such a description to be part of the file that the operators, dealing with category 1 substances, have to submit to the competent authorities when applying for a licence and is also recommended when registering for category 2 substances.

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The **role of the compliance officer** comprises the main following tasks:
Ensure proper implementation of the legislation within the company:
>- Ensure compliance with the administrative provisions of the legislation (application for licences, registration of premises etc.)
>- Set up the internal procedures necessary to identify and notify suspicious transactions and to prevent diversion (see *Annex 3);*
Exchange information with the competent authorities and **disclose suspicious operations.**
Raise awareness of the re levant staff dealing with drug precursors:
>- Identify the most exposed personnel
>- Train and instruct this personnel on a regular basis
>- Make sure that the information provided by competent authorities as regards new trends and developments, as well as infonmation that is specific to the company, are known to the personnel.

Guidelines on identifying suspicious orders or enquiries

The operator must use discretion and draw upon experience to assess whether an order or enquiry is 'suspicious'. A robust client screening process, especially for scheduled chemicals (see Part III of the Code) would involve asking for end-use statements. These are required for certain regulations but this practice should be adopted for all scheduled chemicals. The checklist at Section Z will be a good starting point for develoPing internal procedures. Major customers will grudgingly accept their necessity; law-abiding but knowledgeable customers will welcome the "warning"; unscrupulous customers often withdraw their order. To assist liaison officers and companies involved with the chemical industry identifying suspect enquiries, orders and transactions, the following may identify potential suspicious transactions:

Client identification

• Is the enquirer a new customer? If so, use Internet searches such as Companies House, Google Earth, Royal Mail to check address and postcode and Yell.com to determine if the company is listed.
• Is the enquirer a walk-in customer arriving unannounced?
• Is the enquirer's appearance, as you would expect?
• Is there a reluctance or refusal to give a 'Iandline' telephone number Or address?
• Does the enquirer lack proper business acumen or refuse to give t rade & bank references?
• Does the enquirer use proper business stationery? Does stationery have company

and VAT registration numbers.
• Is there a reluctance or refusal to provide an order in writing?
• Is the order destined for a company which is not known and does not have a company website and which cannot be traced in trade di rectories?
• The client is not a member of a professional or trade association.

Business practices

• Delivery address or address from which the order was made appears to be a private res idence or a PO Box.
• Is the customer ordering at irregular intervals?
• Is the enquirer will ing to pay an excessive price for a product or fo r rapid delivery?
• Is the enquirer willing to pay cash for the goods, even large purchases?
• Is the enquirer willing to pay the going rate without negotiating a better price?
• Is the order for a university/college or well-known company made by the usual procedures but delivery is requested to a specific ind ividual?
• Is the enquirer trying to purchase on your website with a credit ca rd?
• Is the enquirer using cred it check business websites for credit rating such as Experian.
• Flag all scheduled and watched chemicals on your sales order system.
• Is delivery requested to a third person whose activities or position are unconnected with the supposed activities of the end-user?

• Has the customer given the name of a different forwarding agent or dealer/distributor as the ultimate recipient of the goods?
• Is the order from abroad where the method of proposed payment is not consistent with financial transactions relating to that part of the world?
• Use of the Internet?
• Keep a watch on new customers as illicit purchases may start with innocent orders and then switch to scheduled or watched chemicals after a few months.

Delivery methods

• Does the enquirer wish to collect the goods and/or use a private vehicle?
• Does the enquirer request purchase in small containers where goods are said to be for industrial use?
• Is there a request for delivery by airfreight?
• Does the delivery or transport costs exceed the cost of the goods themselves?
• Is there a request for delivery via a dubious or complicated transit route?
• Asking for delivery in non-trade or unlabelled packages?
• Are taxes paid where export is claimed?

Use of the products

• Is the order for products in abnormal quantities?
• Has the enquirer indicated the intended use of the chemicals or apparatus ordered? Is it consistent with its proper use or function?
• Is the order for more than one precursor or essential chemical?
• Is the order for glassware or laboratory equipment sufficient to set up a laboratory?
• Is the order for export to a country where there are no real manufacturing requirements for the goods ordered?
• Is the order or purchase **from** companies with no obvious need for the products?
• Is the order for a combination of chemicals, which can be used, together in the illicit manufacture of drugs?

• Does the order consist of scheduled chemical substances included in a long list of non-scheduled products?

Record keeping

Write a set of Controlled Products work instructions that documents the internal features to be followed including the preservation of evidence. This section provides some fundamental guidance.

The following information for all transactions involving a scheduled or watched substance shall be maintained for a period of not less than four years and shall be made available to the appropriate government authorities upon request:

a) Name and address of the importer

b) Name and address of the consignee (if known, or where required under a regulation)

c) Name and address of any other persons involved in the export transaction (i.e. the physical movement of the goods) where such information is available.

d) Name of the scheduled substance

e) Quantity of the scheduled substance

f) Date of supply (ex premises)

Legal requirements relating to maintenance of records may vary from one scheduled substance to another.

Home trade transactions

In the case of home trade transactions involving scheduled substances it is normal commercial practice for records to be kept. These shall be made available to the authorities upon request.

Export transactions

The UK's Export Control Office takes non-compliance with export controls very seriously. You should make sure you read and understand all the terms and conditions of the licences you are using and are able to supply documentation when asked to do so which shows you have complied with those terms and conditions. If you have not already done so, you should register for the Open General Licences you use on SPIRE at www.spire.bis.gov.uk

Notification of suspicious orders or enquiries

The requirement to report suspicious enquiries shall extend to any transaction, regardless of whether the goods are intended for export or domestic sale, and shall also cover mixtures and compounds which contain scheduled substances which can be readily extracted for the illicit manufacture of drugs or chemicals weapons. This is especially relevant for mixtures at 30% and over. This includes instances when a client refuses to make end use statements and/or abruptly withdraws their order.

Operators should have several pre-defined questions for new customers in mind no matter whether it is an over-the-counter sale , a sale via a call centre or whether chemicals are offered and sold via the Internet.

If the order or enquiry is suspicious, obtain as much detail as possible i.e.

• Description of individuals if face-to-face contact is made.

• Details of vehicles used, including make, model, colour and registration number.

• If the customer makes a telephone enquiry, ask them to support it with a fax.

If possible, delay the enquiry and make arrangements to re-contact the

customer. In the interim period, and as soon as possible, use this guide to contact the appropriate authorities or a local police liaison officer.

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I SECTION G: REGISTERING AS AN AUTHORISED ECONOMIC OPERATOR

As of 1 January 2008 the EU commenced the Authorised Economic Operator (AEO) scheme, an EU-harmonised accreditation regime for importers and exporters. The introduction of AEO status aims at increasing security for shipments entering or leaving the EU and will provide holders of an AEO certificate with certain trade facilitation benefits.

Many within the supply chain will be able to benefit from certification as an AEO, including customs agents, manufacturers, warehouse keepers, importers, exporters, freightforwarders and carriers.

The AEO system

The aim of the AEO system is primarily to improve the security of the international supply chain. Businesses involved in the international supply chain many choose to apply and, if they meet certain criteria, be authorised for the status of AEO. They will then have an internationally recognised quality mark, that demonstrates they operate within a secure supply chain and that their internal customs controls and procedures are efficient and compliant.

This status will result (among other things) in reduced interventions and delay when goods are imported to or exported from the European Community. For example, recognition of AEO status will enable businesses to have their consignments fast-tracked through customs controls.

The introduction of the AEO standard is the EU's response to the need to secure international supply chains and the introduction of the Customs-Trade Partnership Against Terrorism (C-TPAT) in the USA.

Who can apply?

Any legal entity established within the EU that is involved in activities covered by customs legislation that form part of the international supply chain could apply for AEO status. This includes exporters, logistics operators, carriers, freight forwarders and customs agents. Those wishing to obtain an AEO certificate must meet the specific requirements corresponding to the AEO certificate of their choice.

There are three certificate types available:

1. AEO Customs Simplification Certificate;
2. AEO Security and Safety Certificate; and
3. AEO Customs Simplification/Security and Safety Certificate (a combination of one and two above).

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I SECTION Z: CHECKLIST FOR COMPLIANCE OFFICERS

It is good practice to carry out a regular audit to ensure that standards in the control compliance to international conventions are maintained. The following checklist of points is provided as an aid to assist internal auditing for compliance. **It** is recommended that Compliance Officers evaluate their internal compliance programmes at least once every year.

1. Commitment to Compliance

• Has the Chief Executive *Officer* of your Company signed the Responsible Care

Pledge?
• Are Directors of the Company aware of their legal responsibilities in complying with trade controls **on** chemicals?

2. Control Inventory

Do you ascertain on a regular basis:
• which chemicals *are* subject to controls by reference to the relevant international conventions and national requirements?
• that the relevant requirements for each control measure are in place?
• that a control matrix for all controlled chemicals is in place?
• compile and maintain an inventory of controlled chemicals handled within your company?

3. Responsible Personnel

• Has management accountability for internal compliance programmes for controlled chemicals been assigned, e.g. is this indicated in the Company's organisational chart, has delegation of responsibilities been clearly defined?
• Have adequate resources been provided (e.g. *staff* and access to documentation) to implement the ICP for controlled chemicals?
• Has adequate awareness-raising and training for all employees been undertaken to a level for them to reach and maintain proficiency and to develop the skills and knowledge necessary to perform their responsibilities in regard to controlled chemicals?
• Have ICP performance goals / targets / objectives been included into employee's performance evaluations?
• Has provision has been made in written policy, plans, programmes and procedures for achieving continuous improvement of the internal compliance procedure for controlled chemicals?
• Has provision been made to ensure the identification and dissemination of all legislation and requirements applicable to contiOlied chemicals?
• Is the Company striving for performance beyond legal compliance?

• Have all employees who have taken on control responsibilities received the necessary induction training or retraining?
• Do the performance agreements of these staff members include control responsibilities as defined in your company's internal compliance programmes?
• Do staff have access to:
• This Code of Conduct?
• Regulatory websites?
• Relevant officials?

4. Information Management

• How does the Company keep up to date with the requirements in respect of each of the International Conventions relevant to it, in regard to the chemicals controlled by these Conventions?
• Does it ensure the identification and dissemination of all applicable policies, legislation and guidelines on these Conventions?
• Does it maintain a reference list of sources of information and contacts and distribute changes/updates to relevant personnel?
• Does it provide resources (e.g. access to documentation) on controlled chemicals to the compliance officer?

5. Staff Training
• Has the Company Identified the skills and knowledge necessary to perform internal compliance programmes for controlled chemicals? ..
• Has it developed adequate compliance training programmes, which fulfil the skills and knowledge required of compliance officers?
• Does the Company conduct induction and refresher awareness raising and training programmes for staff at all levels to reach and maintain proficiency and to develop the skills and knowledge necessary to perform their compliance responsibilities?
• Do all the re levant employees receive on an annual basis (or more frequently if required) a general update on the general provisions of the Company's legal responsibil ity for maintaining trade controls?
6. Authorisations
6.1 Company Registration Details
• Does it ensure that the details of the company in relation to the original registration details at tile appropriate National Convention Authority are up to date?
6.2 Product / Service / *Countf1/ Permit*
• Is the corr.pany's product range checked regularly against the appropriate Intemational Convention(s) and national legislation?

• Does the Convention(s) require the company to obtain a workable product / service / country permit? Typically permit applications are required concerning the type of goods, activity, services, destinations and phase of your company's activity.
• Does the company ensure that the necessary permit application is made? Typical information required on permit applications includes the country of destination, end-user(s), and the technical specifications of the controlled goods.
• Is this a first order or a repeat order and have any permits been issued or denied in the past?
• Once the permit has been issued, is it kept up to date, i.e. should the particu lars relating to the business / controlled activity or goods contained in the permit have changed, does the company notify the relevant authority and request re-issuing or amendment of the permit?
• Does the company have accurate controlled chemicals end-use information?
• Does the company ensure that the end-use undertakings in the permit are valid?
• Does the company ensure that all sub-contractors handling controlled goods and undertaking controlled activities, are registered with the Convention Control Authority and where relevant any other appropriate control authority?
6.3 ImportinglTransferringlExporting
• Does the Company ensure that its instructions to the despatch department and/or freight forwarder / agent / transporters are up to date?
• Does it ensure that its instructions are being adhered to by the freight forwarder / clearing agent / transporters (e.g. return copies of export documentation within reasonable time)?
• When there are non-compliance on the part the above-mentioned entities, does the company revise or restate requirements and set a date to check on improvement(s)?

7. Customer Information

• Does the Company assess customers and orders that may be unusual and carry possible risks?

• Is the following basic customer information being collected, assessed and acted on:

• Is re levant information obtained from a reliable source(s) about the potential customers': bona fides, location, activities, and whether it is registered as an end-user of controlled chemicals and is in possession of a va lid permit and compliance record?

• Is the fin al end-user as well as the final end-use of the chemical established?

• Does the company establish if there are any national or international restrictions or prohibitions on trade with the potential customer or the end-user, or that it is not on one of various lists of entities of concern pu blished by the different countries?

• Do the company's freight forwarders, transporte rs, agents, brokers, distributors know the permit conditions re lating to the controlled chemicals as well as the reexport thereof?

• Does it ensure that the route and mode of transport of controlled chemicals will not lead to their diversion for prohibited use?

• Does it establish the control track record of the country the company is importing from or exporting to?

• Does it ensure that the necessary infonmation relating to customers reach those responsible for permit processing within the company, e.g. ensure their access to information about the customer's end-use of the company's products and services, as well as end-user enquiries.

• Does it alert customers at an early stage of the need for end-use information, e.g. when providing them with a quotation for products and services?

• Does it ensure that credit control information on customers' status is fed through for export control checks?

• Does it check on an on-going basis that customers do not divert products and services from the stated end-use(r.) to another end-use(r.), possibly in another country, not approved by the Conventions, i.e. a destination subject to restrictions or embargos?

• Does it ensure that it has a *List of Advisory Questions for Customers* and makes marketing, sales, order processing and procurement staff aware of these questions so that they can play their part in spotting any dubious business? Does it let them know how to proceed if they do sense something suspicious, e.g. consult the relevant national control authority.

8. Record Keeping

• Are traceable records of activities and goods, subject to end-user control by a foreign supplier or its Government, maintained for period of at least four years (or six for chemical weapon pre-cursors) so that queries about any activity or goods subject to control may be readily checked and an adequate audit trail maintained? This includes end-user requirements by the national control authority

• Has the Company established a policy for maintaining and storing of records, which addresses the minimum time that records are to be kept, the mode of safe keeping, as well as where records are kept?

• Is the record processing system regularly reviewed to ensure a logical sequence for recording of controlled activities?
• Are the records, required to be kept under the penmits, easily accessible?
• Are all related documents filed together or accessible through common fi ling fields?

9. Access to Premises

• Are visits or con act by other persons to the company premises in relation to controlled activities and goods controlled?
• Is there policy and process in place to monitor vis its to the site as well as training that has relevance to controlled chemicals and activities?

• Are checks undertaken on persons/companies visiting and receiving training on the company premises?
• Are records kept of visitors (foreign and local) to the company's premises where controlled activities take place or where controlled chemicals are manufactured or stored?
• Where considered appropriate, does the company communicate sensitive visits to the relevant control authorities?

10. Provision for Audits

• Does the company audit its internal compliance programmes against the recommendations in this Code?
• Is this part of its normal internal auditing programme?

Chemical Industries Council of Malaysia
Region: Asia-Pacific Group
Country: Malaysia
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Guiding Principles* are available at http://www.cicm.org.my/2014-04-03-17-08-24/guiding-principles.

Chemical Institute of Canada (CSCT and CSC)
Region: Western Europe and Others Group
Country: Canada
Type of Organisation: Chemistry
Type of Document: Code of Ethics

Adherence to the following principles is a requirement of membership. They were approved by the
CIC Board of Directors on March 9, 1996.
As professional chemists, chemical engineers or chemical technologists, the members of the Chemical Institute of Canada and its Constituent Societies undertake:
□□to dedicate themselves to the highest standards of personal honour and professional integrity;
□□to extend fairness and loyalty to associates, employers, subordinates and employees;
□□to accept and defend the primacy of public well-being.
In observance of these commitments, they shall:
□□practice their professions with honour, honesty, integrity, and dedication to the truth;
□□encourage and assist others in observing high professional standards;
□□act responsibly, fairly, and in good faith in discharging obligations to the public, their peers,
employers, and employees;
□□sign and seal only documents that have been prepared by them or under their direct supervision;
□□accept remuneration and credit only for work performed and professional services rendered;
□□undertake only such work as they are competent to perform, and express opinions only on the bases o fadequate knowledge and honest convictions;
□□decline to undertake any work that is fraudulent, illegal or unethical;
□□place the health, safety and welfare of all persons, and the reputation of their profession, above any consideration of self- interest, and resolve any conflicts in favour of the public good;
□□recognize and declare promptly any conflicts of interest arising from their professional activities; and
□□seek to promote the understanding of the social and environmental consequences, as well as
of the benefits to the public, of the applications of chemistry, chemical engineering and chemical technology.

Chemical Society of Japan
Region: Asia-Pacific Group
Country: Japan
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Environmental Charter '99* is available at http://www.csj.jp/csj-en/activities/eco/env-c.html.

Chevron
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry - Industry
Type of Document: Combined

The *Business Conduct and Ethics Code* is available at http://www.chevron.com/investors/corporategovernance/businessconductethics/.

Chinese Academy of Sciences
Region: Asia-Pacific Group
Country: China
Type of Organisation: Science (including chemistry)
Type of Document: Code of Conduct

Towards Excellence in Science
2. Establishing Behavioral Norms for
Scientific Excellence
The establishment of behavioral norms for scientific excellence requires the strengthening of self-governance and self-regulation in the scientific community and efforts to guide scientists to respect the rules of scientific research and to adhere to the behavioral norms and ethical standards that promote the progress of science. Efforts also need to be made to improve these norms and standards in scientific practice, and through gradual improvement, create the desired scientific culture of excellence.
Strengthening the self-governance and self-regulation of the scientific community:
The history of science reveals that maintaining scientific rigor and advancement towards scientific excellence results from efforts in strengthening the selfgovernance of the scientific community and in safeguarding the freedom and independence of scientific exploration.
Sound self-regulation is a prerequisite for self-governance of the scientific community. Scientists make discoveries and create new knowledge through free exploration and inspire each other to new ideas through intellectual exchange. Scientists should adhere to rational skepticism and should not assume theories and doctrines not subject to suspicion and criticism, nor should they bow to any absolute authority. The pursuit of scientific excellence requires the courage and confidence of scientists to rationally and bravely challenge conventional scientific paradigms. Therefore, scientists should be encouraged and motivated to make innovations and their enthusiasm and aspiration for innovation must be fostered by allowances for set-backs and failures in the 208 Bulletin of the Chinese Academy of Sciences exploration of the unknown.
Upholding the reliability and innovativeness of research methods:
The establishment and development of the modern

scientific system is closely linked to the research and development of reliable and advanced research methods. The rapid advance of the modern scientific knowledge system is dependent on its methodological foundation, which emphasizes empirical evidence acquired by careful observation and meticulous experimentation, scrupulous theoretical systems created through sound logic and precision mathematics, and the bi-directional nexus between rational foresight and empirical research. Major scientific breakthroughs often result from the transformation of research methods and instruments. The pursuit of scientific excellence also needs innovation in scientific methods and in the research and development of new technological approaches and research tools. New methods and tools focus scientific effort on continuous improvement and support a core principle of scientific excellence; the maintenance of objective, practical, rigorous and meticulous attitudes and behaviors. The more frequent use of large datasets increases the need for transparency and open science.

Upholding the moral standards of sincere cooperation, honesty and integrity:

Modern scientific research is an undertaking that pools the collective wisdom of the whole of humankind. It allows new knowledge to become the shared wealth of the whole of society through publication of research findings and the correction of scientific errors through collective efforts, rational reasoning and questioning by scientists themselves. These processes constitute the critical basis for the continuous and cumulative progress of science, and are important mechanisms for safeguarding scientific excellence. To pursue scientific excellence, scientists must honor the work of others and properly respect the rights of discovery of others. Scientists need to evaluate the accomplishments of others in a fair manner, while respecting the rights of others to rational skepticism. The balance of respect and skepticism is fundamental to professionalism in the scientific community. Scientists should accurately record and report their research findings, honestly present their data and research results, and specifically protect the reputation of science by consciously opposing scientific misconduct.

Assuming the social responsibilities of scientists:

New scientific knowledge, while creating huge material and spiritual wealth for human society, can also have

adverse effects and may even challenge the social ethics and practices long held in society. In the modern world, where science and technology have profound impacts on our ecosystems and socio-economic structures, the rational application and risk management of scientific research and research outcomes has become particularly important. Scientists have great responsibility for how scientific and technological advances are used and a responsibility for preventing serious adverse effects. To strive for scientific excellence, scientists must firmly bear in mind that the goal of science is to benefit society and humankind. Scientists need to observe scientific ethics and norms in scientific research, respect nature, life, the value and dignity of people and prevent the inappropriate application of scientific knowledge. Scientists should assume responsibility for evaluating the consequences of science and technology applications, give the public timely forecasts and report on the possible risks and side effects of applications from scientific research, and commit efforts to the enhancement of the public's overall rational understanding of science.

3. Setting up an Evaluation System that Promotes Excellence

Setting up research evaluation, funding and management systems which prioritize scientific excellence is crucial to the promotion of quality science. With scientific excellence as the driver, high-quality research will be the first priority and scientists will be motivated to design and conduct excellent research.

Supporting and improving the peer review system:

Peer review is an important component of modern science and a necessity for improving the scientific research profession. Through quality control by merit-based selection and the collective correction of errors, peer review plays an important role in the healthy advancement of international science. Although peer review mechanisms are commonly used in scientific assessment, influence and interference from non-academic spheres do occur now and then. To strive for excellence, it is important to ensure that scientists play a major role in scientific assessment, and that efforts be made to guard against inappropriate administrative intervention and misconduct both within and outside academia. It is important to prevent overly detailed, too frequent and sophisticated evaluation, and peer review with unclear orientation in value. It is also important not to reduce peer review to a formality or

a simple management tool.

Shaping an open, fair and standardized assessment mechanism:

To strive for excellence, efforts need to be made to ensure that the responsibility for evaluation be entrusted to those experts who are professionally recognized

and capable. The transparency of evaluations and the supervision of assessment process needs to be strengthened, and academic abuse or the irresponsible behavior of experts needs to be effectively prevented. Efforts need to be made to create a fair competitive environment in which peer review experts are requested to carry out justified evaluation with strict adherence to protocols, while preventing undue influence and intervention from both individuals and institutions. Efforts also need to be made to set up standardized and institutionalized best practice and procedures for peer review.

Adhering to evaluation criteria that promote innovation and excellence:

The core purpose of science evaluation is to improve the quality of scientific research and to effectively promote genuine research. To promote scientific excellence, it is essential to encourage genuine and transformative research as the primary principle of evaluation. There is a need to guide scientists to commit themselves to research excellence and to focus on major scientific issues of transformative significance that require long-term commitment and effort but often have a higher risk of failure. There is a need to set up specific evaluation criteria relevant to the range of research activities and their differences in nature and objectives. There is a need to avoid simplified actions that over emphasize quantitative criteria for shortterm performance. There is a need to carefully scrutinize evaluation results that are not based on consensus and have different balances of opinions. There is a need to strengthen diagnostic and development-oriented evaluation, and promote the constructive role of evaluation. There is a need to set up a mechanism to fairly evaluate collaborative achievements so as to facilitate exchange and collaboration between scientists and even academic disciplines. There is a need to guard against policies and actions in the evaluation of scientific institutions and talent that lead to hasty work. Evaluation-related incentives should not induce

researchers and institutions to carry out rushed research for sub-optimally quick results and short-term or individual benefits.

Excellence in science is a common and ongoing goal of the whole international scientific community and must be based on openness. To catalyze the wisdom of all scientists and to allow science to benefit the whole of humanity requires extensive exchange, communication and cooperation between scientists and colleagues in the global scientific community. Chinese scientists will join hands with their colleagues across the world to pursue scientific excellence and promote the continuous progress of science and the sustainable development of human civilization.

Code of Ethics for Researchers of the Academy of Sciences of the Czech Republic
Region: Eastern European Group
Country: Czech Republic
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

Code of Ethics for Researchers of the Academy of Sciences of the Czech Republic

I.

General principles

A researcher:

a. abides by deep-seated human moral principles and by principles spelled out in this Code;
b. will not allow a conflict of interest to arise as a result of his/her position and related activities at an institution of the ASCR and his/her private activities;
c. will conduct his/her research with full working and personal commitment. The total of his/her contractual workload should not exceed his/her normal workload more than 1.5 times;
d. requires of his/her colleagues conduct conducive to these principles;
e. does not defend, conceal or justify conduct that contravenes the principles set forth in this Code, not even on the basis of necessary obedience and loyalty;
f. considers science and research as an integral part of culture and the source of innovation and defends them against being questioned;
g. stands resolutely against the non-ethical and inappropriate use of scientific knowledge;
h. expands and intensifies his/her scientific knowledge and strives to improve personal professional competency;
i. maintains a critical attitude toward his/her own scientific findings and results as well as to results of colleagues and is open to discussion and factual arguments;
j. defends the freedom of scientific thought, expression, exchanges of opinion and information;
k. refuses to use non-scientific approaches and expressions of racial, religious, nationalist and political opinions in science;
l. recognizes and intentionally disseminates the principles of reliable, trustworthy scientific practice in the scientific community and refuses all scientific dishonesty and infringement of the principles specified in this Code.

II.
Principles of Scientific Work

A researcher:

a. seeks to expand the frontiers of scientific knowledge and makes every effort to ensure that his/her practically usable research results serve society;

b. carries out research in such a way that society, the environment and cultural values are not threatened;
c. observes principles of scientific work (Art. 1) when obtaining, selecting and assessing scientific data, and at the same time takes into account the specificity of his/her discipline;
d. accounts for the precision and objectivity of his/her research and recognizes the limits of research methods used;
e. is responsible for the completeness and verifiability of the results published on a certain problem and for their undistorted interpretation;
f. preserves primary data and documentation of all substantial published results for an allotted time in the respective discipline of science unless other obligations or rules preclude this;
g. holds him/herself accountable for the purposeful and efficient use of research funds and does not duplicate research previously carried out elsewhere if it is not needed for the verification, supplementation or comparison of the results obtained;
h. presents the results of his/her research which are not subject to confidentiality to the scientific public and acquaints the general public with them only after the results have been published in the scholarly press.

III.
Principles for Publicizing Scientific Knowledge and Results

A researcher:

a. can be listed as the author or co-author of a scientific paper if contributing in any substantial way to its origin, e.g., to the design of the studies and experiments and their realisation, to analysing, interpreting, working out or modelling the data or drawing up the article, on the condition co-authorship is agreed to;
b. acknowledges, in the article, the scientific contributions of predecessors and colleagues to the question studied to which the article is linked directly, and when citing findings and results obtained by other authors a clear reference is made to the respective source;
c. cites also important works which are contrary to his/her own results and conclusions;
d. will publish errata or také other appropriate steps if he/she later finds any substantial error in his/her published data;
e. avoids partitioning acquired results and knowledge intentionally to publish them in multiple journals thereby increasing the number of his/her scientific papers.

IV.
Principles Regulating Relations with Students and Co-workers

A researcher:

a. admits students and research co-workers after objectively evaluating their intellectual, ethical and personal characteristics;
b. pays heed to correctness and openness in the mutual communication when leading a research team, and avoids an unjustified autocratic style of leadership;
c. assesses students and colleagues according to the results achieved and treats them equitably, not requiring from them work which is his/her responsibility, or that beyond the student´s capabilities;
d. conveys knowledge, skills and principles of good conduct in science by word and personal example, to his/her students and colleagues;
e. is devoted to teaching his/her students and guides them to develop their independent, critical thinking and a responsible approach to work and respects their right to freely express their opinions about research;
f. supports the enhancement of the qualifications of students and subordinate researchers and their scientific and publication activities and international contacts and lists them among the authors of a manuscript if they have made a creative and substantial contribution to it;
g. deduces consequences from a possible scientific misconduct of his/her colleagues.

V.
Principles for the Assessment, Evaluation, Opponent and Expert Activities

A researcher:
a. performs alone assessment or other evaluation work assigned;
b. protects intellectual property rights of the authors of evaluated manuscripts, designs of projects and communications, being careful only to work out an expert review and not use the data contained in evaluated materials for personal advantage or provide them to a third person;
c. does not intentionally prolong the assessment of an evaluated work so as to achieve personal advantage or for the benefit of a third person;
d. refuses to prepare an expert opinion, the conclusions of which could be influenced by his/her personal interest, or reveals this fact in advance; avoids any other potential conflicts of interest;
e. prepares expert opinions responsibly and only from his/her specialty area, resisting any potential external pressures which could influence this opinion;
f. observes objective criteria in evaluating and opponent procedures, adheres to the contractor´s rules and requires the same adherence from the other participants of the procedure.

Code of Ethics of Chemists (Quebec, Canada)
Region: Western Europe and Others Group
Country: Canada
Type of Organisation: Government
Type of Document: Code of Conduct

CODE OF CONDUCT FOR SETTING UP A MONITORING SYSTEM IN BUSINESS FOR PRECURSOR CHEMICALS AND EQUIPMENT THAT CAN BE DIVERTED TO ILUCIT t>'ANUFACTURE OF DRUGS

GENERAL PROVISION

1. This Code determines, pursuant to section 87 of the Professional Code (chapter C-26), the general and special duties that any member of the Ordre des chimistes du Québec must discharge towards the public, his clients and his profession.

It determines acts that are derogatory to the dignity of the profession, provisions to preserve the secrecy of confidential information that becomes known to a member of the Order in the practice of his profession, the conditions and procedure applicable to the exercise of the rights of access and correction provided for in sections 60.5 and 60.6 of the Professional Code as well as the conditions, obligations and prohibitions in respect of advertising by a member of the Order.

O.C. 27-2001, s. 1.

DIVISION II

DUTIES AND OBLIGATIONS TOWARDS THE PUBLIC

2. The chemist shall support every measure likely to improve the quality and availability of the professional services in the field in which he practises.

O.C. 27-2001, s. 2.

3. The chemist shall have a conduct beyond reproach towards every person that makes contact with him.

He shall, in particular, act with courtesy, dignity, moderation and objectivity.

O.C. 27-2001, s. 3.

4. The chemist shall bear in mind the general effect his work may have on the life, health or property of any person, on the quality of the environment and on the whole society. For such purpose, he shall, in particular, notify his client of such consequences in relation to the mandate given him and, where applicable, suggest more adequate means for carrying out such mandate.

O.C. 27-2001, s. 4.

5. The chemist shall see that the analysed substances that are expired or unused, are safely reclaimed for the purposes of disposition, of processing or of destruction.

O.C. 27-2001, s. 5.

6. The chemist shall, where he considers that the work endangers public safety, notify the

responsible persons thereof and make the recommendations he considers appropriate. He shall also
notify the Order if adequate safeguards are not taken.
O.C. 27-2001, s. 6.
7. The chemist shall promote measures of education and information in the field in which he practises. He shall also perform the necessary acts to ensure such education and information.
O.C. 27-2001, s. 7.
8. The chemist shall see that the services rendered where he practises are rendered in accordance
with the hygiene and safety rules and in respect with the governmental norms of management,
warehousing and disposition of the different products used in his field of practice.
O.C. 27-2001, s. 8.
9. The chemist shall seek to possess an adequate knowledge of existing scientific techniques and
their advantages and inconveniences in the field of activities in which he practises.
O.C. 27-2001, s. 9.

DIVISION III

DUTIES AND OBLIGATIONS TOWARDS CLIENTS

§1. General provisions

10. Before accepting a mandate, the chemist shall take into consideration the extent of his aptitudes, proficiency and the means at his disposal. He shall avoid:
(1) to undertake or to continue a mandate for which he is not sufficiently prepared without obtaining the necessary assistance;
(2) to accept a mandate for which he has not gained or for which he is not able to gain the required qualification.
O.C. 27-2001, s. 10.
11. The chemist shall at all times recognize the right of the client to consult a colleague, a member of
another professional order or another competent person.
O.C. 27-2001, s. 11.
12. In addition to the provision in section 54 of the Professional Code (chapter C-26), the chemist
shall not practise under conditions or state likely to impair the dignity of the profession or the quality
of the services provided.
O.C. 27-2001, s. 12.
13. The chemist shall endeavour to establish a relationship of mutual confidence between the client
and himself. To that end, he shall, in particular:
(1) refrain from practising his profession in an impersonal manner;
(2) respect his client's scale of values and personal convictions, taking into account, however, the
responsibilities which are his, particularly the protection of the public.
O.C. 27-2001, s. 13.
14. The chemist that foresees that the mandate entrusted to him by his client may be carried out in
whole or in part in its essential aspects by another chemist shall so inform his client.
O.C. 27-2001, s. 14.

15. The chemist shall refrain from intervening in the personal matters of his client on issues that are not relevant to the profession and that are not relevant to the reasons for which the client gave him the mandate.
O.C. 27-2001, s. 15.
16. The chemist shall refrain from using, outside a recognized scientific milieu, any method insufficiently proved.
O.C. 27-2001, s. 16.
17. The chemist shall practise his profession in accordance with the current professional standards or scientific knowledge; with this end in view, he shall keep up to date and perfect his knowledge.
O.C. 27-2001, s. 17.
§2. Integrity
18. The chemist shall carry out his professional duties with integrity and intellectual honesty.
O.C. 27-2001, s. 18.
19. If the good of the client so requires, the chemist shall, with the latter's authorization, consult a colleague, a member of another professional order or another competent person, or refer him to one of these persons.
O.C. 27-2001, s. 19.
20. The chemist shall inform his client, as soon as possible, of the extent and terms of the mandate entrusted to him by the latter and obtain his agreement in this respect.
O.C. 27-2001, s. 20.
21. In all written, verbal or electronic communications, the chemist shall avoid to include any false information or exclude any essential information.
O.C. 27-2001, s. 21.
22. The chemist shall avoid discriminatory, fraudulent or illegal practices and he shall refuse to participate in such practices.
O.C. 27-2001, s. 22.
23. The chemist shall not express opinions or give advice that is contradictory or incomplete. To that end, he shall try to know all the facts before expressing an opinion or giving advice.
O.C. 27-2001, s. 23.
24. The chemist shall only inquire about the facts related to the execution of his mandate and he shall abstain himself to use his position to get irrelevant information.
O.C. 27-2001, s. 24.
25. The chemist shall inform his client as early as possible of any error that might cause the latter prejudice and which cannot be easily rectified, of any complication or of any difficulties, that happen while rendering his professional services.
O.C. 27-2001, s. 25.

26. The chemist shall take reasonable care of the property entrusted to his care by a client and he
may not lend or use it for purposes other than those for which it has been entrusted to him.
O.C. 27-2001, s. 26.
27. The chemist shall notify his client of any illegal act likely to benefit that client which came to his
knowledge in the exercise of his mandate.
O.C. 27-2001, s. 27.
28. The chemist shall avoid to make or multiply professional services that are not justified by the
nature of the mandate entrusted to him by his client.
O.C. 27-2001, s. 28.
29. The chemist who is called upon as an expert witness shall give his opinion only when it is based
on sufficient knowledge.
O.C. 27-2001, s. 29.
§3. Availability and diligence
30. The chemist shall display reasonable availability and diligence.
O.C. 27-2001, s. 30.
31. In addition to opinion and advice, the chemist shall furnish his client with any explanation necessary to the understanding and appreciation of the services he provides him.
O.C. 27-2001, s. 31.
32. The chemist shall be diligent and frank in giving an accounting of the progress in the execution of
his mandate to his client when so requested by the latter.
O.C. 27-2001, s. 32.
33. Unless he has just and reasonable grounds to the contrary, the chemist shall not cease to act for
the account of a client. The following shall, in particular, constitute just and reasonable grounds:
(1) loss of the client's confidence;
(2) the fact that the chemist is placed in a situation of conflict of interest or in a context whereby
his professional independence could be called in question;
(3) inducement by the client to perform illegal, unfair, immoral or fraudulent acts;
(4) the fact that he has been deceived by the client or his failure to co-operate;
(5) the client has refused to pay the chemist's fees;
(6) it is impossible for the chemist to communicate with the client or to obtain from him the elements considered necessary to carry out the mandate.
O.C. 27-2001, s. 33.
34. Before he ceases to exercise his functions for the account of a client, the chemist shall give
advance notice of withdrawal within a reasonable time and ensure that such termination of service is
not seriously prejudicial to his client.
O.C. 27-2001, s. 34.
§4. Liability
35. The chemist shall, in the practice of his profession, fully commit his personal civil liability. It is

thus prohibited for him to include in a contract for professional services a clause excluding such
responsibility directly or indirectly, in whole or in part.
O.C. 27-2001, s. 35.
36. The chemist shall sign every report or document he prepares himself, that he supervises or for
which he is responsible. However, the chemist may put his initials on every report or document for
which he his responsible if his name is also legibly entered on such report or document.
O.C. 27-2001, s. 36.
37. Notwithstanding section 36, the chemist may permit, where the circumstance so requires, that
the results of the work for which he is responsible be forwarded without his signature or initials to
third parties he designates. In such case, the chemist shall, however, sign or initial the results thus
forwarded on the first reasonable occasion, in accordance with section 36.
O.C.
§5. Independence and impartiality
38. The chemist shall subordinate his personal interests to those of his client.
O.C. 27-2001, s. 38.
39. The chemist shall ignore any intervention by a third party which could influence his professional
liberty and the performance of his professional duties to the prejudice of his client. He shall also
avoid carrying out a task contrary to his professional conscience or to the principles governing the
practice of his profession.
O.C. 27-2001, s. 39.
40. The chemist shall act with objectivity whenever persons likely to become clients request information from him.
O.C. 27-2001, s. 40.
41. The chemist shall avoid any situation which could limit directly or indirectly his professional
liberty to the detriment of his clients.
O.C. 27-2001, s. 41.
42. The chemist shall safeguard his professional independence at all times and avoid any situation
which would put him in conflict of interest. Without restricting the generality of the foregoing, a
chemist is:
(1) in conflict of interest when the interests concerned are such that he may be influenced to favour certain of them to those of his client or whereby his judgment and loyalty towards the latter
could be unfavourably affected;
(2) no longer an independent adviser in respect of a given act if he finds a personal advantage,
direct or indirect, real or possible, therein.
O.C. 27-2001, s. 42.

43. As soon as ascertains that he is in a situation of conflict of interest, the chemist shall notify his
client thereof and ask him authorization to continue his mandate.
O.C. 27-2001, s. 43.
44. The chemist shall be impartial when he is in relation with his client, the latter's suppliers and the
other persons making business with his client.
O.C. 27-2001, s. 44.
45. Save for the remuneration to which he is entitled, the chemist shall refrain from paying or receiving any benefit, rebate or commission related to the practice of his profession.
O.C. 27-2001, s. 45.
46. The chemist shall refuse, in particular, any commission or reimbursement from any interested
person dealing with his client in connexion with the work for which he is responsible.
O.C. 27-2001, s. 46.
47. The chemist shall generally act in the same matter for only one of the parties in question. If his
professional duties require that he act otherwise, the chemist shall specify the nature of his responsibilities and shall keep all the interested parties informed that he will cease to act if the
situation becomes irreconcilable with his duty of impartiality.
O.C. 27-2001, s. 47.
§6. Professional secrecy
48. The chemist that asks a client to give him confidential information or that allows such information to be given to him shall ensure that the client is fully aware of the purpose of the interview and of the various uses to which such information can be put.
O.C. 27-2001, s. 48.
49. The chemist shall not disclose that a person has requested his services when such fact is likely to
be detrimental to that person.
O.C. 27-2001, s. 49.
50. The chemist shall avoid indiscreet conversations concerning a client and the services rendered
him.
O.C. 27-2001, s. 50.
51. The chemist shall not make use of confidential information to the prejudice of a client or with a
view to obtaining, directly or indirectly, a benefit for himself or for another person.
O.C. 27-2001, s. 51.
52. The chemist shall see to it that his collaborators and the persons under his authority or supervision do not divulge or do not make use of confidential information which may have come to
their attention in the performance of their duties.
O.C. 27-2001, s. 52.
§6.1. Lifting of professional secrecy to protect individuals
O.C. 21-2004, s. 1.
52.1. A chemist may communicate information that is protected by professional secrecy to prevent
an act of violence, including a suicide, where the chemist has reasonable cause to believe that there

is an imminent danger of death or serious bodily injury to a person or an identifiable group of persons.
However, the chemist may only communicate the information to a person exposed to the danger or
that person's representative, and to the persons who can come to that person's aid. The chemist may
only communicate such information as is necessary to achieve the purposes for which the information is communicated, in particular the name of the person in danger, the name and contact
information of the person who made the threats, the nature of the threats and the circumstances in
which they were made.
If it is necessary in the best interests of the person exposed to the danger, the chemist shall consult
another member of the order, a member of another professional order, or any other qualified person, provided the consultation will not prejudicially delay the communication of the information.
O.C. 21-2004, s. 1.
52.2. A chemist shall enter in the client's record as soon as possible:
(1) the name of the person exposed to the danger;
(2) the reasons supporting the decision to communicate the information; and
(3) the subject of the communication, the mode of communication, the name of any person to whom the information was given and the date and time it was communicated.
The chemist shall send that information to the bureau of the syndic without delay.
O.C. 21-2004, s. 1.
§7. Accessibility of records
53. The chemist may require that an application referred to in sections 55, 58 or 61 be made and the
right be exercised at his professional domicile during his regular working hours.
O.C. 27-2001, s. 53.
54. If he fails to reply within 10 days of receiving an application to which sections 55 or 58 applies,
the chemist is deemed to have refused to grant it.
O.C. 27-2001, s. 54.
I. Terms and conditions of the exercise of the right of access provided for in section 60.5 of the
Professional Code
55. In addition to the particular rules prescribed by law, the chemist shall promptly follow up, at the
latest within 10 days of its receipt, on any request made by a client whose purpose is:
(1) to consult documents that concern him in any record made in his regard;
(2) to obtain a copy of the documents that concern him in any record made in his regard.
O.C. 27-2001, s. 55.
56. The chemist may only charge reasonable fees not exceeding the cost for reproducing or transcribing documents or the cost for forwarding a copy, in respect of an application to which
paragraph 2 of section 55 applies.
The chemist requesting such fees shall, before proceeding with the copying, transcribing or sending
of the information, inform the client of the approximate amount he will have to pay.

O.C. 27-2001, s. 56.
57. The chemist who, pursuant to the second paragraph of section 60.5 of the Professional Code
(chapter C-26), denies a client access to the information contained in a record made in his regard
shall inform the client in writing that the disclosure would be likely to cause serious harm to the
client or to a third party.
O.C. 27-2001, s. 57.
II. Terms and conditions of the exercise of the right of correction provided for in section 60.6 of the
Professional Code
58. In addition to the particular rules prescribed by law, the chemist shall promptly follow up, at the
latest within 10 days of its receipt, on any request made by a client whose purpose is:
(1) to cause to be corrected any information that is inaccurate, incomplete or ambiguous with regard to the purpose for which it was collected, contained in a document concerning him in any
record established in his respect;
(2) to cause to be deleted any information that is outdated or not justified by the object of the record that concerns him;
(3) to file in the record that concerns him the written comments that he prepared.
O.C. 27-2001, s. 58.
59. The chemist who grants an application referred to in section 58 shall issue to the client, free of
charge, a copy of the document or part of the document to allow the client to see for himself that
the information was corrected or deleted or, as the case may be, an attestation that the written comments prepared by the client were filed in the record.
O.C. 27-2001, s. 59.
60. Upon written request from the client, the chemist shall forward a copy, free of charge for the
client, of corrected information or an attestation that the information was deleted or, as the case
may be, that written comments were filed in the record to any person from whom the chemist received the information that was subject to the correction, deletion or comments and to any person
to whom the information was provided.
O.C. 27-2001, s. 60.
III. Obligation for the chemist to give the documents to the client
61. The chemist shall promptly follow up on any written request made by a client, whose purpose is
to take back a document entrusted to him by the client.
O.C. 27-2001, s. 61.
§8. Determination and payment of fees
62. The chemist shall charge and accept fair and reasonable fees.
Fees are fair and reasonable if they are warranted by the circumstances and proportionate to the
services rendered.
O.C 27-2001, s. 62.

63. The chemist shall refrain from claiming fees for professional services not performed or falsely
described.
O.C. 27-2001, s. 63.
64. The chemist shall, in particular, take into account the following factors when fixing his fees:
(1) his experience;
(2) the time given to the carrying out of the professional service;
(3) the difficulty and magnitude of the service;
(4) the performance of unusual services or services requiring exceptional competence or celerity;
(5) the responsibility assumed.
O.C. 27-2001, s. 64.
65. In the carrying out of a mandate, the chemist shall, when he has the choice as to means, suggest
to his client the least onerous method without, however, sacrificing the quality of the service to be
rendered.
O.C. 27-2001, s. 65.
66. The chemist shall provide his client with all the explanations required for the understanding of
his statement of fees and for the terms and conditions of payment.
O.C. 27-2001, s. 66.
67. The chemist shall refrain from demanding advance payment for his services; he shall, on the
other hand, notify his client of the approximate cost of his services, except where he may reasonably
assume that the client is already informed thereof.
O.C. 27-2001, s. 67.
68. The chemist may collect interest on outstanding accounts only after having duly notified his
client thereof. The interest so charged shall be at a reasonable rate.
O.C. 27-2001, s. 68.
69. The chemist that appoints another person or organism to collect his fees shall, as far as possible,
ensure that the latter will act with tact and moderation.
O.C. 27-2001, s. 69.
70. Before having recourse to legal proceedings, the chemist shall have exhausted all other means at
his disposal for obtaining payment of his fees.
O.. 27-2001, s. 70.
71. The chemist shall avoid selling or give away his accounts for professional fees, unless to a
colleague.
O.C. 27-2001, s. 71.
72. The chemist shall share his fees with a colleague only to the extent that such sharing corresponds to a distribution of services and responsibilities.
O.C. 27-2001, s. 72.
73. For a given service, the chemist shall only accept fees from a single source, unless explicitly

agreed otherwise by all the parties concerned. He shall accept payment of these fees only from his
client or the latter's representative.
O.C. 27-2001, s. 73.

DIVISION IV

DUTIES AND OBLIGATIONS TOWARDS THE PROFESSION

§1. Derogatory acts

74. In addition to those referred to in sections 59 and 59.1 of the Professional Code (chapter C-26),
or to those that can be determined in accordance with subparagraph 1 of the second paragraph of
section 152 of the Code, the following acts are derogatory to the dignity of the profession:
(1) pressing or repeated inducement to make use of his professional services;
(2) attempting to deceive the competent authorities on the eligibility of a person to become a member of the order;
(3) abusing in the practice of his profession of the inexperience, the ignorance, or the naivety of
his client;
(4) communicating with a person who requested that an inquiry be held, without prior written permission of the syndic of the Order or the assistant syndic, where he is informed that he is the
object of an inquiry pursuant to section 122 of the Professional Code or where he has been served
with a complaint in accordance with section 132 of the Code;
(5) participating in or contributing to the commission of an infraction to the Professional Code or
to the Professional Chemists Act (chapter C-15) or profiting knowingly of the commission of such
infraction, in particular concerning the illegal practice of the profession or the title's usurpation;
(6) failing to notify the competent authorities of the Order of any case of illegal practice of the
profession or title's usurpation of which he is aware;
(7) failing to bring to the attention of the syndic that he has reason to believe that a chemist contravenes the Professional Code or a related regulation made pursuant to the Code;
(8) failing to indicate correctly in the record information obtained during his mandate or falsifying
the record thereof in regard of this information;
(9) using knowingly a method or a process which is not in conformity with the scientific principles;
(10) selling or distributing product's samples destined for analysis purpose or already analysed;
(11) making false statements on the training period realized by an applicant for membership;
(12) put his initials or signature on a report or any document related to the practice of his profession when they were not prepared by himself or under his direction and his supervision;
(13) agree to execute or participate in the execution of work without respecting the methods, norms and process generally acknowledged in the profession;
(14) delay the execution of a mandate without reasonable reason;
(15) appropriating, directly or indirectly, dangerous chemical substances, controlled drugs or

narcotics with the intention of using them for purposes other than the practice of his professional
activities.
O.C. 27-2001, s. 74.
§2. Relations with the Order
75. The chemist whose participation in a council for the arbitration of accounts, a disciplinary council, a professional inspection committee or a revision committee is requested by the Order shall
accept that duty unless he has reasonable grounds for refusing.
O.C. 27-2001, s. 75.
76. The chemist shall answer promptly and truthfully all requests for information or any correspondence addressed to him by the secretary, the assistant secretary, the syndic, one of his
assistants, investigators or members of the professional inspection committee in the exercise of the
duties devolved upon them by the law and the regulations.
O.C. 27-2001, s. 76.
77. The chemist shall, as promptly as possible, following a request from the secretary of the Order,
communicate to the latter the information required for preparing the roll.
O.C. 27-2001, s. 77.
78. The chemist shall, in his relation with the Order and the other chemists, behave with dignity,
courtesy, respect and integrity.
O.C. 27-2001, s. 78.
§3. Relations with colleagues
79. The chemist shall not abuse a colleague's good faith, deceive his trust, be disloyal towards him or
damage his reputation.
Without restricting the generality of the foregoing, the chemist shall not, particularly:
(1) take credit for work done by a colleague;
(2) take advantage of his position as an employer or manager to limit in any ways the professional
autonomy of a chemist at his service or under his supervision, particularly towards the utilisation of
the title of chemist or the obligation for every chemist to engage his professional liability.
O.C. 27-2001, s. 79.
80. The chemist consulted by a colleague shall provide the latter with his opinion and recommendations as soon as possible.
O.C. 27-2001, s. 80.
81. The chemist called upon to collaborate with a colleague shall maintain his professional independence. If he is given a task contrary to his conscience or principles, he may ask to be excused
from doing it.
O.C. 27-2001, s. 81.
§4. Contribution to the advancement of the profession
82. The chemist shall, as far as he is able, contribute to the development of his profession by sharing
his knowledge and experience with his colleagues and students and by his participation in courses

and continuing training periods.
O.C. 27-2001, s. 82.

DIVISION V

CONDITIONS, OBLIGATIONS AND PROHIBITIONS RESPECTING ADVERTISING

83. The chemist shall not engage in or allow the use of, by any means whatsoever, advertising that is
false, misleading or reasonably liable to mislead.
O.C. 27-2001, s. 83.

84. The chemist shall have his name and professional title appear in his advertisement.
O.C. 27-2001, s. 84.

85. The chemist who, in his advertising, claims to process skills or specific qualities, particularly in
respect of the effectiveness or scope of his services and of those generally ensured by other members of his profession or his level of competence, shall be able to substantiate such claim.
O.C. 27-2001, s. 85.

86. The chemist shall see that the persons working with him in the practice of his profession, in any
capacity whatsoever, comply with the rules respecting advertising.
O.C. 27-2001, s. 86.

87. The chemist may not use advertising practices liable to denigrate or discredit another chemist or
pretend that his services are superior to those provided by his colleagues.
O.C. 27-2001, s. 87.

88. The chemist in expressing scientific opinions through any public information media, shall:
(1) inform the public of the opinions generally accepted in chemistry on the subject;
(2) avoid any uncalled for publicity favouring a product, a process or a method.
O.C. 27-2001, s. 88.

89. The chemist who advertises fees or prices rate shall:
(1) establish fees or fixed prices for the advertised services;
(2) specify the nature and extent of the services included in the fees or in the prices;
(3) indicate whether additional services not included in the fees or in the prices might be required;
(4) indicate whether or not charges or disbursements are included in those fees or in those prices.
Any fees or any prices shall remain in effect for a minimum period of 90 days after they were was last
broadcast or published. Notwithstanding the foregoing, nothing prevents the chemist from agreeing
with a client on a price lower than the one published or broadcast.
O.C. 27-2001, s. 89.

90. In the case of an advertisement relating to a special price or a discount, the chemist must mention the period of validity of the price or discount, as the case may be. That period may not be
less than 90 days.
O.C. 27-2001, s. 90.

91. Explanations and indications respecting the advertisement of fees or prices of a chemist shall be

of such nature as to reasonably inform persons who have no particular knowledge of chemistry.
O.C. 27-2001, s. 91.
92. The chemist shall keep a complete copy of every advertisement in its original form for a period of
5 years following the date on which it was last published or broadcast. The copy shall be given to the
syndic or one of his assistants upon request.
O.C. 27-2001, s. 92.
93. The chemist may not, by any means whatsoever, engage in or allow the use of any advertising
intended for persons who may be emotionally or physically vulnerable because of their age, of their
state of health or of the occurrence of a specific event.
O.C. 27-2001, s. 93.
94. The chemist may not, in his advertising, use or allow the use of an endorsement or statement of
gratitude concerning him, except awards for excellence and other prizes received in recognition of a
contribution or an achievement the honour of which is shared by all members of the profession.
O.C. 27-2001, s. 94.
95. The chemists who are partners in the practice of their profession are solidarily responsible for
complying with the rules respecting advertising, unless one of them demonstrates that the advertising was made without his knowledge and consent and in spite of the measures taken to
ensure compliance with those rules.
O.C. 27-2001, s. 95.

DIVISION VI

GRAPHIC SYMBOL OF THE ORDRE DES CHIMISTES DU QUÉBEC

96. The Ordre des chimistes du Québec is represented by a graphic symbol that is in conformity with
the original held by the secretary of the Order.
O.C. 27-2001, s. 96.
97. The chemist that reproduces the graphic symbol of the Order in his advertising shall ensure that
such reproduction is in conformity with the original by the secretary of the Order.
O.C. 27-2001, s. 97.
98. The chemist that uses the graphic symbol of the Order in his advertising, elsewhere than on a
business card, shall include the following notice in the advertisement:
“This advertisement is not an advertisement of the Ordre des chimistes du Québec and entails the
liability of its author only.”
O.C. 27-2001, s. 98.

DIVISION VII

NAME OF A CHEMISTS' PARTNERSHIP

99. The name of a chemists' partnership shall include only the names of members who are practising

together. However, the name of a deceased or retired member may be retained in the partnership
name.
O.C. 27-2001, s. 99.
100. Where a chemist withdraws from a partnership to practise alone, to join another partnership or
to fulfil a duty that is incompatible with the practice of his profession, his name shall be removed
from the partnership name within one year of his withdrawal, unless there is an agreement in writing
to the contrary.
O.C. 27-2001, s. 100.

DIVISION VIII

FINAL PROVISIONS

101. This Regulation replaces the Code of ethics of chemists (R.R.Q., 1981, c. C-15, r. 2).
O.C. 27-2001, s. 101.
102. (Omitted).
O.C. 27-2001, s. 102

REFERENCES

O.C. 27-2001, 2001 G.O. 2, 1017
O.C. 21-2004, 2004 G.O. 2, 808
S.Q. 2008, c. 11, s. 212

Colegio de Químicos de Puerto Rico
Region: Group of Latin American and Caribbean Countries
Country: Puerto Rico
Type of Organisation: Chemistry
Type of Document: Code of Conduct

Fundamental Principle
Each chemist must honor their profession by observing a professional conduct of excellence, working efficiently, with exactitude, with integrity and honorably; and maintaining a high standard of working relationships and above all aiming to promote the good of society.

Rules for their Relationships with the Profession

1. Each Chemist will promote the advance of Chemistry using their resources.
2. They will be careful, judgemental, and exact in their calculations; and in the drafting of reports, projects and testimonies.
3. Each chemist has the right to a fair and reasonable compensation, within the profession's parameters and/or the institution that employs him/her and will not use questionable methods to achieve compensation.
4. Each chemist will be on alert to avoid, reject and denounce every activity, attitude, and act that seeks to ease the practice of the profession by non qualified people.
5. Each Chemist will maintain a high standard of competence within the profession, keeping up to date with the advances of science and technology in its field and complying with the provisions of regulations, in relation to Continuous Education and the acquisition and maintaining of the license that authorizes him/her to practice as a Chemist as stipulated in the laws of the Free Associated State of Puerto Rico.
6. Chemists can participate in radio and/or television programs to give scientific opinions as individuals or as representatives of the School of Chemists or its members, if they are requested by the regulation of the School or by the Commission of Governors of the School. They will make it clear when they are making a personal opinion, and will be able to do so freely as long as they act correctly, moderately, and within the boundaries of science that highlight their professional condition.

Rules regarding their Relationships with the School of Chemists

1. Each Chemist shall give written notice to the Commission of Defense and Professional Conduct about any violation of laws and regulations and, in particular, of this School, related to the practice of chemistry by non qualified people.
2. Only a qualified and registered chemist has the right to use the stamp of the School of Chemist of Puerto Rico, they will be able to use it in their correspondence and/or papers and envelopes, with their name and license number duly printed so that they can be identified easily and is in particular not an official document of the School. Plaques and stickers provided by the School are an exception.

3. Any chemist providing scientific opinions in any radio and/or TV program, will do so publicly, and will not appear to be sanctioned or supported by the School of Chemists, even if they are a member of the Governing Committee.

Rules for Relationships between Colleagues:

1. They will be upright, correct and gentlemanly in their professional relationships.

2. They will exchange technical information and professional experience with their colleagues and will do this when it is not in conflict of interests with their superiors, employer or clients and, in case of conflict, the common good to society will prevail.
3. When using a method, technique, material or object developed by a chemist or scientific colleague, they will always state where that method, technique, material or object came from and they will not attribute its invention to someone else in their papers or through their actions.
4. Any chief chemist or colleague providing results or data to the public, to private entities or to the government through investigation reports, or although routine, will give the adequate credit to their subordinates and colleagues for their participation in the preparation of such reports.
5. They will not accept any compensation for managing or providing work for other chemists, unless that is their job: to provide work for others, and therefore to receive a fair and reasonable compensation for their efforts.
6. When competing with colleagues to obtain professional work, they shall apply worthy methods, be honest and not cause harm directly or indirectly, by taking action or by omitting and using unworthy methods, to a colleague's reputation, opportunities or business.
7. They will not compete with their colleagues in earning fees through the use of laboratory or other facilities that provides them with a position or remunerated employment.

Rules for their Relationships with Clients

1. They will provide their services to the general public without cheating and will provide their best skills, aptitudes, knowledge and experiences, so that their services are of high quality.

2. They will exchange with their colleagues information coming from a professional relationship with a client – but only when this will not be a conflict of interests with their clients.

3. They will not accept economic or other rewards from more than one person, without the written consent of the parties. They will be able, nevertheless, to provide professional services to more than one person or entity, so long as theirs is no contracted interests.

4. Their fees will be regulated by the institution, agency or person that has become their client, by their parameters, when the owner of their business or provider of consultancy services. In any case fees will not contradict the rules of the School, even if they seem fair to the client.

Rules for their Relationship with Society

1. Every Chemist will observe faithfully the laws of the community of which they live and will observe the rules of citizenship compatible with the healthy public ethics.

2. No Chemist will refuse to provide the results of their achievements, discoveries and developments to anyone that needs them, when they could be of use for the protection or improvement of the common good; they will not retain exclusively any method, technique or material that could be beneficial for the advancement of chemistry in particular or of science in general.

3. The professional chemist will try to make the most of the opportunities to educate the public, in general or individually, in a simple and humble manner, in those areas relevant to their knowledge, because, generally speaking, in our society, people do not have the necessary knowledge to understand or interpret the results of experiments and/or scientific observations.

4. Every chemist has the duty to protect the public from impostors or people without the necessary knowledge pretending to carry out the profession.

Rules for their Relationship with the Free Associated State of Puerto Rico

1. Every chemist should seek to faithfully observe the laws of the state regulating the practice of their profession.

a. They will not do or promote work or experiments violating the statutes of the State.

b. They will not use their knowledge for the production and/or purification of drugs of abuse for illegal sale to addicts.

c. They will not use their knowledge for the production of instruments for terrorists.

2. They will be able to acquire rights and patents and the remuneration derived from them, when this does not prevent the use or investigation of the material or object patented.

Lic. Adnalia Flores González	Lic. María E. Ramírez Marrero
President 2000-2001	Secretary 2000-2001

Czech Chemical Society
Region: Eastern European Group
Country: Czech Republic
Type of Organisation: Chemistry
Type of Document: Code of Ethics

Our civilization as we know it today is inextricably linked to advances in chemistry and we are extremely appreciative of our responsibility to the people and to future generations. Many things that today seem perfectly normal were unthinkable not so long ago. Thanks to chemistry as it is today, many people are regularly supplied with food, sufficient quantities of medicines and other values so that the people's life expectancy grows and has doubled that of the last century. In our daily life, we also reap the benefits of increasingly better materials. This being said, chemists are increasingly confronted with the need for new solutions. The dramatic increase in the number of people on earth must surely result in the risk of overpopulation, there are many diseases that still cannot be treated and the people must be fed and clothed. Even in their enthusiasm for new discoveries, chemists never lose sight of their ethical and social standards. It is understood that any new methods and progress include elements of risk that may lead to public criticism. Safety standards are high in the industry, coupled with high levels of chemical safety training and education creates unique conditions for further development. Chemists are aware of the scope of the problems and the impact of their work and are aware of the necessity to assume responsibility to future generations as well as to maintain high standards of living, which should also remain in the future.

The CCS supports freedom, tolerance and truth in science and is committed to the support of its members. Its particular vocation is to endeavour to improve the position of chemistry, knowledge of chemistry and skills. All CCS members are aware of the fact that they, especially, are to be held responsible for the impact of their work on the people and the environment. The CCS and its members support and promote the sustainable and permanent development of society, the economy and the environment. In their work there is always an element of responsibility to future generations. We comply with all legal requirements relating to our work, our results and their impact must always be against the misuse of chemistry as, for example, in the development of chemical weapons or drugs. They are committed to the use of truthful information in the acquisition and dissemination of knowledge of chemistry and do not use dishonest methods.

Discussing anything not in line with these principles destroys the reputation of the profession and as such is incompatible with membership in the CCS. Chemists bear personal responsibility for their work and for information produced as a result. In doing so, they must take into account any of these requirements and how they can be used in their own field. In order to comply with these ideals members CCS undertake:

1. To identify the purpose of any proposed work to be sure it is necessary, useful and is likely to be successful. Consider its implications and social and environmental impact.
2. To ensure that all work is immediately, competently, accurately and permanently recorded by the person who performed the work, and that the same is true of its

subsequent processing and reporting to ensure its integrity and usability as long as it may be needed.

3. To make sure that all materials, including samples, are identified, safely handled, properly used, transported, distributed and classified and that the information regarding them is adequate.
4. To bear full responsibility for their work and to take decisions regarding its engineering consistent with the health, safety and general welfare of the people and immediately bring to light any element that may jeopardise or adversely affect the environment.
5. To respect the laws and values of the country in which it operates.
6. To avoid conflicts of interest, whether genuine or inferred, wherever they might affect professional solutions or have a negative impact on the environment and, where possible, to weed out these conflicts and to reveal the identity of interested parties, if known.
7. To be honest and realistic in claims and estimates based on available data.
8. To be impartial in decision-making and assessment.
9. To reject bribes in any form.
10. To use only the titles and designations to which they have a right.
11. To improve the level of education in the field of chemistry.
12. To maintain and improve professional and technical competence and to authorize scientific and technological tasks to third parties only as fits their level of qualification and professional experience, or after full disclosure of the relevant limitations.
13. To seek, receive and offer honest criticism of technical work leading to the detection and correction of technical errors and to properly indicate the authorship of others.
14. To behave equally to all, regardless of their function, race, religion, gender, health, age or nationality.
15. To avoid possible harm to health, reputation, employment or other property on the basis of false information or malicious activity.
16. To assist colleagues and co-workers in their professional development and support them in compliance with this Code.

DECHEMA
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Chemistry
Type of Document: Code of Conduct

The *Code of Conduct for DECHEMA Ausstellungs-GmbH* is available at http://www.achema.de/en/disclaimer/code-of-conduct.html.

Deutsche Forschungsgemeinschaft
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

Scientific Freedom and Scientific Responsibility
Recommendations for Handling
Security-Relevant ResearchI. Introductory guidelines
A. Freedom of research and responsibility of scientists
Research plays a fundamental role in ensuring the progress of mankind. It serves to increase knowledge and promote the health, prosperity and security of mankind and the protection of the environment. The freedom of research, which is enshrined in Article 5 Paragraph 3 of the Ger-man Basic Law and may only be legally restricted to protect other important constitutionally protected values, is the main requirement for this. Furthermore, scientifically successful re-search requires transparency, which is afforded primarily by the free exchange of knowledge and the publication of research findings.
Yet free and transparent research is also associated with risks. Such risks do not necessarily result from negligence or deliberate misconduct by scientists. In all areas of science, there is also the danger that findings – which are neutral or useful per se – may be misused by third parties for harmful purposes. In defence technology, materials research and nanotechnology can lead to the development of offensive weapons; research on industrial robots can enable the construction of robots for combat; atomic energy can be used for non-peaceful purposes. Re-search findings on pathogenic microorganisms and toxins can also be used for new biological weapons and terrorist attacks, and genetic analyses of plants at the molecular level can lead to biological attacks on seeds. In computer science, research into protecting systems against computer viruses can facilitate not only their prevention but their spread and new forms of cyber warfare. Misuse of research is also feasible in medicine as well as in the behavioural sciences and social sciences. Psychological, medical and neurobiological research can support aggres-sive interrogation techniques up to and including torture. Optimising the collection, matching and analysis of personal data can lead to a violation of personal rights. Linguistic research on speech recognition systems can also be employed to inappropriately monitor communications. Legal and philosophical publications can be misused to justify human rights abuses. Risks of misuse therefore exist in most areas of research. At the same time, failing to conduct research can also entail significant risks, such as when a vaccine needs to be found to avert an imminent epidemic.
This possibility of using research findings for both beneficial and harmful purposes (known as the dual use dilemma) makes it difficult to make a clear distinction in many fields between "good" and "bad" research, defensive and offensive research, and research for peaceful or ter-rorist purposes. This dual use dilemma also exists in knowledge-oriented basic research, where results often cannot be predicted and research findings are not good or bad in and of them-selves. Judging this kind of research is also difficult because future use chains are often un-known and estimating risks and consequences tricky. These problems are particularly

acute when research findings can be misused as is, without intermediate steps (known as dual use research of concern – DURC).
Within this complex matrix of benefits and risks, the role of science is to carry out research for the welfare of humankind and the protection of the environment and other values – especially those that are constitutionally protected. Scientists must therefore prevent or minimise direct or indirect harm to values deserving of protection as far as possible. In addition to the feasibility of research, they should therefore also take its consequences and controllability into account where possible. In individual areas, they must decide how much protection specific values de-serve, assuming the decision has not already been regulated by law. Science is therefore sub-ject to ethical as well as legal constraints. Deutsche Forschungsgemeinschaft / Leopoldina: Wissenschaftsfreiheit und Wissenschaftsverantwortung – Scientific Freedom and Scientific Responsibility 25
B. Legal and ethical constraints on research
Research constraints are in the first instance determined by legal provisions. These may restrict the freedom of research to protect significant constitutionally protected values, provided this is proportionate. The relevant provisions have different objectives and approaches. They may prohibit research objectives (e.g. the development of nuclear and biological weapons), regulate methods (e.g. certain experiments on humans) or ban the export of knowledge, services and products to certain countries (e.g. within the framework of German foreign trade law or EU regu-lation 428/2009 on the control of exports of dual use items and technology).
Scientists are individually responsible for adhering to applicable legal provisions.11 They must inform themselves of the provisions applicable to their area of research and ensure they are adhered to within the scope of their responsibilities. Violations of legal provisions can lead to protracted proceedings with prohibitions, sanctions and penalties as well as a loss of reputation for the scientist, their institution and their entire field. Research institutions also have a legal responsibility. They should therefore support their staff in complying with applicable legal provi-sions (compliance). By doing so, they are also protecting themselves and meeting their legal duty of supervision, which may require them to intervene in the event of a legal violation.
11 Researchers and institutions in Germany are subject to German law. Outside of Germany, they are subject to the applicable law of that location. In addition, researchers and institutions working abroad may also be subject to their own national law. International law also applies (e.g. protection of human rights, international humanitarian law, law of war, bans on torture and the use of force, Convention on Biological Diversity).
Yet individual scientists cannot content themselves with just complying with legal regulations. Their knowledge and experience and the freedom afforded to them gives them a special re-sponsibility that goes beyond legal obligations. They must therefore use their knowledge, expe-rience and skills to recognise, estimate and assess relevant risks. In critical cases, these indi-viduals must make a personal decision about the constraints on their work, and take responsibility for that decision within the scope of their freedom of research. In some cases, the result may be that some projects – even those that are not prohibited by law – must be carried out in a different form or not at all.

In addition to laws imposed by governments, the self-regulation of science is highly significant. Self-regulatory instruments are founded on a high level of expertise and familiarity with the sub-ject and can take on a preliminary warning function in the face of new problems. They can also react quickly and flexibly and can autonomously solve problems connected with security-relevant research. In the process, they are often better able than legal regulations to stay abreast of the continually changing research landscape, account for difficult dual-use risk esti-mates, and make the difficult value judgments that follow – especially in cooperation with spe-cialised committees.

Similarly, scientific organisations have a duty to create aids and structural framework conditions for ethically responsible research. The same is true for influential institutions that promote re-search.

C. The aim of the following recommendations

With the present guidelines and recommendations, the German Research Foundation (DFG) and the National Academy of Sciences (Leopoldina) intend to raise awareness of the problems Deutsche Forschungsgemeinschaft / Leopoldina: Wissenschaftsfreiheit und Wissenschaftsverantwortung – Scientific Freedom and Scientific Responsibility 26 mentioned above, raise awareness of risks, provide ethical guidelines to assist with answering ethical questions, and minimise risks through self-regulation.

The following recommendations are aimed at all persons who are involved in scientific research. They were developed primarily for the government-funded research sector. Statements about researchers' personal ethical responsibility for their work and statements about risk analysis and risk reduction requirements also generally apply to researchers in the industrial sector.12 The recommendations are also intended to encourage scientific institutions to create corresponding organisational framework conditions for themselves.

12 However, recommendations regarding how industrial research should be performed as well as those regarding the integration of ethics committees in industrial research are covered and qualified in particular by labour law.

13 See, for example, for the field of medical research on humans: Declaration of the World Medical Association of Hel-sinki/Tokyo (1964/75) with various subsequent revisions. For the field of bio-security: German Research Foundation – Code of Conduct: work with highly pathogenic microorganisms and toxins, 2013; National Science Advisory Board for Bio Security, Proposed Framework for the Oversight of Dual Use Life Sciences Research: Strategy for Minimizing the Potential Misuse of Research Information, 2007, Strategic Plan for Outreach and Education on Dual Use Research Issues, 2008; Royal Netherlands Academy of Arts and Sciences, Biosecurity Committee, Improving Bio Security – Assessment of Dual-Use Research, Advisory Report, 2013. See also the recommendations published by the German Ethics Council 7 May 2014 entitled "Biosecurity – freedom and responsibility of research".

The DFG and Leopoldina urge researchers to reflect on the ethical principles cited in these rec-ommendations and to take them into account and put them in concrete terms during their work. Research institutions should implement the proposed regulations – after adapting them for their particular needs – and supplement them if necessary with additional subject-specific self-regulatory measures (e.g. subject-specific codes and committees)13 in order to identify and min-imise potential risks. The DFG, as an institution for the advancement of research,

and the Leo-poldina, in its superordinate role as National Academy of Sciences, will provide strong support for the dissemination and broad acceptance of the recommendations and will work towards ensuring compliance with the principles laid down.

II. Recommendations on a responsible approach to security-relevant research

A. General recommendations on ethically responsible research

1. General principle

Science serves to increase knowledge and has a duty to promote human well-being and the protection of the environment and other values – especially those that are constitutionally pro-tected. Researchers need to prevent direct and indirect harm to these values as far as possible.

When making decisions in this context, they cannot content themselves with complying with legal regulations but must also observe ethical principles. They need to be fundamentally aware of the danger of misused research. In critical cases, these individuals must draw on their knowledge and experience to make a personal decision about what is responsible with regard to their research. In doing so, they need to weigh the opportunities offered by the research against the risks for human dignity, life, health, freedom and property, the protection of the envi-ronment and other values. Deutsche Forschungsgemeinschaft / Leopoldina: Wissenschaftsfreiheit und Wissenschaftsverantwortung – Scientific Freedom and Scientific Responsibility 27

The following concrete measures must not be permitted to inappropriately hinder research and are subject to feasibility and proportionality.

2. Risk analysis

Awareness of the potential risks is a prerequisite for responsible research. Raising awareness of the relevant dangers is thus a key requirement in the avoidance, or at least control, of re-search risks. Researchers should therefore take account of the consequences and opportunities for application and misuse of their work and its controllability. In doing so, they should also con-sider the risks of not conducting the research in question.

The identification of research risks not only concerns risks relating to individual conduct. In cas-es where research is susceptible to risk of misuse, researchers should also take account of the consequences of their work and the possibility that useful research findings could be misused for harmful purposes by third parties. Risk analysis and the evaluation of consequences require an open-minded and responsible approach. It may be necessary for researchers to find out about the context of the research project or about the commissioning parties and cooperation partners.

3. Minimising risk

Researchers and other persons involved in their projects should minimise, as far as possible, the risks associated with the implementation or use of their work. Measures on risk minimisation should be assessed and carried out both before and during an ongoing research project.

This may result in the implementation of security measures (e.g. to prevent the release or theft of dangerous substances from laboratories) or special protection of the confidentiality of re-search results through physical, organisational and information technology means (e.g. encryp-tion of saved and transmitted data). Such security measures and access restrictions do

not conflict with the requirement for transparency because research results are not required to be made accessible to everyone at all times (see also II.A.4).
Employees and cooperation partners working on research susceptible to misuse must be selected meticulously based on their reliability and sense of responsibility. In the event that the spread of security-relevant research results poses a particular risk (such as in the context of weapons of mass destruction or export restrictions), it may be appropriate to work with special advisory services, legal departments at research organisations, or government security authori-ties.14
14 See, for example, regarding biological threats the Centre for Biological Threats and Special Pathogens (ZBS) at the Robert Koch Institute; for computer security issues the Federal Office for Information Security (BSI); regarding embargo violations the Federal Office of Economics and Export Control (BAFA).
Risk minimisation measures may also consist of only carrying out specific research for or with certain cooperation partners. While international cooperation is a fundamental element of suc-cessful research, in individual cases a restriction of international cooperation or avoidance of partners or staff from certain countries may nevertheless be recommendable from a risk minimi-sation perspective. National and international provisions and lists on export restrictions may constitute a basis for identifying countries where misuse of certain research results is a danger. Deutsche Forschungsgemeinschaft / Leopoldina: Wissenschaftsfreiheit und Wissenschaftsverantwortung – Scientific Freedom and Scientific Responsibility 28
4. Evaluating publications
The possible consequences of publishing results in high-risk research areas should be evaluated even before the start of the project. This applies, in particular, in cases where research results alone – without additional knowledge or elaborate implementation or application processes – can lead to specific dangers or significant damages (dual use research of concern).
In such cases, security interests conflict with the interest of publishing research results. The free exchange of information and especially the publication of results are important factors for scien-tific knowledge and scientific progress, particularly in government-funded and knowledge-oriented research. They also benefit transparency, reproducibility, scrutiny and in turn quality assurance for the research process. Moreover, the publication of results can promote the de-velopment of protective measures (e.g. vaccines in healthcare or antivirus programs in IT). Suppression of research results may prevent effective protection against their misuse by totali-tarian regimes, terrorist groups, organised criminal groups or individual criminals.
The requirements for transparency and communication do not, however, prevent scientists from minimising specific risks of their research by delaying the publication of the results of their work instead of publishing immediately. In the case of research results with a high degree of potential for misuse, parts of the results which are particularly susceptible to misuse may be excluded from the publication or published in an abridged form in special cases – provided that the reader is made aware of these changes. In certain cases, researchers may only share specific results of their work with certain persons.

Complete avoidance of the communication and publication of research results may only be con-sidered if there are no other ways of countering the dangers. However, this is only justified in extraordinary cases.
The above principles also apply to researchers who are involved in the scientific publication process, for example as peer reviewers or editors. Researchers in such positions working in relevant risk areas should ensure that the publication of research results and the policy of the publishing houses and other institutions they are working with conform to the principles set out here.
5. Forgoing research as a last resort
The primary goal of risk analysis is to carry out and communicate research in a responsible way. However, responsible decision-making by researchers may in individual cases – when no other protective mechanisms exist – lead to a high-risk project only being carried out at a later point in time, following a research moratorium, or perhaps not at all, even when the project is not prohibited by law.
In dual use research, which can have harmful as well as beneficial effects, it is difficult to deter-mine and apply criteria for the constraints mentioned here. The necessary ethical evaluation of the remaining risks that follows the definition of possible protective measures may be assisted by examining whether the potential damages of the research outweigh the potential benefits.
Scientific freedom and the benefit of the research as well as the risk of damages should be tak-en into account when examining this point. The following factors should be considered: the probability that damages will occur, the extent of possible damages, the extent to which the research results could be used for harmful purposes with or without complex implementation processes. Finally, consideration should be given to whether misuse can be prevented and the Deutsche Forschungsgemeinschaft / Leopoldina: Wissenschaftsfreiheit und Wissenschaftsverantwortung – Scientific Freedom and Scientific Responsibility 29
extent to which the consequences can be controlled. Other decisive factors include the identity of the cooperation partners, customers, users and funders of the research.
6. Documentation and communication of risks
If research entails risks for human dignity, life or well-being or for the environment or other sig-nificant values with constitutional protection, scientists should document these risks, how they weigh up against possible benefits, and the measures taken to minimise them both before and, in the event of changes, during their work. Scientists should bring this documentation to the attention of the research ethics committee responsible for these problems (see II.B.2 below) or the head of their institution before the research begins.
Relevant risks and measures taken to minimise them should be noted on applications for re-search funding. Scientific advisory boards and other groups evaluating the research should be informed of these risks and measures as early as possible and should take a position on them in their reports.
7. Training and information
In their university teaching and their training of junior scientists, researchers should communi-cate the principles of a responsible approach to research risks and set a good example. When doing so, researchers should also cover the subject-specific rules on risk minimisation for their respective field of research. Researchers should also contribute to

raising awareness about these issues when they carry out their projects (see also II.B.3 below).

8. Persons responsible

Evaluating whether research complies with legal provisions, self-regulatory measures and ethi-cal principles is, in the first instance, the task of the scientists responsible for the project. In ad-dition, the scientists' superiors bear responsibility, in particular within the scope of their legally required duty of supervision.

The persons involved in the research should primarily inform the scientist responsible for the project, but if necessary also that scientist's supervisor and the responsible research ethics committee (see II.B.2), of legal violations that have occurred or could occur, as well as any ethi-cal reservations.

The principles set out here also apply when scientists are involved in evaluating the projects of other researchers. Employees in such positions should ensure that research applications set out and minimise possible risks in risk areas and account for these principles.15

15 On the area of application of these recommendations, see also I.C. above. Deutsche Forschungsgemeinschaft / Leopoldina: Wissenschaftsfreiheit und Wissenschaftsverantwortung – Scientific Freedom and Scientific Responsibility 30

B. Supplementary organisational recommendations for research institu-tions

1. Legal provisions and compliance units

Research institutions need to raise awareness of the issue among their staff and convey the required knowledge of legal constraints on research in their specific areas of activity.

Research institutions that carry out work at the margins of the law or high-risk work should have a special unit for ensuring compliance with legal provisions (known as a compliance unit). This unit should support the head of the institution and their staff in complying with legal provisions on research constraints, provide relevant policies and train those persons doing the research in relevant measures. The unit should be able to report directly to the head of the research institu-tion if possible and collect any necessary information from the institution's staff members. Small institutions may transfer these tasks to an existing organisational unit (e.g. legal department or auditing).

Research institution staff members should be able to turn to the compliance unit at any time if they are of the opinion that the institution or its cooperation partners are not complying with legal provisions to prevent the misuse of research. Regulations to protect whistleblowers should be in place and should ensure that people can report incidents without this disadvantaging them.16

16 See the DFG's recommendations on good scientific practice of 2013, No. 17.

If research violates legally binding provisions, the institution head must take the necessary steps.

2. Ethics rules and research ethics committees

Research institutions should also define ethics rules for handling security-relevant research that meet the provisions listed in II.A and B or that achieve the goals of those provisions in another equivalent form. Special additional provisions can be considered for specialised areas of re-search when these must accommodate relevant international regulations and recommenda-tions.

Each research institution should form a special research ethics committee to advise on issues arising from the implementation of ethics rules. This committee should provide researchers with support on issues of research ethics, mediate in differences of opinion between researchers on relevant matters, and issue recommendations on the implementation of research projects. The committee's powers and actions must be compatible with researchers' scientific freedom. This is particularly true when committee decisions are set to be compulsorily enforced or reinforced with sanctions.

The process of selecting committee members should lend committee decisions a high degree of legitimacy (e.g. election of members or nomination by the institution's research associates). Committee members should perform their committee responsibilities independently of all bind-ing mandates. The committee should be made up of persons with sufficient scientific expertise to handle each particular case in question. The committee should be able to request in an ap-propriate way information from all staff members to ascertain the facts it needs and consult ap- Deutsche Forschungsgemeinschaft / Leopoldina: Wissenschaftsfreiheit und Wissenschaftsverantwortung – Scientific Freedom and Scientific Responsibility 31

propriate sources in person or in writing. A set of bylaws should regulate the most important procedural issues (legal hearings of affected scientists, protection of whistleblowers, impartiality of deciding committee members, powers of committee to collect information) and the commit-tee's decision-making powers.

Every researcher at the institution should be able to task the research ethics committee with verifying whether planned and ongoing projects are compatible with the institution's ethics rules.

3. Education and training

Research institutions should promote the necessary awareness of ethical constraints on re-search, e.g. through relevant campaigns, educational events and corresponding information requirements on funding applications. They should promote the training events cited above (in II.A.7) for their employees at the institutional level and incorporate them in their teaching and training programmes.17

17 See also the German Association of University Professors and Lecturers' (DHV) resolution from the 60th DHV Day entitled "Wissenschaft im Dienst des Menschen" (science in the service of mankind), published in Forschung und Lehre 2010, p. 324. Deutsche Forschungsgemeinschaft / Leopoldina: Wissenschaftsfreiheit und Wissenschaftsverantwortung – Scientific Freedom and Scientific Responsibility 32

Dow
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

Dow's Code of Business Conduct is available at http://www.dow.com/en-us/about-dow/our-company/beliefs-and-culture/ethics/.

Dragon Oil
Region: Asia-Pacific Group
Country: UAE
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct & Business Ethics* is available at https://www.dragonoil.com/sustainability/code-of-conduct-business-ethics/.

DuPont
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *DuPont Code of Conduct* is available at http://www.dupont.com/corporate-functions/our-company/core-values/code-of-conduct.html.

ECSA (Engineering Council of South Africa)
Region: African Group
Country: South Africa
Type of Organisation: Chemical Engineering
Type of Document: Code of Conduct

Discipline Specific Guidelines:

Chemical Engineering

Acceptable Training for

Registration as Professional Engineers

It is recommended that Candidate Engineers (CEs) provide

a copy of this document to each supervisor of their training and to each of their referees.

1. Introduction

These guidelines are aimed at providing more information about the requirements for registration through the Engineering Council of South Africa (ECSA) in addition to the broader requirements set out in Policy Statement R2/1A.

1.1 Candidates wishing to become registered as professional engineers with ECSA must-

(i) hold a relevant academic qualification recognised by ECSA through accreditation or evaluation, or pass any examination which ECSA may prescribe; and

(ii) demonstrate that they have been trained to an acceptable level of competence in defined elements, in so far as it relates to chemical engineering, for at least three years; and

(iii) display attributes of a professional person.

1.2 Immediately upon graduation, candidates are encouraged to apply to ECSA for registration as candidate engineers (CEs), whereafter they will be provided with all relevant documents needed for the complete training period.

1.3 The recommended way of achieving the requisite levels of competence in all the training elements is through a focused and collaborative process of acceptable training, where the CEs and their employers (mentors) plan and execute the actual training on the basis of ECSA's Policy Statement R2/1A, as well as the training objectives listed in these Discipline Specific Guidelines.

1.4 CEs will be expected to gain practical experience in a position of responsibility and to prove that their education, training, experience and professional development have enabled

them to discharge, in full, the responsibilities of a professional engineer in chemical engineering.

2. Academic Qualifications

2.1 The minimum academic qualification required for registration as a CE is an accredited bachelor's degree in chemical engineering obtained from a South African university.

The list of South African bachelor degrees in chemical engineering, accredited by ECSA, may be obtained from the Education Department of ECSA at:

Tel: (011) 607-9500 or in writing at: Private Bag X691

Fax: (011) 622-9295 Bruma

E-mail:engineer@ecsa.co.za 2026

Web: www.ecsa.co.za

2.2 Persons who have graduated from a university not accredited by ECSA will be assessed individually on merit. If their qualifications are evaluated as being at least equivalent to an accredited South African degree, candidates will be eligible for registration as CEs and could then follow the formal route to registration as professional engineers.

2.3 Persons whose qualifications are not accredited or recognised by ECSA may follow an alternative route to meet the academic requirements for registration as CEs. Candidates must apply to ECSA and obtain the necessary information on the procedure to be followed.

2.4 Those who meet ECSA's academic requirements should register as CEs without delay. Application forms can be obtained from ECSA. CEs must, from the outset, also obtain copies of the application form for registration as professional engineers.

3. Training and Professional Development under a Commitment and Undertaking (CU), and Mentorship

Commitment and Undertaking (CU)

3.1 CEs must persuade their employers to register a Commitment and Undertaking with ECSA, namely that they will structure the training of, and actually train, their CEs, in accordance with the requirements of ECSA's Policy Statement R2/1A as well as the requirements set out in these Discipline Specific Guidelines. Each CU will be allocated a permanent registration number, which should be quoted by all CEs when applying for registration as professional engineers.

3.2 Employers must, at the same time, submit the name(s) of a mentor(s) from within the organisation (see § 3.4 below) or, if an internal mentor is not available, the name of an external mentor (see § 3.5 below) to guide CEs through the required process of training. A CU will not be registered by ECSA unless the name of at least one mentor (internal or external) is provided.

Mentorship and Supervision

3.3 ECSA and the South African Institution of Chemical Engineers (SAIChE) will jointly maintain a list of internal and external mentors. A mentor must be registered as a professional engineer. Council will only in exceptional cases consider the listing of experienced and mature professional engineering technologists, professional certificated engineers, or professional engineering technicians, upon application and motivation by the organisation/mentor concerned. These mentors will be deemed not only to be capable of fulfilling their functions in a professional manner but also as being committed to advising and guiding their CEs in their professional development.

3.4 It is STRONGLY RECOMMENDED that all CEs should have a mentor who is working in the same organisation as the CE (internal mentor).

3.5 If an internal mentor is not available, a list of external mentors can be obtained from ECSA or SAIChE. It will be expected of employers who make use of the services of external mentors to create an environment in which such mentors can feel free to make recommendations in the reasonable knowledge that their recommendations will be given sympathetic consideration.

3.6 It will be expected of all mentors to become fully conversant with their functions and responsibilities referred to in Policy Statement R2/1A and guidelines issued by ECSA from time to time, to conduct regular discussions with their CEs and to assess their progress in accordance with the guidelines set out in Policy Statement R2/1A and these Discipline Specific Guidelines. Since the effectiveness of mentors will continuously be monitored, Council will attach much value to the opinion of "the conscientious mentor" as to the registrability (or otherwise) of their CEs.

3.7 It is not expected of mentors to take responsibility for the day-to-day supervision and training of CEs. Mentors/employers should do everything in their power to ensure that competent persons, preferably registered with ECSA, are available to oversee this function as supervisors.

4. General

4.1 Training reports, which must be updated regularly, form an essential part of the monitoring process, and these reports must be filled in on the correct forms (Forms A2.1 and A2.2) of the application form. These forms are part of the application form, which should be obtained from ECSA as soon as the CEs start their training.

4.2 It is a requirement that CEs who are aspiring to become professional engineers should, with the assistance of their mentors, achieve their training objectives by structuring their training in such a way as to cover the various elements of training referred to in Policy Statement R2/1A and these Discipline Specific Guidelines.

4.3 The rate at which CEs progress through their training is determined by themselves, their mentors and other factors, such as the state of the economy and availability of training opportunities.

4.4 Where CEs, training under a CU decide to change employers, they should ensure that they continue their training under another CU registered by their new employers. CEs should also ensure that their new employers provide mentors to guide them through the remainder of their training period and to take over where the previous mentor ended. It may even be advisable to retain the previous mentor, if this is at all practicable.

4.5 Once all the objectives have been achieved to the satisfaction of the mentor, CEs should, in principle be registerable, and could then apply for registration as professional engineers. Depending on the circumstances, CEs may expect to take a minimum of three years to achieve acceptable competence in all the prescribed elements.

4.6 Regardless of whether or not CEs train under a CU, it is recommended that they strive to participate in a process of continuing learning. This concept includes continuing education and professional development.

4.7 Continuing learning may include attending courses, technical conferences, seminars, symposia, organised site visits, and meetings of professional bodies, as well as self-study. The process of continuing learning should achieve a balance between technical content and managerial/professional aspects.

4.8 The mentors of CEs should, on a consultative basis, suggest suitable continuing learning programmes.

4.9 SAIChE and educational institutions may be able to assist in advising on courses which are available.

4.10 It will be to the advantage of CEs when applying for registration as professional engineers if they can demonstrate their participation in a process of continuing learning.

5. Discipline Specific Elements

5.1 Introduction - Evaluation of Training

The acceptability of the total training is evaluated by ECSA when, after completion of the training, an application for registration as a Pr Eng has been submitted. Council's evaluation is based on the applicant's ability to solve technical problems and manage engineering tasks by showing:

- engineering skill and judgement; decision making ability
- knowledge of relevant legislation
- ability to communicate with all relevant parties
- appreciation of ethical and social issues

The training should focus on carrying out meaningful engineering tasks, preferably under the direct supervision of a chemical engineer, under the general guidance of a Professional Engineer and following (if available) a training programme for chemical engineers.

5.2 Core Elements in The Training of Chemical Engineers

Chemical engineers usually work on plant operations, product application, contracting (projects), process development or research. In all these cases, the core of the work requires both logical and creative thinking and consists of a com¬bination of:

In these core elements, CEs must critically apply their knowledge of scientific and engineering principles in full awareness of the engineering procedures applicable to their discipline of engineering. They must make themselves aware of the structure of the organisation in which they work and of the functions of the various organisations involved in their discipline of engineering, such as the SA Institution of Chemical Engineers. In this professional environment ECSA requires the CE to have:

- a general knowledge of legislation which has a bearing on the practice of engineering in South Africa, with a working knowledge of the provisions of the Engineering Profession Act, 2000 (Act 46 of 2000), and the Acts and Regulations applicable to their specific discipline of engineering;

- a good understanding of the code of Professional Conduct applicable to registered persons;

- full familiarity with the requirements for registration set out in Policy Statement R2/1A as well as in these discipline specific guidelines.

5.2.1 Problem solving

Problem solving deals not only with current problems ("trouble shooting"), but also with envisaged future problems and the exploration of opportunities for improvements and innovation. Problem solving consists of a sequence with the following major steps:

- organisation of the available information on a recognised problem
- problem analysis (including cause identification)
- synthesis of problem solutions
- evaluation of problem solution which must meet the objective, using criteria such as:
- product specifications
- capital and operating costs
- operability; integration into existing situation
- hazards and environmental aspects to arrive at a decision on the optimum solution,

- implementation of the problem solution
- monitoring of the results

5.2.2 Management

In the management of problem solving in its broadest sense, chemical engineers will have to deal with "the five Ms", always to be considered in the context of Time and Place:

o Materials o Machines (equipment) o Money (costs)

o Manpower o Methods (procedures; systems)

Planning and progress evaluation are important subsidiary elements of management.

Responsibility – It is expected of CEs to take on increasing levels of responsibility for meeting the requirements of the assigned tasks and for making engineering decisions in their own work and in the work of the supervised personnel. Account must be taken of the legal and ethical obligations summed up in the Code of Professional Conduct of the engineering profession. CEs are also expected:

- to participate in carrying out the policies of the organisation in which they work
- to co-operate effectively with the engineering team they may form part of
- to develop their professional skills, and
- never to compromise on integrity

Inter-disciplinary nature of engineering – The CE must come to realise that chemical engineering depends on various disciplines and there is often a need to engage people with different skills; development of a co-operative work attitude is essential.

5.2.3 Communication

In problem solving and in carrying out and managing their part of the work, engineers depend heavily on communication with others, verbally (sometimes involving visual aids) and in written documents.

Communications must be well-structured, accurate, brief and clear. In engineering, the communications (technical, scientific, financial, etc.) are written with specific objectives. Therefore, they must be written towards achieving these objectives - essay style and flowery verbiage are out.

5.3 Detailed Elements for Chemical Engineers

Naturally, the core elements will involve various engineering subjects, but specifics depend on the needs of the work environment. For chemical engineers, this environment may be industries involved with mineral oil, petrochemicals, inorganic chemicals, coal and other minerals, paper, pharma¬ceuticals, food and agricultural products, water, effluents and

wastes, or government organizations dealing with these industries. The training of each chemical engineer can therefore only encompass the elements present in his work environment. However, this training is required to cover a variety of engineering subjects and to have a good engineering content. The reports to be submitted must specify the engineering contributions made by the CE.

Most chemical CEs are engaged in one or more of the following broad fields:

- Process plant operation and its technological support and product distribution and application

- Process and plant design, equipment selection, erection and commissioning of process plants or modifications

- Research, development, technology transfer and project evaluation

Details of the type of training recommended in each of these fields are given below. It is not expected that the training would necessarily comprise all the elements listed. It is acceptable to place emphasis on certain elements as required by the employer or as commensurate with the aptitude of the CE. Prescribing specific combinations of elements in the training is not considered practical, but an element of problem solving and consideration of safety aspects should be present.

5.3.1 Process plant operation, etc.

Routine operation of process plant is considered valid training provided the CE is gaining understanding of the operations and takes increasing responsibility for specific tasks, for instance the running of a plant section, or tasks as listed below. Being involved in routine operation for prolonged periods may not give sufficient opportunity for facing a variety of engineering subjects. One of the most useful ways in which the CE can gain experience is to be a member of a team responsible for overcoming a technical problem in a plant.

Operations tasks:

- Measurement and analysis of performance data; working out material and energy balances

- Checking the accuracy of measuring instruments and the selection and application of new instrumentation

- Product quality control; measuring quality and meeting specifications; in some industries there is also responsibility for product distribution and product application which can have a bearing on production

- Evaluation of plant records and operating costs

- Involvement in cost control and budgeting

- Recognition of existing problems, foreseeing future problems and recognition of opportunities for plant or product improvements

- Optimization and control of the process to improve performance

- Application of engineering principles in working out the various options that may exist for overcoming a technical problem; techno-economic feasibility studies

- Application of safety principles in the plant and also taking into account that an engineer may not endanger the life and limb of the public through negligence and may not cause serious damage to the environment

- Maintaining good relations and effective communication among the members of the engineering team, management and the work force and maintaining sound labour relation practices

- Accurate, brief and clear reporting on those matters in which the CE is involved.

5.3.2 Process Design, etc.

Training elements in this field relevant to chemical engineers are:

Plant design –

- preparation of flow sheets and material and energy balances

- optimization of the plant system; using models to determine optimum configuration

- communication with a drawing office and an engineering purchasing office

- checking of working drawings for suitability with respect to the process and space

- specification, design and selection of equipment and service requirements, with reference to the applicable codes and consideration of the suitability of materials used (corrosion), their surface treatment, checking the reliability of data on the properties of materials to be processed or produced, economics, instrumentation, quality control, logistics, safety, spillage management and the effect on the environment

- planning start up and shutdown procedures

- operability analysis

- hazard analysis; this should include a check on the possibility of the occurrence of extreme fluid dynamic, process kinetic or temperature conditions (through appropriate modelling)

Note: Mechanical design, plant fabrication and erection (rigging) are in the first instance the responsibility of mechanical and electrical engineers. Yet, the chemical engineer may be involved in erection programming, the safety aspects of connecting up to existing plant and supervision of the installation of uncomplicated plant modifications.

- commissioning; measurement and analysis of plant performance versus design data; responsibility for acceptable plant performance; elimination of operability and other problems and unacceptable bottlenecks; checking on compliance with safety standards.

- Accurate, brief and clear reporting on the matters in which the CE is involved.

5.3.3 Research & Development, etc.

In this field, the CE may be involved in the following elements:

- identification of the cause(s) of a problem in a systematic manner (symptoms are not causes)

- identification of an opportunity for improving current operations, extending the product range, changing the feed source, developing new methodology for design or processing or developing new applications for products

- critical analysis of the available information and generation of required information

- motivating a research, development or plant modification project based on technical and economic merits

- planning and carrying out experimental investigations in a scientific manner on a laboratory, pilot plant or industrial plant scale or an investigation on relevant theoretical support; ascertaining that the measurements made are of sufficient accuracy, that the property data of any material used are reliable and that spillage and waste are handled properly

- consideration of the safety aspects of proposed work, ascertaining whether the materials used have any dangerous properties and whether the methods and equipment used are safe and sound

- data processing to bring them into a format that facilitates interpretation and presentation

- evaluation of experimental or theoretical results, or evaluation of a proposed major project (techno-economic evaluation); deriving conclusions in a logical way and formulating recommendations based on these conclusions

- compilation of the results into a structured report; verbal presentation of progress and results

- technology transfer to ensure that the maximum benefit is obtained from the research and development effort.

5.3.4 Lectureship

Lecturers are often involved in the mentoring of CEs as well as in research, in engineering faculties, and as such make a valuable contribution to the training of future engineers. However, to be able to become a professional engineer the lecturer must become involved in

the application of engineering knowledge by way of applied research and consulting work under the supervision of a professional engineer.

Experience should be obtained in as many of the areas listed above as possible. Since this will usually be undertaken on a part time basis, a period of 5 years of such training will be required for registration. However, should individuals consider that their experience is equivalent to that of three years in non-lecturing engineering, the application should be considered on its merits by ECSA's Professional Advisory Committee on Chemical Engineering.

5.3.5 Other development of Engineers in Training

Reaching increasing levels of responsibility is one of the main aims in the training period and, where possible, this should include responsibility for the work of others. It is also important that CEs extend their knowledge both in engineering subjects and non-engineering skills, such as the management of personnel, financial aspects and communication skills at the professional level. Participation in practice-oriented courses on such subjects can make a valuable contribution to their development.

5.4 Specialist Training

Applicants with an accredited or recognised engineering degree, having specialised in a narrow field at an early stage might not comply with the "sufficient variety" requirement for registration.

However, provided that the applicant's specialist knowledge is at least at the level of a master’s degree and provided that the applicant has demonstrated an ability, at a professional level, to identify engineering problems, and to produce solutions which can be satisfactorily implemented, a degree of trade-off may be acceptable in assessing the experience. Where an applicant's experience is judged to be in a narrow specialist field, a minimum of five years' experience after obtaining the bachelor degree in engineering will be required, but each application will be considered on merit.

ENOC (Emirates National Oil Company)
Region: Asian-Pacific Group
Country: UAE
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *ENOC Code of Business Conduct* is available at http://www.enoc.com/EN/EnGroup/CorpGovern/CodeOfConduct.aspx.

EQUATE Petrochemical Company
Region: Asian-Pacific Group
Country: Kuwait
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Business Conduct* is available at
http://www.equate.com/pdf/EQUATE_Code_of_Business_Conduct_311.pdf.

Estonian Academy of Sciences
Region: Eastern European Group
Country: Estonia
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

CODE OF ETHICS OF ESTONIAN SCIENTISTS

1. General principles

1.1. The ethics in science is based on fundamental values, norms and principles, determining the moral conduct of scientists, their responsibilities to the society and the environment.

1.2. In his/her research work a scientist shall be guided by accepted standards of best practice, the general concepts of which this code defines.

1.3. Scientists will hold it to their heart that the society should attach value to science.

2

1.4. Scientists will undertake to further implementation of research knowledge for the welfare of humankind, for preservation and consolidation of the ecosystem and for economical and sustainable use of the natural resources.

1.5. Scientists will undertake to uphold the freedom of scientific thought, to condemn the censorship of scientific creativity and attempts to monopolise research directions. Scientists will permit the restrictions to be imposed on dissemination in some specific case of scientific advances.

1.6. By retaining critical mind and sound scepticism scientists will act to promote knowledge- based decisions and to stand up against the use of unproven results and unscientific claims, when the decisions crucial to society are being taken.

1.7. All those in science will undertake to train and develop young scientists. These activities should not be limited to providing the technical skills necessary to enable them to conduct their research. Training must also inculcate the core ethical standards and norms of science, hence the mentor must pose as a moral epitome to the young scientists, as regards the science and community.

1.8. Scientists will be morally liable for any such activity which may have a material impact on the development of the whole humanity, environment, country or a social institution.

2. Scientific research

2.1. Scientists will adhere to the highest professional standards while mapping and practising research.

2.2. In every single phase of scientific research scientists must preserve integrity. Scientists will avoid any scientific misconduct or fraud, such as fabricating or falsifying data or records, piracy or plagiarism, sabotaging the work, records or protocols of other scientists, breach of confidence as a reviewer or supervisor.

2.3. Scientists will remember that the scientific research is an ongoing process. They must take critically the findings and be willing to reassess their earlier achievements, in the face of new facts come to light.

2.4. Scientists have a duty to ensure that intellectual property arising from their work is properly safeguarded.
2.5. Scientists will undertake, whenever possible, to ensure that the outcome of their study is used to the best interests of the society and environment.
2.5. Scientific research involving interactions with people must not trespass on human dignity and basic human rights. In case of such research, the individuals will be informed about all aspects of the proposed research. Their voluntary agreement to participate will be secured – the principle of 'informed consent'. Personal information obtained will be handled and kept under conditions of the highest possible confidentiality, and information obtained will be used exclusively for the purposes of the research.
3

3. Self-regulation in scientific community

3.1. Scientists will make every effort to build a creative atmosphere with the team, displaying tolerance towards colleagues, wholeheartedly acclaiming their success.
3.2. A scientist will value highly the competence and professionalism in conducting scientific research. He/she will be frank and fair, when there is a need to give an opinion on the lack of ability or proficiency of a colleague, in particular if that impedes or damages the advancement of science and society. However, the competency of a fellow scientists may be queried only provided there is a well supported proof.
3.3. In critique, discussion and debate scientists will proceed from the equity principle and the confidence in facts and research outcome. Scientists will not interpret the facts arbitrarily or in pursuance of their personal interests.
3.4. Scientists will not require of their collaborators that they shoulder his/her own assignments.
3.5. When in a superior position, scientists will apply democratic style of leadership.
3.6. When publishing research outcome of a team project all participants involved in work will be referred to as authors; if needs be, their individual contribution will be indicated. The practice of honorary, or "ghost" authorships is inconsistent with theses principles and with good scientific practice.

4. Scientist as a mentor and as a student

4.1. Scientists will hold in respect both their mentors and students.
4.2. Scientists will encourage independent work of students, their unfettered and critical thinking. Scientists will respect free expression of their opinions.
4.3. Scientists will not hinder the communication of their students with other scientists and scientific institutions.
4.4. Scientists will view their students objectively, withholding from deprecating and criticizing them.

5. Scientist as an expert

5.1. Scientists will act as experts only within their sphere of competence, referring to their knowledge and experience.
5.2. Scientists will agree to act as experts only provided they can remain impartial.

5.3. Scientists will perform expert examinations honestly, impartially and with responsibility.
5.4. Scientists will adhere to the principle of equality, when performing expert examinations. Any discrimination on grounds of sex, race, political opinions or cultural backgrounds will be inconsistent with these principles.
5.5. While performing expert examinations, scientists will abide by the confidentiality principle.
4
5.6. In the course of expert examinations scientists will retain their independence and defy coercion, when drawing and presenting conclusions.
5.7. When electing to fill research vacancies or other academic positions, scientists as experts will objectively appraise the candidates. They shall not give preference their students, representatives of the same school or other attendants and associates of theirs.
5.8. When acting as opponents of a thesis scientists will be impartial. To preclude any bias, the opponent must not have joint publications with the author of thesis.

6. Scientist and society

6.1. Scientists will commit themselves to pursuit of new knowledge and its application for the welfare of society and environment. The information delivered to community must be reliable, scientists will discourage presentation of unverified data as hard facts.
6.2. Scientists will promote the spread of scientific knowledge and repulse dissemination of pseudo-scientific theories, misconceptions and misrepresentations.
6.3. Scientists will consider it their obligation to publish research results also in the popular science form.

Ethics Committee, National Centre for Scientific Research (France)
Region: Western Europe and Others Group
Country: France
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

MONTREAL STATEMENT ON RESEARCH INTEGRITY IN CROSSBOUNDARY RESEARCH COLLABORATIONS
Responsibilities of Individual and Institutional Partners in Cross-Boundary Research Collaborations. Overall Collaborative Responsibilities
Integrity. Collaborating partners should take collective responsibility for the trustworthiness of the collaborative
research.
Trust.The behavior of all collaborating partners should be worthy of the trust of all other partners. Responsibility for
establishing and maintaining this level of trust lies with all collaborating partners.
Purpose. Collaborative research should be initiated and conducted for purposes that advance knowledge for the
good of society.
Goals. Collaborating partners should agree at the outset on the goals of the research. Changes in goals should be
negotiated and agreed to by all partners.
Responsibilities in Establishing and Managing the Collaboration
Benefits and Costs. The benefits and costs of collaborative research should be distributed fairly among
collaborating partners.
Agreements. Agreements that govern all research should be understood and ratified by all collaborating partners.
Agreements that unduly or unnecessarily restrict dissemination of data, findings or other research products should be
avoided.
Transparency. Collaborative research should be conducted and disseminated transparently and honestly, with as
much openness as possible under existing agreements.
53 http://www.wcri2013.org/Montreal_Statement_f.shtml. Projet de déclaration. Juin 2013
- 39 -
Compliance with Laws, Policies and Regulations. The collaboration as a whole should be in compliance with all
laws, policies and regulations to which it is subject. Collaborating partners should promptly and openly determine
how to address conflicting laws, policies or regulations that apply to the research.
Communication. Collaborating partners should communicate with each other as frequently and openly as necessary
to foster full, mutual understanding of the research.
Resource Management. Collaborating partners should use human, financial and other resources appropriately and
fairly.
Monitoring. Collaborating partners should monitor the progress of research projects to foster the integrity and timely

completion and dissemination of the work.

Responsibilities in Collaborative Relationships

Roles and Responsibilities. Collaborating partners should come to mutual understandings about their roles and responsibilities in the planning, conduct and dissemination of research projects. Such understandings should be renegotiated when roles or responsibilities change.

Customary Practices and Assumptions. Collaborating partners should openly discuss their customary practices and assumptions related to the research. Diversity of perspectives, expertise and methods, and differences in customary practices and assumptions that may compromise the integrity of the research should be addressed openly.

Conflict. Collaborating partners should seek prompt resolution of conflicts, disagreements and misunderstandings, at the individual or institutional level, as necessary.

Authority of Representation. Collaborating partners should come to agreement on who has authority to speak on behalf of the collaboration.

Recognition of Junior Partners. The contributions of junior partners in research collaborations should receive full and appropriate recognition.

Responsibilities for Outcomes of Collaborative Research

Data, Intellectual Property and Research Records. Collaborating partners should come to agreement at the outset on the use, management and ownership of data, intellectual property, and research records.

Publication. Collaborating partners should come to agreement at the outset on how publication and other dissemination decisions will be made, including what will be published, when it will be published, and where it will be published.

Authorship and Acknowledgement. Collaborating partners should come to agreement at the outset on standards for authorship and acknowledgement of joint research products. Publications and other products should state the contributions of all contributing parties.

Accountability. Collaborating partners should be accountable to each other and to funders in the accomplishment of the research.

Ethiopian Society of Chemical Engineers (ESChE)
Region: African Group
Country: Ethiopia
Type of Organisation: Chemical Engineering
Type of Document: Code of Ethics

Fundamental Principles
❶ Using knowledge and skill for the enhancement of human welfare;
❷ Being honest and impartial, and servicing with fidelity the public, their employers and clients;
❸ Striving to increase the competence and prestige of the engineering profession; and
❹ Supporting the professional and technical societies of their disciplines. 1/29/2014

Holy Grill
As engineering practitioners, we use our knowledge and skills for the benefit of the community to create engineering solutions for a sustainable future. In doing so, we strive to serve the community ahead of other personal or sectional interests.

Guidelines on Professional Conduct
 Demonstrate integrity
 Practice competently
 Exercise leadership
 Promote sustainability

 Demonstrate Integrity
1. Act on the basis of a well-informed conscience
2. Be honest and trustworthy
3. Respect the dignity of all persons

 Practice competently
1. Maintain and develop knowledge and skills
2. Represent areas of competence objectively
3. Act on the basis of adequate knowledge1/29/2014

 Exercise leadership
1. Uphold the reputation and trustworthiness of the practice of engineering
2. Support and encourage diversity

3. Communicate honestly and effectively, taking into account the reliance of others on engineering expertise

 Promote Sustainability

1. Engage responsibly with the community and other stakeholders
2. Practice engineering to foster the health, safety and wellbeing of the community and the environment
3. Balance the needs of the present with the needs of future generations

EuroChem Mineral & Chemical Company Code of Conduct
Region: Eastern European Group
Country: Russia
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Corporate Conduct* is available at http://www.eurochem.ru/wp-content/uploads/2011/04/Code-of-Corporate-Conduct.pdf.

EuroChem Mineral & Chemical Company Code of Ethics
Region: Eastern European Group
Country: Russia
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.eurochem.ru/wp-content/uploads/2010/08/Code-of-Ethics.pdf.

European Association for Chemical and Molecular Sciences (EuCheMS)
Region: Western Europe and Others Group
Country: N/A
Type of Organisation: Chemistry
Type of Document: Code of Conduct

The following Code of Conduct for individual members of member societies was approved by the General Assembly in 1985.

CODE OF CONDUCT

1. This Code of conduct is applicable to individual members of the [name of society] as defined within the statutes of the [name of society].
2. All individual members of member societies, as defined, have a duty to
    - have special regard at all times to the public interest [and to]
    - the maintenance of the highest standards of competence and integrity
    - conduct themselves honourably in the practice of their profession
    - observe the provisions of the rules and regulations of [name of society]
    - promote the interests of the [name of society] and maintain the dignity and welfare of the [name of society].

European Chemist Registration Board (ECRB)
Region: Western Europe and Others Group
Country: N/A
Type of Organisation: Chemistry
Type of Document: Code of Conduct

EUROPEAN CHEMIST REGISTRATION BOARD
CODE OF CONDUCT

"European Chemists" have a duty :
- to observe any rules and regulations as may be determined by the European Chemist Registration Board
- to maintain the honour and dignity of the profession
- to conduct themselves honourably in the practice of their profession
- to have a special regard at all times to the public interest
- to maintain the highest standards of competence and integrity
- to have special regard to protection of the environment and to the safety of the public.

European Chemists must bear a personal responsibility for their specific work and the information produced as a result. In doing so they must take account of any of the following objectives that may apply to their own field of activity:

1. Purpose:
To identify the purpose of any work envisaged, to ensure that it is necessary, useful and likely to succeed, and to consider the social, and environmental and economic consequences.

2. Planning:
To ensure that work to be carried out is identified, defined and scheduled in sufficient detail so that the objectives of the work will be met effectively and efficiently in a timely fashion.

3. Personnel:
To ensure that all work is carried out by personnel who are properly qualified and have appropriate knowledge, training and experience for the work in hand and are acutely aware of their scientific, supervisory and management responsibilities.

4. Information Management:
To ensure that all work carried out is completely, accurately and indelibly recorded at the time by the person concerned and that subsequent reporting and handling ensures its integrity and availability for as long as it may be required.

5. Materials:
To ensure that all materials, including samples, are identified, safely handled, used, transported,

stored and distributed properly and that the appropriate information concerning them is available.

6. Equipment:

To ensure that all equipment is appropriate to the task in hand and is maintained and operated in
such a manner that it performs to specification during use.

7. Location:

To ensure that any work is carried out in a facility or at a location which is appropriate to that work.

8. Management:

To utilise management systems that encourage and maintain the integrity of the work carried out by
individuals.

9. Quality:

To ensure that work carried out is maintained at the highest standards of competence and integrity
having special regard to the public interest.

European Commission
Region: Western Europe and Others Group
Country: N/A
Type of Organisation: Government
Type of Document: Code of Conduct

The *Code of Conduct for Responsible Nanosciences and Nanotechnologies Research* is available at http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008H0345.

European Commission (Latvia)
Region: Eastern European Group
Country: Latvia
Type of Organisation: Government
Type of Document: Code of Ethics

The *National Regulations on Ethics and Research in Latvia* is available at http://bookshop.europa.eu/ga/national-regulations-on-ethics-and-research-in-latvia-pbKI5603861/downloads/KI-56-03-861-B3-C/KI5603861B3C_002.pdf;pgid=y8dIS7GUWMdSR0EAlMEUUsWb0000gjiJ9dZJ;sid=mtbFwTbJhgrFbWWIiX9bZlTsnQXDEpQK5oY=?FileName=KI5603861B3C_002.pdf&SKU=KI5603861B3C_PDF&CatalogueNumber=KI-56-03-861-B3-C.

Exxon Mobil
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Ethics and Business Conduct* is available at http://corporate.exxonmobil.com/en/investors/corporate-governance/code-of-ethics-and-business-conduct/our-code.

Federation of European Biochemical Societies
Region: Western Europe and Others Group
Country: N/A
Type of Organisation: Science (including chemistry)
Type of Document: Code of Conduct

The European Code of Conduct for Research Integrity is available at http://www.esf.org/fileadmin/Public_documents/Publications/Code_Conduct_ResearchIntegrity.pdf.

Formosa Plastic Corporation
Region: Asia-Pacific Group
Country: Taiwan
Type of Organisation: Chemistry-Industry
Type of Document: Code of Ethics

The *Corporate Environmental, Health and Safety Policy* is available at http://www.fpcusa.com/citizenship/environmental/health_safety.html.

German Chemical Industries
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

Voluntary measures of the German chemical industry and the chemical trade companies to prevent the diversion of chemicals that might be abused for the illicit manufacture of narcotic drugs.
The chemical industry and chemical trade companies will comply conscientiously with the provisions of the above-mentioned pieces of legislation, with a view to eliminating the di¬version of chemicals ro the greatest degree possible. Furthermore the companies will en¬sure compliance with the obligations stipulated under nos. I ro 9 below. With the measures described under no. 6. simultaneously the requirements under Articles 8 and 9 of Regula¬tion 273/2004 and Articles 9 and 10 of Regulation 111 /2005 are met.
I.. Deliveries of the substances listed in annex I must only be made to reliable pur¬chasers who commit themselves to observe the measures stipulated in items 2 to 5.
1 Before the delivery is made the supplier must ascertain the name and address of the purchaser, the intended use and the place of delivery
2 Before the delivery is made the supplier must make enquiries with regard ro the reliability of the purchaser.

A purchaser is considered reliable if he is known to the supplier on the basis of regular business contacts, if his business practices are those customary in trade, and if there are no circumstances to justify suspicion.
4. The supplier must demand from the purchaser a written declaration ("customer declaration") about the intended use that the purchaser will comply with the measures stipulated in this agree¬ment.
For this purpose the supplic!r must employ. for substances of categories 1 and :2 of Regulation 273/2004. the model according to Annex III of this Regulation: for all other chemicals the model according to Annex 2 of thi Catalogue of Measures. No such declaration is necessary for hydrochloric acid and sulphuric acid.
S. If a purchaser refuses to give the required information and to make the required declarations. or if there arc doubts whether the ordered substances will be used exclusively for legal purposes, no delivery shall be made.

German Chemical Society
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Chemistry
Type of Document: Code of Conduct

Gesellschaft Deutscher Chemiker e.V. (GDCh, German Chemical Society)

Code of Conduct

The GDCh obligates itself and its members to defend freedom, tolerance, and truthfulness in science, notably to raise chemistry's reputation as well as to protect and increase chemical knowledge and know-how. All GDCh members are aware that they as natural scientists are notably responsible for the impact of their professional activities to mankind and nature.

GDCh and its members support and promote a sustainable and enduring development in society, economy and environment. They always act with the awareness of their responsibility for future generations. They respect the existing legal framework and international conventions for their professional activities, results, and impact and they fight against misuse of chemistry, e.g. for production of chemical weapons or drugs. During development, application and dissemination of chemical knowledge they are obliged to truth, and they do not use unfair practices.

Members who infringe these principles affect the prestige of science and the chemical profession. They might be suspended from GDCh.

The above code of conduct is an inherent part of the GDCh statutes. While joining the Gesellschaft Deutscher Chemiker each new society member is signing this code of conduct.

Hitachi Chemical Group
Region: Worldwide
Country: N/A
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Hitachi Chemical Group Codes of Conduct* are available at http://www.hitachi-chem.co.jp/english/company/conduct.html.

IAP
Region: Worldwide
Country: N/A
Type of Organisation: Science (including chemistry)
Type of Document: Code of Conduct

The *IAP Statement on Biosecurity* is available at http://www.interacademies.net/10878/13912.aspx.

ICL (Israel Chemicals Ltd.)
Region: Western Europe and Others Group
Country: Israel
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *ICL's Code of Ethics* is available at http://www.icl-group.com/careers/codeofethics/multiplelanguages/Pages/default.aspx.

Indian Institute of Chemical Engineers
Region: Asia-Pacific Group
Country: India
Type of Organisation: Chemical Engineering
Type of Document: Code of Ethics

The *Code of Ethics for Members* is available at http://www.iiche.org.in/code_ethics.aspx.

Ineos
Region: Western Europe and Others Group
Country: Switzerland
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *VCI Responsible Care Guidelines* is available at http://www.ineos.com/globalassets/ineos-group/businesses/ineos-enterprises/businesses/ineos-paraform/she/090407_responsible_care.pdf.

Institute Kimia Malaysia, Malaysian Institute of Chemistry
Region: Asia-Pacific Group
Country: Malaysia
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Professional Code of Ethics – Chemist Professional Conduct By-Laws 1978* is available at http://www.ikm.org.my/index.php/about-ikm/chemists-act-1975-and-by-laws.

Institute of Chemistry of Ireland
Region: Western Europe and Others Group
Country: Ireland
Type of Organisation: Chemistry
Type of Document: Code of Conduct

All individual Members and Associates of the Institute have a duty to:-

- Have special regard at all times to the public interest and to the maintenance of the highest standards of competence and integrity
- Conduct themselves honourably in the practice of their profession.
- Observe the provisions of the Rules, Regulations and Laws of the Institute
- Promote the interests of the Institute and maintain its dignity and welfare.

In order to fulfil their duty under this code, all individual Members and Associates shall give attention to any general guidance or specific advice, and conform to any rulings, on the professional affairs issued at any time by the Council of the Institute of Chemistry of Ireland.

Integrated Chemists of the Philippines
Region: Asia-Pacific Group
Country: Philippines
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Code of Ethics for the Chemistry Profession* is available at http://www.icp.org.ph/downloads/.

International Council for Science
Region: Worldwide
Country: N/A
Type of Organisation: Science (including chemistry)
Type of Document: Code of Conduct

The *Statement on Promoting the Integrity of Science and the Scientific Record* is available at http://www.icsu.org/publications/cfrs-statements/integrity-of-science-and-scientific-record.

IUPAC
Region: Worldwide
Country: N/A
Type of Organisation: Chemistry
Type of Document: Code of Conduct

The *Draft Elements for Codes of Conduct* is available at http://www.iupac.org/fileadmin/user_upload/projects/2007-022-2-020_IUPAC_Code.pdf.

JSEE (Japanese Society for Engineering Education)
Region: Asia-Pacific Group
Country: Japan
Type of Organisation: Chemical Engineering
Type of Document: Code of Ethics

The Code of Ethics of the Japanese Society for Engineering Education is available at https://www.jsee.or.jp/English/info/?action=common_download_main&upload_id=1124.

Kenya Chemical Society
Region: African Group
Country: Kenya
Type of Organisation: Chemistry
Type of Document: Code of Conduct

KCS Professional Practice and Code of Conduct
2015
Developed by:
Kenya Chemical Society Department of Chemistry
P.O. Box 30197 - 00100 Nairobi Email: kenchemsoc@gmail.com www.kenchemsoc.org

1. KCS Professional Practice and Code of Conduct

1.1 Preamble

The Kenya Chemical Society is the professional body for chemical scientists under the Society's act of Kenya we have accountability for advancement and certification of competence in chemical science, and maintaining the integrity of our members. Our members voluntarily commit to a code of professional conduct and high standards in their practice of chemistry. The Kenya Chemical Society shall be a professional and learned national organization serving Kenya and such other affiliated bodies in its services. The Kenya Chemical Society shall co-operate and collaborate with the Government, industries and other professional institutions in achieving its objectives. The chemists' advisory role to Government through NEMA, KEBS etc. on all matters related to Chemicals production, safety, security, and use in medicine, agriculture, water, waste, geochemistry, and industry in general and their impacts on the environment including use of radioisotopes and nuclear chemistry cannot be underestimated.

1.2 Scope

The code shall cover all aspects of learning, research application, practice, and professional conduct in all branches of chemistry and related disciplines

1.3 Mission

To advance chemistry and disseminate its values for sustainable development.

1.4 Vision

To be a world class professional chemical sciences society

1.5 Core Values

i. Advancement of Chemical Sciences as a global multidisciplinary science
ii. Chemical Safety and security
iii. Integrity, transparency and accountability
iv. Community outreach
v. Excellency

1.6 Aims and objectives

i. To promote advancement of chemical sciences and technology in Kenya.

ii. To promote communication and co-ordination between and among chemists and allied professionals in Kenya.
iii. To provide a forum for discussion and a medium for dissemination of chemical knowledge among the members of the Kenya Chemical Society and the public at large.
iv. To encourage advanced training and research in chemistry within Kenya and to find ways and means for such training elsewhere.

v. To co-operate with the Government of Kenya and other public bodies or institutions in national development.
vi. To co-operate with other national and international chemical organizations in organizing meetings, exchanging of information etc.
vii. To institute and maintain professional standards amongst its members.
viii. To promote the welfare of chemists in Kenya.

1.7 Functions
In pursuance of the aforementioned aims and objectives the Kenya Chemical Society shall Endeavour:
i. To promote communication and co-ordination amongst its members.
ii. To provide a forum for discussion and a medium for the dissemination of knowledge amongst its members by organizing symposia, seminars, workshops and conferences.
iii. To raise public awareness and promote chemical knowledge and application amongst members of the public,
iv. To co-operate with the appropriate government institutions in formulating scientific and educational policies, planning and in the application of research results.
v. To act as a medium for advancement of chemical knowledge in Kenya and to promote international goodwill and understanding through the exchange of research work and scholars.
vi. To develop and co-ordinate creative abilities of young chemists by encouraging formation of chemistry clubs, associations and organizing competitions and such other activities as the Kenya Chemical Society may deem fit.
vii. To establish, publish, and distribute a peer reviewed Journal of the Chemical Society.
viii. To encourage advanced short-term courses and scholarships.
ix. To develop and maintain a code of conduct for chemists.
x. To undertake such other activities as may be consistent with aims and objectives of the Chemical Society.
xi. Develop a mechanism for accrediting practicing professional chemists in Kenya.

2. Part One: Preliminary
2.1 Objectives of the KCS Professional Practice and Code of Conduct The purpose of 'The professional Practice and Code of Conduct' is to help members deal with the demands on their working lives, and any ethical problems that may arise. Its objectives include the following:

i. To provide a benchmark by which the professional conduct of Kenya Chemical Society members
ii. To guide Kenyan Chemists, allied fields, and the public in defining their ethical and moral rights and responsibilities
iii. To provide a system of nurturing competence, knowledge, professional conduct, consistency, integrity and ethics in carrying out Chemical research, Chemical Manufacturing and Chemistry education.
iv. To provide for the regulation and discipline of Chemists and allied practitioners.

2.2 Citation
This code may be cited as Kenya Chemical Society Professional Practice and Code of Conduct
2.3 Definition
In this Code unless the contest otherwise requires, "Member" means an individual or firm or corporate registered with the Kenya Chemical Society.
2.4 Application
This Code applies to all members of the Kenya Chemical Society.

2.5 Information and Resources
Other governance/policy documents for reference include:
i. KCS constitution
ii. OSHA handbook
iii. Environment Act 2009
iv. KEBs Standards Act, Chapter 496
v. Societies Act Chapter 108

3. Part two: Requirements
Each KCS member shall comply with all the requirements as set out in 'The Professional Practice and Code of Conduct'. Members shall maintain high personal integrity, moral standards and sound reputation by ascribing and observing this code.
3.1. Ethical consideration
The Kenya Chemical Society is fully committed to ensuring that it operates as an ethical organization. Members undertaking any activities on behalf of KCS are expected on be fair and honest and act within the law at all times.

Members:
i. Should never engage in an action that conflicts with their integrity, or that of the Kenya Chemical Society.
ii. Must never act in a way that could be interpreted as being discriminatory.
iii. Who are considering speaking out against alleged wrong-doing on the part of an employer or others cans seek our advice. We may have a role to fulfill in such matters.
iv. Will usually find situations which cause ethical problems can be solved by approaching senior colleagues. Members can consult Kenya Chemical for advice and support in the strictest confidence.

v. In small organizations may be particularly expressed, since there may be no scientific colleagues from whom they can seek advice. Members can consult the Kenya Chemical Society for advice and support in the strictest confidence.
vi. Should fulfill their contractual responsibilities to the best of their ability.
vii. Have a duty to serve the public interest, and maintain and enhance the reputation of the profession.
viii. Should carry out lawful instructions from a senior colleague and maintain the right to have reservations put on record, or seek further consultation.
ix. Accept that resignation or dismissal may be the ultimate consequence of sustained disagreement with their employer.

3.2. Employee Responsibilities

When members enter employment their rights and obligations will be specified in a formal contract. All employers are obliged to produce a document containing the conditions of service. There are also legally enforceable duties that arise from the relationship between the employer and employee. These apply even if they are not set down in writing.
The main obligations are:
i. To give loyal and diligent service.
ii. To deal honestly with the employer's property and facilities.
iii. To provide whatever skills and competencies were claimed when entering employment.
iv. To be willing to adopt new and improved methods of working.
v. To obtain the employer's permission, and to ensure that there are no conflicts of interest, before entering additional employment.
vi. To not attempt to obtain, or accept, any bribe or secret commission of any sort.
vii. To not use confidential information obtained from employment, which is detrimental to the employer: (both during and after employment, without time limit)
viii. To allow the employer to profit fully from discoveries and invention arising from the normal duties of the employment (there may be a provision for an employee to derive benefit from an innovation of outstanding benefit to the employer).

3.3. Employer responsibilities

Members who are employers or supervisors have additional accountabilities. They will influence others by giving instructions and leading by example. In addition to meeting the ethical and contractual requirements members have an
Obligation to:
i. Recognize the right of employees to exercise their discretion.
ii. Facilitate the professional development of all employees.
iii. Provide equal opportunities for all employees.
iv. Be accurate and fair in appraising the work of others.
v. Provide accurate references on request.
vi. Resolve conflicts with clear procedures.
vii. Be strictly impartial when discussing redundancies or promotions.
viii. Avoid unfair or misleading statements to industrial tribunals.
ix. Ensure compliance with all regulatory requirements.

3.4. Self-employment and consultancy

Much of the advice in the employee and employer sections also relates to self- employment and consultancy. These members must maintain a confidential relationship with clients. They must not reveal information obtained from clients to a third party without consent. Such information may prevent accepting work from additional clients.

These members have direct contact with the public and have significant impact on perception. At the outset of any work, the consultant and customer should agree on:

i. A clear understanding of objectives
ii. The assignment of any patent claims arising out of the consultation.

iii. The scope and manner of final reports and publications.
iv. The estimated cost or fee.
v. Sufficient professional indemnity Insurance cover.
vi. Not attempting to poach other consultants' clients by denigrating the consultant's reputations.
vii. Where applicable adhering to the KCS Consultancy policy

3.5. Trade union Membership and industrial action

Membership of a trade union may bring benefits to employees. However, industrial action may conflict with the duties of a member to serve the public interest.

i. Participation in industrial action is not unethical, but members are not obliged to take part in industrial action.
ii. Industrial action will almost certainly represent a breach of the employee's contract of employment.
iii. Some contracts of service specify that disputes which cannot be resolved by negotiation be referred to an arbitrator. We recommend this arrangement.

3.6. Education

Members within education at any level have accountability to lay the foundations of scientific and professional standards. They have a responsibility to their students and to the profession as a whole. The future of the profession may be shaped by their influence on those students.

In addition to their duties they should:

i. Set an example to their students by demonstrating high professional and ethical standards.
ii. Set the highest standards of personal integrity. Attention to accuracy should be exercised in chemical science investigations.
iii. Be aware of the ethical implications. The environmental effects of chemical discovery should be a focus throughout a scientist's training.
iv. Be responsible for the health and safety of students in laboratories and ensure that their students observe all relevant safe working practices.

v. Monitor any conflicts of interest which may develop between responsibilities for the students and to the institution.

3.7. Serving the public interest

All members have responsibilities arising from their duty to serve the public interest, and should be concerned with the advancing excellence in the chemical sciences. The Kenya Chemical Society does not condone any attempt to coerce its members into unlawful activity.

We expect members to use their professional skills to:

i. Advance the welfare of society, particularly in the fields of chemistry, health, safety and the environment.
ii. Advocate suitable precautions against possible harmful side-effects of science and technology.
iii. Identify the risks of scientific activities, and take an active interest in safety and security throughout their organizations.
iv. Undertake any lawful scientific activity as required even if in an area that arouses adverse publicity.
v. Use their knowledge and experience for the protection and improvement of the environment.

3.8. Health and safety and other legislation
Members must be aware of the general principles of law relating to health and safety, negligence, discrimination, data protection, and any other law relating to their field of scientific work.

Members should:
i. Have a duty to minimize adverse effects on health and safety and to recommend the use of best health and safety practice and give appropriate advice.
ii. Be aware smaller organizations will rely on members to ensure compliance of the law.
iii. Maintain a broad and up- to-date understanding of the regulations and other developments in their own field.
iv. Have a duty to put their objections on record if legal requirements are being overlooked, and to do all they can to put matters right.

3.9. Public Relations, Statements and Communications

The media often deal with health, safety, and environmental protection issues. The coverage given is not always accurate or objective. This does not mean that a member

who believes it is in the public interest to express a particular opinion should hesitate to express it because it happens to be controversial.

Members should:

i. Bear in mind that what they say in the media may be taken as representing general opinion among all members.
ii. First obtain the facts of the case and ensure that they have a genuine contribution to make.
iii. Consider the nature and objective of the programme or publication and make sure comments are not taken out of context.
iv. Be aware bad news generally attracts more attention than good, and the media may exaggerate the seriousness of an issue.
v. Make it clear when they are expressing personal opinions, rather than stating facts. This is especially true when the opinions are not shared by all professional colleagues.
vi. Not use the Kenya Chemical Society's name to imply its endorsement of personal views under any circumstances.

Considerations which apply to broadcast and press interviews also apply to other forms of communication such as books, lectures, and contributions to electronic media.

Authors should be aware of intellectual property laws governing copyright. In particular members should:
i. Obtain written permission from the copy right holder for material used in any public domain.
ii. Guard against wrongful disclosure of confidential information especially relating to current research and development work.
iii. Acknowledge past scientific work and recognize any substantial help and advice received.
iv. Obtain written permission from their employer before signing a contract with a publisher.
v. Be unbiased and honest. Refrain from all forms of plagiarism, and correct any errors which may arise over time.

4.0 Legal: Presenting legal evidence

Public Committees

Members may be called on to give evidence to governmental or parliamentary committee or other public bodies. If so, they are advised to contact us for advice about procedures.

Members should:
i. Study the terms of reference, and establish the capacity in which he/she will appear.
ii. Consider its subjects are of relevance to all members. If so, we can make written or oral submissions.
iii. Not imply endorsement by the Kenya Chemical Society unless obtained in advance.

iv. Should ask to see transcripts of evidence that they have given as a witness, so that errors can be corrected before publication.

4.1. Tribunals and inquiries

A tribunal is usually set up after an incident that causes public concern. Tribunals usually follow legal guidelines except no charges are brought.
Following the hearing, a report is produced. If serious criticisms or allegations of wrong doing are made in the report then legal proceedings may follow. We can advise members about their responsibilities and rights at hearing, but is not able to present the cases of members called before tribunals. We may also decide to be present when a question of principle is raised which affects the profession as a whole.

Members should:
i. Be aware inquiries and tribunals often determine whether incompetence contributed to an accident or incident.
ii. Establish the capacity in which they are being called
iii. Seek personal legal advice before and during the hearing. This may be in addition to any legal advice provided by their employer.
iv. Exercise their right to receive a copy of the transcript and challenge any misleading statement relating to the evidence.

4.2. Expert witness
The function of an expert witness is to assist the court in arriving at a verdict by explaining the technical or scientific facts on which a lawsuit may depend.
In civil cases, courts normally expect both parties to appoint one agreed expert witness. If the parties cannot agree, the court may appoint an expert from an approved list. In criminal cases, courts allow each party to call one or more expert witnesses.

Members should:
i. Familiarize themselves with the court procedure.
ii. Aim to establish their expertise with courtesy and with the highest professional integrity.
iii. Provide evidence which is objective and restricted to matters which the witness can speak about with authority and avoid hearsay.
iv. Avoid a biased attitude which could harm the value of the evidence presented and their integrity.
v. Be aware that references can be quoted, but their acceptability may be challenged if the author is alive.
vi. Inform the court about matters which they were previously unaware.
vii. Avoid traps set by counsel in the form of questions that demand a simple answer but to which a simple unqualified answer might be misleading.

4.3. Disciplinary Proceedings

The KCS Disciplinary Committee shall receive and investigate written and signed complaints against KCS members, make findings thereupon. The Disciplinary Committee through the management may reprove, suspend, revoke, the certificate of any member; or reprove, suspend or revoke the authorization granted to any member who has done any of the following:

i. Who has been convicted of a misdemeanor or felony arising from or in connection with the KCS practice.

ii. Who has committed any deceit, misrepresentation, violation of contract, fraud, or negligence in his practice.

iii. Who has committed any fraud or deceit in obtaining or renewing their certificate.

iv. Who has aided or abetted any person in the violation of any provisions of these Articles.

v. Who presents or attempts to use as fake or someone else's certificate as his/her own. Who gives false evidence of any kind to KCS, or to any agent thereof, in obtaining or in helping another to obtain a membership certificate.

vi. Who uses an expired or revoked certificate.

vii. Who has violated any provision of these Articles.

The KCS governing council at their sole discretion may reissue a certificate of registration or certification to a person whose certificate has been revoked.

4.4. Enforcement of the code

The KCS governing council shall be responsible for ensuring the code is implemented, understood, and observed by the members. The elected KCS officials shall ensure members comply with the code. Failure to follow the guidance given may lead to disciplinary action through the laid down procedures. All members of the KCS shall comply with all the regulations and requirements as set out in this code and the constitution of KCS. Members shall maintain a high personal integrity, moral standards and sound reputation by subscribing to this code.

4.5. Monitoring and Evaluation

The KCS governing council will continuously monitor the implementation of the Professional practice and Code of Conduct through the existing structures. It will prepare an annual report on the implementation of the Code which will be disseminated to members and stakeholders.

4.6. Review of the Code

The KCS through the governing council shall make provision for reviewing this code from time to time or when deemed necessary.

5.1 Pledge to Professional Practice and Code of conduct

The council of the Kenya Chemical Society has adopted the following code of conduct. The Professional Practice and Code of Conduct shall apply to all members of KCS including (Honorary, Corporate, Associate, Ordinary, Institutional Student and Life and student members) as per the KCS Constitution's Article IV Sub-section 2(b)

All members of the Kenya Chemical Society shall have a duty to:

i. Adhere to the KCS Constitution, Regulations or By-laws

ii. Conduct themselves honorably, responsibly, objectively, lawfully and in a non-discriminatory manner the practice of their profession
iii. Shall conform to any rulings on professional conduct that may be approved and issued from time to time by the Governing Council of the KCS
iv. Maintain the highest standards of competence and integrity, when carrying out duties in areas of employment or as consultants

v. Further the interests of and maintain the dignity and welfare of the KCS.

In order to fulfill their duty under this Code, members shall give due attention to any general guidance on professional conduct, together with advice on specific issues, and shall conform to any rulings on such matters that may be approved and issued from time to time by the KCS Governing Council.

Members are reminded of the declaration signed on taking up membership of the KCS (as required under the constitution):

'I, the undersigned, do hereby declare that, while a member of the Kenya Chemical Society, I will observe the provisions of the constitution and any regulations made under them, and that I will conduct myself honorably in the practice of my profession and will further the interests and maintain the dignity and welfare of the KCS for as long as I shall continue to be a member.'
Name ----------

Sign---------- Date

The Kenya Chemical Society has a disciplinary process for members that do not adhere to this Professional practice and code of conduct.

Kuwait Petroleum Corporation
Region: Asia-Pacific Group
Country: Kuwait
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The Code of Conduct is available at https://www.kpc.com.kw/press/KPCPublications/Pages/Code-Of-Conduct.aspx.

Lanxess
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Chemistry - Industry
Type of Document: Combined

The *Lanxess Code of Business Ethics and Conduct* is available at http://lanxess.com/en/media-download/lanxesscodeofconduct_en/.

LG Chem
Region: Asia-Pacific Group
Country: South Korea
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *LG Code of Ethics* is available at http://www.lgchem.com/global/lg-chem-company/jeong-do-management/lg-code-of-ethics.

LyondellBasell
Region: Western Europe and Others Group
Country: Netherlands
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at https://www.lyondellbasell.com/en/sustainability/our-sustainability-approach/code-of-conduct/.

Marathon Oil Corporation
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Business Conduct* is available at http://www.marathonoil.com/Investor_Center/Corporate_Governance/Code_of_Business_Conduct/.

Max Planck Society
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

GUIDELINES AND RULES OF THE MAX PLANCK SOCIETY ON A RESPONSIBLE APPROACH TO FREEDOM OF RESEARCH AND RESEARCH RISKS

A. Freedom of research and the responsibility of scientists

Research plays a fundamental role in ensuring the progress of mankind. It enables the extension of the boundaries of knowledge and enhances the welfare, prosperity and security of mankind and the protection of the environment. The freedom of research, which is enshrined in the Basic Law and may only be restricted to protect other significant constitutionally protected values, is a fundamental requirement in this respect.[1] Successful basic research also requires transparency, the free exchange of information and the publication of research results.

However, as well as successes, there are also risks associated with free and transparent research[2]. Such risks do not necessarily result directly from negligence or deliberate misconduct by scientists.[3] There is also the indirect danger that results of specific individual research projects - which are neutral or useful per se - may be misused by third parties for harmful purposes.[4] This possibility of "dual use" prevents or makes it difficult to make a clear differentiation in many fields today between "good" and "bad" research, civil and military research, defensive and offensive research, and research for "peacekeeping" and "terrorist" purposes. The dual use issue must also be taken into account in the knowledge-driven field of basic research, the results of which are often unforeseeable, and therefore not good or bad per se.

In this highly complex relationship between benefits and risks, the Max Planck Society undertakes to carry out research to foster the welfare of mankind and the protection of the environment. Scientists must therefore prevent or minimize direct or indirect harm to man and the environment as far as possible. In addition to the feasibility of the research, they should therefore also take its consequences and controllability into account where possible. Research at the Max Planck Society is therefore subject to ethical as well as legal limitations.

1 Article 5 Paragraph 3 of the Basic Law

2 These risks were particularly prevalent in Germany during the period of National Socialism. The Max Planck Society and its employees are aware of the previous research carried out by the Kaiser Wilhelm Society for National Socialist injustices. The history of the Kaiser Wilhelm Society therefore represents a legacy for the Max Planck Society, ensuring it takes account of the potential misuse of research results in good time, and counters this as effectively as possible. Also see the declaration of the Max Planck Society and its former President, *Hubert Markl*, in: Max-Planck-Gesellschaft (Hrsg), Biowissenschaften und Menschenversuche an Kaiser-Wilhelm-Instituten – Die Verbindung nach Auschwitz, Symposium in Berlin, 2001.

3 Titles such as "researcher" and "scientist" are to be understood as job titles which include both sexes in this text.

4 In the field of defense and weapons technology, materials research and nanotechnology could be used for the development of offensive weapons; research into robots for peaceful purposes may enable the construction of military robots; the development of bullet-proof materials for armor plating and protective vests also provide improved protection for aggressors; the peaceful use of nuclear power can also enhance the development of weapons of mass destruction. Research results on pathogenic microorganisms and toxins can also be used for new biological weapons and for terrorist attacks. Research into molecular plant genetics can be misused for biological attacks on seeds, and stem cell research misused to create hybrids. In IT, research to combat computer viruses can be used to spread as well as prevent them.
The issue of dual use of research results also applies in the human sciences: psychological, medical and neurobiological research can be used to optimize aggressive methods of interrogation and torture.

Criminological and sociological research may infringe upon the privacy and data protection rights of probands. Legal opinions may favor infringement upon human rights or the sovereignty of states in complex overlapping areas. Risks of misuse therefore exist in most areas of research.
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B. Research limitations

Research limitations are, in the first instance, determined by *legal provisions*. These may restrict the freedom of research to protect significant constitutionally protected values, provided this is proportionate. The relevant provisions have different objectives and approaches. They may prohibit research objectives (e.g. the development of nuclear and biological weapons), regulate methods (e.g. certain experiments on humans) or ban the export of knowledge, services and products to certain countries (e.g. within the framework of German foreign trade law or the EU regulation on the control of exports of dual-use items and technology). These regulations must be strictly adhered to at the Max Planck Society. Infringements of them can result in significant sanctions, lengthy procedures and damage to the reputation of scientists, their institutes and the Max Planck Society.

However, national law is not always capable of comprehensively and effectively governing the risks and opportunities for misuse of research. In particular, the potential misuse of specific individual research cannot be prevented by adopting a generally distrustful approach to research per se and making it subject to comprehensive government regulation. Even highly detailed legal regulations would not sufficiently take account of the differentiated and rapidly changing global issues of area-specific risks and, moreover, would conflict with the freedom of research enshrined in the constitution. However, individual scientists must not simply satisfy themselves with adhering to the legal regulations, but must take account of further ethical principles. They should apply their knowledge, experience and capabilities to recognize and assess the relevant risks of harm to humans and the environment. In critical cases, they should make personal decisions on the limitations of their work, for which they are themselves responsible within the scope of their freedom of research. In individual cases, this may result in projects not being carried out at all or only being carried out in a modified form, even if they are not legally prohibited.

The following rules - approved by the Scientific Council and the Senate of the Max Planck Society - support persons working at the Max Planck Society in the implementation of these principles. They do not constitute enforceable national law. They aim to prevent misuse of research and to avoid risks through self-regulation by setting out ethical guidelines and, at the same time, establish a procedure to enable scientists to better resolve ethical uncertainties and prevent accusations of unethical conduct. The rules, which apply to the entire Max Planck Society, are not exhaustive and are supplemented by additional subject-specific self-regulatory measures.[5] The Max Planck Society welcomes the involvement of its institutes and employees in the development of additional subject and profession-specific regulations outside of the Max Planck Society on the basis of these guidelines and rules to enable risks to be discussed transparently and avoided. Together with the following rules, these specific codes foster the Max Planck Society's commitment to excellent basic research for the benefit of mankind and the environment.

[5] See, for example, for the field of *research on humans*: Declaration of the World Medical Association of Helsinki/Tokyo (1964/75) with various subsequent revisions. For the field of *bio-security*: German Research Foundation – Code of Conduct: work with highly pathogenic microorganisms and toxins, 2008; National Science Advisory Board for Bio Security, Proposed Framework for the Oversight of Dual Use Life Sciences Research: Strategy for Minimizing the Potential Misuse of Research Information, 2007, Strategic Plan for Outreach and Education On Dual Use Research Issues, 2008; Royal Netherlands Academy of Arts and Sciences, A Code of Conduct for Bio Security, Report by the Bio Security Working Group, Amsterdam August 2007.
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II. RULES ON A RESPONSIBLE APPROACH TO FREEDOM OF RESEARCH AND RESEARCH RISKS AT THE MAX PLANCK SOCIETY

A. General objective and scope

1. Objective

These rules aim to prevent misuse of research and avoid risks through self-regulation based on ethical principles. They also establish a procedure to enable researchers to better resolve ethical uncertainties and prevent accusations of unethical conduct.

2. Scope

The rules apply to everyone working at the Max Planck Society's institutions, or with their resources at other locations. They should also be observed by Max Planck Society researchers in their scientific activities outside of the society, e.g. within the scope of consultation or joint responsibility for companies or journals. The status of the various researchers (in particular, Scientific Members, senior research scientists, external Scientific Members, academic staff, doctoral students and guest scientists) and non-scientific employees is to be taken into account in their application to persons working at the Max Planck Society. The status of these persons may have an influence on their freedom of research and any right of authority the Max Planck Society may exercise over them.

3. Status of the rules with regard to other regulations

These rules apply in addition to the "Rules of Good Scientific Practice" of the Max Planck Society. As general provisions for all areas of research, they may be supplemented by specific selfregulatory measures, which have or will be drawn up by other institutions for specific areas of research. Provided these specific codes conform to the general principles set out here, and do not infringe upon the freedom of research enshrined in the Basic Law, they may supplement and more precisely define these rules. Legal provisions take precedence over these rules and other self-regulatory measures.

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B. Legal research limitations

German law applies to Max Planck Society researchers working in Germany. The locally applicable law applies, in principle, for Max Planck Society institutes and partner institutes abroad. Researchers working abroad may also be subject to their national law. International law must also be observed.[6] Legal provisions apply provided they do not infringe upon law which takes precedence or is higher ranking (in particular, international human rights).

Scientists are individually responsible for adhering to the applicable legal provisions. They must confirm the provisions applicable to them and their area of research, and ensure they are adhered to within the scope of their responsibilities. They are not generally exonerated by ignorance of the applicable law.

The Administrative Headquarters of the Max Planck Society supports the institutes in adhering to the legal provisions (see D.2 below). It thus performs its statutory supervisory duty, providing a means of intervention in the event of infringements against the law within the Max Planck Society.

C. Principles of ethically responsible research

1. General principle

The Max Planck Society undertakes to carry out research which extends the boundaries of knowledge and enhances the welfare of mankind and the protection of the environment. Scientists must therefore prevent or minimize direct or indirect harm to humans and the environment as far as possible.

Researchers must not satisfy themselves with adhering to legal regulations when making applicable decisions, but must also take account of ethical principles. They must essentially be aware of the danger of misuse of research. In critical cases, they must make a personal decision on the area of responsibility in their research.

In cases of research susceptible to risk of misuse, a responsible approach to research involves the following measures in particular - recognizing and minimizing research risks, a meticulous approach to publications, the documentation of risks, and information and training measures. However, these measures should not unduly hinder research and are subject to feasibility and proportionality.

2. Risk analysis

Awareness of the potential risks is a prerequisite for responsible research. Raising awareness of

the relevant dangers is therefore a key requirement in the avoidance, or at least control, of research risks in both basic research and applied research. As far as possible, researchers should therefore take account of the consequences and opportunities for application and misuse of their work and its controllability. Research projects that are potentially susceptible to risk should therefore be preceded by an evaluation of the associated risks to human dignity, human life and

[6] e.g. protection of human rights, international humanitarian law, the prohibition of torture and use of force, biodiversity convention.

human welfare, the environment and any other significant values protected under the constitution. The identification of research risks does not only concern risks relating to individual conduct. Researchers should also take account of the consequences of research susceptible to risk of misuse, which they carry out for neutral or useful purposes, but the results of which may be applied for harmful purposes or misused by third parties. Risk analysis and the evaluation of consequences require an open-minded and responsible approach. It may be necessary for researchers to find out about the context of the research project, the nature of a customer or cooperation partner or about their customers.

3. Risk minimization

Researchers and all other persons involved should minimize, as far as possible, the risks associated with the implementation or use of their work to human dignity, life, welfare, freedom and property, and to the protection of the environment. These measures on risk minimization should be assessed and carried out both before and during an ongoing research project.

This may result in the implementation of security measures (e.g. to counter the release or theft of dangerous substances from laboratories) or the enhancement of the confidentiality of research results through physical, organizational and personal protective measures and more rigorous IT security. Such security measures and access restrictions do not conflict with the requirement for transparency as research results are not required to be made accessible to everyone at all times (also see C.4).

Employees and cooperation partners working on research susceptible to misuse must be selected meticulously based on their reliability and sense of responsibility. If government authorities meet security evaluation requirements, cooperation on the risks of proliferation of securityrelevant research results may be appropriate.

Risk minimization measures may also consist of only carrying out specific research for or with certain cooperation partners. Even though international cooperation is a fundamental element of successful research, a restriction of international cooperation or avoidance of partners or staff from certain states may be recommendable in individual cases from a risk minimization perspective. National and international provisions and lists on export restrictions may constitute a basis for identifying states where a misuse of certain research results is a danger.

4. Publications

The possible consequences of publication of results in high-risk research areas should be evaluated responsibly and at an early stage, i.e. before the start of the project. This applies, in particular, where easily implementable research results could produce specific dangers or significant damages without additional knowledge or costly implementation or application processes.

In such cases, security interests conflict with the principles applied at the Max Planck Society on transparency, the free exchange of information and, in particular, the publication of research results.[7] Their exchange and publication are key factors in scientific progress. In many risk areas, the publication of results also enables the development of protective measures (e.g. vaccines in healthcare or anti-virus programs in IT). In contrast, suppression of research results may

[7] See Max Planck Society, Rules of Good Scientific Practice, 2009, Section 1c.

prevent effective protection against their misuse by totalitarian regimes, terrorist groups, organized criminal groups or individual criminals.

The requirements for transparency and communication do not prevent scientists from minimizing specific risks of their research by modifying communication and publication procedures. They may delay the publication of the results of their work, rather than publishing immediately. In the case of research results with a high degree of potential for misuse, parts of the results

which are particularly susceptible to misuse may be excluded from the publication in special cases.
In certain cases, researchers may only share specific results of their work with certain persons. Complete avoidance of communication and publication of research results may be considered as ultima ratio. This is only justified in extraordinary individual cases, and possibly for a certain period. Research which from the outset is subject to comprehensive confidentiality for an unforeseeable
period of time is incongruous with the self-conception of the Max Planck Society.
The aforementioned principles also apply when employees of the Max Planck Society publish journals or books. Employees in such positions working in relevant risk areas should ensure that the publication of research results and the policy of the publishing houses and other institutions they are working with conform to the principles set out here.

5. Foregoing irresponsible research as ultima ratio

The main aim of the risk analysis is responsible implementation and communication of the research. However, responsible decision-making by researchers may, in individual cases, result as ultima ratio in specific research projects, where risk potential is disproportionate or cannot be restricted, not being carried out, even if this is not prohibited by law.
In the case of work which could have harmful as well as beneficial effects, in particular in the field of dual use research, it is difficult to determine and apply criteria for possible limitations. The necessary ethical evaluation of the remaining risks after the definition of possible protective measures may be assisted by considering the question of whether, on balance, the potential damages outweigh the potential benefits of the research.
The extent of possible damages and the risk of damage occurrence should be taken into account when examining this question. In cases where there is threat of dangers, the following factors should be taken into account: the extent of possible damages, the probability of damage risk, whether the research results could be used directly for harmful purposes, or whether complex implementation processes are required, and whether the use of the results could be controlled. Other decisive factors may be who the cooperation partners, customers, users and parties funding the research are. The point of departure should be that if certain research projects at risk of misuse are being carried out by other parties without corresponding security standards or for harmful purposes, research aiming to counter such dangers or minimize resulting damages may be acceptable.

6. Documentation and communication of risks

If research results in risks for human dignity, life and welfare, the environment and other significant values protected under the constitution, these risks, their weighing up against possible benefits, the measures taken to minimize them beforehand and, in the event of changes, also during the work should be documented.
In the case of such risks, scientists should inform the Ethics Commission or the Vice President responsible about the documentation before the research begins.
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Relevant risks and measures to minimize them should be indicated in research applications to the Max Planck Society and other funding institutions. The measures foreseen should be set out. The Scientific Advisory Board of the institute should also be informed about particular risks and measures to minimize them as soon as possible, and should take a position on them in its report.

7. Training and information

At institute level, and, above all, in the training of junior scientists at the Max Planck Society, the principles of a responsible approach to research risks should be communicated and an example should be set. The subject-specific rules on risk minimization in the respective field of research should also be covered. Where researchers from the Max Planck Society lecture at universities or other institutions, they should also contribute to raising awareness about these issues.

D. Organizational responsibilities

1. Persons responsible

The evaluation of whether research complies with legal provisions, self-regulatory measures and

ethical principles is, in the first instance, the responsibility of the scientists responsible for the project. Ultimately, the scientists' superiors bear responsibility, in particular within the scope of the legal requirement for duty of supervision.
The scientists involved should primarily inform the scientists responsible, but if necessary in specific cases also the head of the research department, the Managing Director of the institute concerned, and, in extraordinary cases, the management of the Max Planck Society, of infringements of the law, which have occurred or are set to occur and of ethical reservations without this disadvantaging them.
The principles set out here also apply when scientists from the Max Planck Society act as referees in the evaluation of projects of other researchers. Employees in such positions should ensure that research applications set out and minimize possible risks in risk areas.
Scientific Members, employees and doctoral students of the Max Planck Society can consult the Compliance Unit and the Legal Affairs Department of Administrative Headquarters on matters concerning the *legal* limitations of research and the Ethics Commission of the Max Planck Society on matters concerning *ethical* limitations. Employees can also consult the ombudsperson elected at institute level with regard to issues of research risks and research ethics.

2. Compliance with legal provisions

At Administrative Headquarters, in addition to the Legal Affairs Department, a special Compliance Unit is responsible for supporting the President and the institutes with regard to compliance with legal provisions on research limitations.
This unit advises the President and the institutes, makes the applicable regulations available and trains persons working at the institutes in applicable measures. It may obtain information from the institutes to the extent necessary. The Compliance Unit reports directly to the President and the Vice President concerned.
Persons working at the Max Planck Society may contact the Compliance Unit at any time if, in their opinion, legal provisions to prevent the misuse of research are not being complied with at
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the Max Planck Society. The regulations on the protection of "whistleblowers"[8] apply accordingly.
If research infringes upon *legally binding provisions*, the President or the institute director responsible undertakes the legal and other measures necessary.

3. Ethics Commission

An Ethics Commission is to be established to provide advice on issues resulting from the implementation
of these rules. This provides support for researchers at the Max Planck Society on issues of research ethics, mediates in differences of opinion between researchers on relevant matters and issues recommendations on the implementation of research projects.
The Ethics Commission consists of three permanent Members of the Max Planck Society (Permanent Commission), who belong to different sections and are elected, together with their deputies, by the Scientific Council at the proposal of their section. The three members elect the chairperson of the Permanent Commission. Their term of office is three years.
In the individual procedures on the evaluation of research projects, the chairperson of the section concerned is also part of the Ethics Commission. In addition, the members of the Permanent Commission and the chairperson of the section responsible can elect up to two other Members, who are eligible to vote and have particular expertise in the scientific field concerned or other fields relevant to decision-making, to the Commission responsible for a specific procedure.
The Commission should have an interdisciplinary composition in terms of Members from the sciences and human sciences. It may designate a rapporteur for the individual processes.
The Ethics Commission may be requested to examine whether a planned or current project complies with these rules by any researcher involved in or responsible for a project. In the event of uncertainty about whether research complies with these ethical rules, it may also be called upon by the President and, provided a justified interest exists, by any Scientific Member, employee or doctoral student of the Max Planck Society as well as external cooperation partners.
The aforementioned regulations on the protection of whistleblowers apply to persons providing information (Section. 9, Max Planck Society Rules of Good Scientific Practice).

All researchers responsible are to be informed immediately about uncertainties concerning the compliance of their research with these rules, and are to be heard by the Ethics Commission. They have the right to submit a written or oral position statement at any time, and to consult the relevant documents as far as possible. They are to be informed about the Commission's main procedural steps and may participate in hearings and inquiries. They are to be informed immediately of the Ethics Commission's conclusive recommendation and the grounds on which it is based through the sending of the Commission's written position statement.

The Ethics Commission may call upon experts (not eligible to vote) for consultation. It may request information for clarification of the facts from the institute director or employees and question relevant holders of information in person or in writing. It may also request a position statement from the chairperson of the Scientific Advisory Board of the institute concerned.

A recommendation of the Ethics Commission on the compliance or non-compliance of research with these rules requires the approval of a majority of its members. In the event of a tie, the chairperson has the casting vote in all votes. The same applies when the Ethics Commission is issuing recommendations on the method of implementation of a research project or its non-

[8] See Max Planck Society, Rules of Good Scientific Practice, 2009, Section 9.

implementation based on these rules. The Ethics Commission can take the aforementioned decisions based on a proposal by the rapporteur by the written procedure (also by e-mail) provided those concerned had the opportunity to make a position statement prior to the rapporteur's proposal.

The Ethics Commission regularly reports to the Scientific Council on its work.

The Ethics Commission may, within the framework of these provisions and with the approval of the Scientific Council and the Senate, draw up its own rules of procedure for examining the approach to research risks. Provided no extraordinary regulations apply to the Ethics Commission, the provisions on formal investigation of the rules of procedure in the event of suspicion of scientific malpractice apply in procedures concerning legal research limitations.

Mitsubishi Chemical
Region: Asia-Pacific Group
Country: Japan
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Mitsubishi Chemical Holdings Group Compliance Code of Conduct* is available at http://www.m-kagaku.co.jp/english/corporate/006_001.html#f8-2.

Muntajat
Region: Asia-Pacific Group
Country: Qatar
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at http://www.muntajat.qa/index.php?page=codeofconduct.

National Academy of Sciences of Ukraine
Region: Eastern European Group
Country: Ukraine
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

CODE OF ETHICS
FOR A SCIENTIST IN UKRAINE

CODE OF ETHICS FOR A SCIENTIST IN UKRAINE

1. GENERAL PRINCIPLES

1.1. Ethics in science is based on fundamental values, norms and principles and characterizes moral behavior of scientists, their responsibility for colleagues and the society.

1.2. Scientists should be guided in their work by established standards of good practice. General provisions of such standards are laid down in this Code.

1.3. Scientists shall bear moral responsibility for the consequences of their activity, as they could affect the development of the mankind, for the preservation of the nature.spiritual and cultural heritage. Scientists should counteract obtaining results which contravene principles of humanism, by:

- refusal from collaboration;
- preventing the society from possible negative consequences, when scientific achievements are used for anti-humanitarian purposes;
- informing the society, scientific society in particular, on possible negative consequences in the use of scientific achievements and on the need to prevent them.

1.4. The scientist should adhere to an equality principle in his/her activity. Any discrimination on the basis of gender, races, political and religious sights or cultural and social status is incompatible with this principle. The science should be not politized.

1.5. Scientists should oppose conformism in the scientific community, take an active part in attestation of the scientific personnel, counteract graduating scientific degrees and titles of such works, which do not correspond to modern achievements of the world science or when a work is done with violations of ethical norms; they should actively disclose facts of plagiarism and other types of piracy.

1.6. Scientists should oppose pseudo-science and dissemination of its statements and recommendations in the society.

1.7. Scientists should concentrate their efforts on further use of the obtained knowledge for the welfare of the mankind, preservation of the environment and for resource saving.

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1.8. Freedom in science is, first of all, freedom in determining scientific directions, related to studies, concepts, hypothesis, paradigms, problems and methods of their solving, and, most of all, freedom of thinking and freedom of discussing. Freedom in the scientific work should be based on high professional qualities. Scientists should defense freedom of the scientific opinion, condemn the censorship in the scientific work and any attempt to monopolize these or those directions in the science.

1.9. A **s**cientist is responsible for situations occurred, when there can be a danger

for a man, society or nature, caused due to the use of new unverified scientific knowledge.

1.10. A scientist shall not undertake any actions that may cause any harm to professional reputation of another scientist. However, in the case of incontrovertible proof of unethical behavior or nonprofessional actions of a scientist, the scientific community should assess them properly in the open unprejudiced discussion.

1.11. All those who are involved in science, should take every efforts to training and teaching young scientists, for them to be patriots of science and of their country. So, training the scientific generation should not be limited to passing technical skills, necessary to conducting studies. The training should be based on main ethical scientific standards and norms. Scientific workers and teachers should be an example of morals for young scientists in their attitude to science and an author's right.

2. SCIENTIST AS A RESEARCHER

2.1. Scientists should remember that a scientific study is a process of obtaining new knowledge. A scientist should be an erudite and competent person, able to make a critical analysis of the most actual scientific knowledge. The planning and conduction of scientific researches are possible only on the basis of deep knowledge on achievements of the world science in the branch concerned.

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2.2. Scientists should search for ways of the most reasonable, from the point of view of validity and economic propriety, for solving the studied problems. Scientists should present objectively conclusions on the completed studies, irrespective of a customer's expectations.

2.3. Scientists should provide unstained fairness and transparency at all stages of the scientific study and consider inadmissible demonstration of fraud, fabrication of the false data, in particular, piracy and plagiary. It is inadmissible when regulating authorities intentionally influence the character of the data, obtained as a result of studies, and conclusions. Scientists support only the objective truth.

2.4. Scientists should provide for necessary protection of the intellectual property.

2.5. Scientists should promote using the results of their work in as full extent as possible in the interests of the society, protection of the environment, cultural and historical heritage.

2.6. Scientific studies should not in any case touch dignity or go against human rights. In medical and biological researches scientists should keep to principles of bioethics.

2.7. A scientific study should be conducted so as not to do any harm to the environment. In the case if it is impossible to avoid causing such harm, the effect should be minimized and the environment, after completion of the study, should be restored to the previous state.

3. SCIENTIST AS AN AUTHOR

3.1. Aspiration of a scientist for knowledge and desire to enrich the science with new data is the principle motivation of the scientist's activity. In this, the highest award for a scientist is to comprehend the truth and to get recognition of the scientific community. Scientists have right and duty to defense their scientific priority. At the same time, publication of inaccurate and unconvincing scientific results as well as publications in not scientific issues, aiming to reach priority, is inadmissible.

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3.2. Scientists recognize international and national legal norms related to a copyright. Scientists can use information from any publications, but should include references and make a distinct border between their own data and the results of other scientists. When loaning any photos, figures, designs, tables, schemes, etc. for personal publications it is necessary, in accordance with existing regulations, to receive a permission of an author or a publishing house.
3.3. When publishing the results of studies, conducted by a group of scientists, all those who take part in the work, should be mentioned as authors of the work. If necessary their personal contribution to the work should be underlined. Only a real contribution into a scientific work can be considered as a criterion of the authorship. Assignment of the authorship on a scientific work to another person, acceptance of the authorship or co-authorship and, in particular, extortion, are inadmissible.
3.4. Scientists should not re-publish their scientific papers in order to raise their quantity. When, for the sake of promoting scientific achievements, it is advisable to publish the same paper in different journals, editors of the latter shall be informed that it appears in other publications.
3.5. Scientists should be objective in the assessment of personal achievements. Mass-media, radio and TV can be used for promoting scientific achievements, but not for personal purposes. When preparing a publication a scientist follows requirements of the publisher; however it is advisable not to mention scientific degrees and status. Such kind of information can be given in the note.

4. SCIENTIST AS A HEAD

4.1. For a scientific work scientists surround themselves by collaborators, basing only on unprejudiced assessment of their intellectual, ethical and personal characteristics. Scientists should counteract all demonstration of protectionism, corrupt practice and discrimination.
4.2. Scientists organize their relations with collaborators on the principles of equity, goodwill and support to their trainees and estimate each of them
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objectively. As the head they should promote professional growth for their subordinates in accordance with their qualification and attitude to work.
4.3. Scientists do not set up execution of their tasks on their collaborators.
4.4. A scientist, as a head should, substantiate, but not impose his/her scientific thinking on members of the collective.
4.5. Scientists should undertake every effort for creation of good atmosphere in the collective.

5. SCIENTIST AS A TEACHER

5.1. Scientists should respect their trainees and their free and critical thinking.
5.2. Scientists should not only pass over significant scientific information to the trainees, but, also, promote development of their social position.
5.3. Scientists should not prevent scientific contacts of their students with other scientists and scientific institutions. Scientists should respect their right to free associations, self-administration and membership in academic organizations, listen to opinions of the student's community, regarding forms and methods of training.
5.4. Scientists should conduct training interestingly, acceptable for a variety of trainees. They should make sure of the proper provision of laboratories and libraries. The training schedule should be appropriate for trainees and studies should strictly follow the schedule. The content of lectures should reflect recent achievements of the world science and not be followed by pressing of the

preconceived opinion.
5.5. Scientists should be objective to their trainees, avoiding unethical relations between a trainer and trainees.
5.6. A scientist should understand that he/she should be an example of higher intelligence and follow traditions of prominent Ukrainian and world scientific schools.
5.7. Scientists pay particular attention to talented students and involve them in scientific activity. They should train responsibility in them for the scientific activity.
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5.8. Scientists do not disclose private information about their trainees.
5.9. Scientists do not take any payment or other gains directly from their students.

6. SCIENTIST AS A CONSULTANT OR AN EXPERT

6.1. Scientists can be experts only in the sphere of their competence in accordance with their knowledge and experience.
6.2. Scientists should assess works and scientific achievements of their colleagues fairly and impartially. Preparation of the objective critical conclusion is a duty for scientists and they should not evade from it.
6.3. Scientists have personal responsibility for fair and objective assessment of candidate's and doctor's dissertations. When being an opponent in the defense of dissertation works, a scientist should be unprejudiced.
6.4. When discussing, arguing and expressing critical comments a scientist should follow principles of equality, actual substantiation and significance. The principle of equality guarantees equal rights to all participants of the discussion or dispute, irrespective of scientific degrees and status. The principle of actual substantiation excludes nonobjective criticism. The principle of significance excludes any misrepresentation, humiliation or discrediting.
6.5. When doing an expert review a scientist should keep to the principle of confidentiality.
6.6. When reviewing, preparing and making conclusions a scientist should adhere to independence and does not fall under influence.
6.7. When electing candidates for studies or for any other purposes a scientist. as an expert, should assess applicants objectively. Scientists should not give priority to their trainees, to representatives of their own school. In the case of conflict of interests scientists should put general interests over personal, corporate and interests of those who order a study.
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7. SCIENTIST AS A CITIZEN

7.1. Scientists should devote themselves to searching for new knowledge and its use for the welfare of the society and nature. Information. which is presented to the society, should be singificant. Scientists should counteract dissiminatrion of unproved data and ungrounded recommendations.
7.2. Scientists should promote dissimination of scientific knowledge and counteract spreading pseudoscientific theories, erroneous concepts and ideas.
7.3. Scientists should publish results of their studies not only in special scientific editions, but do it in the scientifically popular form as well, so as to make them as more available as possible for wide social strata.
7.4. Scientists should take an active part in the life of the scientific community and in the work of collective bodies. And in this, they should act depending, first of all, on general scientific interests, and only then, on their private interest and that of

their institutions.
7.5. Scientists should not use the authority of the science or their own authority for advertisement or promotional purposes for personal interest.
7.6. Scientists, who hold governmental or administrative posts, should follow ethical norms, adopted in the scientific community.
7.7. Scientists, who infringe Code of Ethics, carry a moral responsibility before scientific community and before the society as a whole.

National Commission for Science and Technology (Africa Group)
Region: African Group
Country: Malawi
Type of Organisation: Government
Type of Document: Ethics

VALUE OF RESEARCH IN THE SOCIAL SCIENCES AND HUMANITIES

The ultimate goal of research in the social sciences and humanities is to improve human life in the physical, material, moral, emotional and intellectual forms. The collection and use of research data in the various disciplines that fall in the categories of the social sciences and humanities, therefore, have direct bearings on people. Data are collected from human research participants, for use by individuals or groups of individuals, to meet individual or collective needs.

Researchers in the social sciences and humanities, therefore, have obligations to: their sources of research data, those whose lives will be

affected by the research findings, other interested parties and end-users of the research data, as well as themselves and their colleagues. Such obligations raise issues related to values, ethics, professional conduct, and moral commitment.

The framework provided herein is premised on the values of:

i. service and benefit to humanity,
ii. respect for the rights, worth and dignity of research participants.
iii. promotion of innovation and creativity in research,
iv. excellence and professionalism,
v. collegiality,
vi. continuous transfer of skills and knowledge,
vii. encouragement of collective participation in matters of human development, and
viii. transparency and accountability at all levels of the research continuum.

4.0 ETHICAL PRINCIPLES AND OBLIGATIONS

This framework forms the basis for the ethical design and conduct of research in the social sciences and humanities.

4.1. Informed Consent

All persons have the right to individual autonomy and self determination. Some of them are vulnerable in the sense that they have a compromised autonomy related to decisions about research participation to a degree that would violate the principle of respect for persons. Therefore, any individual who is invited to participate in a research study shall be given an adequate description of the study that is clear and complete enough for the individual to judge whether she or he wants to participate. The informed consent process is designed to provide potential participants with readily understandable information in an amount and timing appropriate to achieve the participant's understanding. Consent shall be obtained from each research

participant who is legally, mentally and physically able. For those that are not, including minors, permission shall be sought from parents or legal guardians or any of their legally authorized representatives as the situation may apply. The following are examples of the exceptional

circumstances under which research can be approved by a research ethics committee without parental permission;

i. If the research ethics committee determines that a research protocol is designed for conditions or for a subject population for which permission is not a reasonable requirement to protect the research participants (for example, neglected or abused children), provided an appropriate mechanism for protecting the children who will participate in the research is adequately substituted, and provided further that the waiver **is not inconsistent** with any of the relevant local laws.

ii. Research on adolescents involving their access to contraceptives; or research on adolescents that aims at describing sexually transmitted diseases treatment seeking behaviours, provided the waiver **is not inconsistent** with any of the relevant local laws.

4.1.1. Written Consent

Consent shall be in writing unless an NCST -recognized research ethics review committee finds that written documentation of informed consent may be waived. Consent forms and other informational documents like information sheets shall be written in simple language so as to be easily understood by potential participants and any persons without technical background in the field. The standard consent form and/or information sheet must include the following elements which are considered the most important information to be given out to the research participants;

- ***Research purpose and procedures***: a statement that the study involves research, an explanation of the purposes of the research and the expected duration of participation, a description of procedures to be followed, and identification of any procedures which are experimental;
- ***Risks and discomforts of the research study***: a description of any reasonably foreseeable risks or discomforts to the research participants;

- ***Potential benefit of the research study***: a description of any benefits to the research subjects or to others or to the country as a whole that may reasonably be expected from the research;
- ***Alternative procedures***: a disclosure of appropriate alternative procedures, if any, that might be advantageous to the research participants;
- ***Provisions for confidentiality***: a statement describing the extent to which confidentiality of records identifying the research participant will be maintained;
- ***Research related injury***: for research involving more than minimal risk, an explanation as to whether any compensation is available and if so, what it consists of and how it will be

provided;

- ***Voluntariness in participation and the right to discontinue participation without penalty***: a statement that participation is voluntary, refusal to participate will involve no penalty or loss of benefits to which the participant is otherwise entitled, and the participant may discontinue participation at any time without penalty or loss of benefits to which the participant is otherwise entitled.
- ***Contacts for additional information***: an explanation of whom to contact for answers to pertinent questions about the research and research participants rights, and whom to contact in the event of the research related injury (i.e. contacts of the principal investigator and the chair of the research and ethics committee reviewing and approving a particular study for additional information on the research and rights of participants, respectively);

4.1.2. Oral or Verbal Consent

Any NCST-recognized research ethics review committee may allow an oral or verbal consent in the case of all those that do not read or write or do not understand the language of the written consent form. However, the script or information sheet to be read to the potential participants must be approved by the NCST-recognized research ethics review committee and be signed for by their parents or legal guardians or any

of the legally authorized representatives. The consent form or information sheet to be read out shall, however, contain the elements described in **4.1.1**.

4.1.3 *Consent for protected sites*

For research related to intangible cultural heritage (as per definition contained in the convention for the safeguarding of the intangible cultural heritage), heritage sites and graveyards/cemetery, consent/permission (be of entry) shall be obtained from the relevant custodians and/or offices or legal representatives.

4.1.4 Use of Language

No consent form or information sheet, whether written or oral, shall include intimidatory, threatening, or deceptive language through which the subject or the subject's authorized representative is made to lose or waive any of the subject's legal rights, or releases or appears to release the investigator or sponsor from liability for negligence or any harmful consequences originating from participating in the research.

4.1.5 Requirement

The standard requirement is that all participants shall sign in person a consent document or form or information sheet containing adequate elements of a consent document. Those who cannot sign, due to illiteracy, will provide a thumb print under a witness who shall also sign for witnessing. For those who cannot legally, mentally and physically give consent, their parents or legal guardians or authorized legal representatives will be required to sign or thumbprint.

4.1.6 Assent

Researchers shall obtain assent from minors who are capable of

assenting. In determining whether children are capable of assenting, an ethics review committee and the researchers shall take into account the ages, maturity and psychological state of the children involved. However, minors must assent in tandem with parental permission. An assent needs to be tailored to the level of comprehension of the prospective participants. A research ethics review committee is granted wide discretion in determining whether a child is capable of assenting and can waive the requirement for child assent under the following circumstances;

- If a child is not capable of assent
- If the research offers a prospect of direct benefit not available outside of the research(thus falling under the scope of parental authority in overriding a child's desires)
- Or given the same conditions under which parental permission can be waived (as stated above in 4.1)

4.1.7 Consent from Emancipated Minors

Emancipated minors may include those that society may regard as mature minors by law, those legally married, or students under a defined Malawian adult age. Assent from such minors may be regarded as an informed consent.

4.1.8 Protection for Vulnerable Populations

Vulnerable persons are those who have a compromised autonomy related to decisions about research participation to a degree that would violate the principle of respect for persons. Researchers to involve such persons shall be required to obtain extra protections or safeguards for their safety and welfare. Examples of vulnerable populations include pregnant women, prisoners, orphans, people living with HIV and AIDS, refugees, persons with mental disabilities, the illiterate, and women and men who, in some settings, may have to ask their spouses before consenting to participate in a research. .

4.2 Privacy and Confidentiality

i. Researchers shall be required to take precautionary measures to ensure that sensitive research information is not attributed to specific individuals that provided it and is collected in a manner that does not invade the privacy of the participants.

ii. Researchers shall respect individuals' right to privacy.

iii. Researchers shall ensure that sensitive, identifiable information is collected for research purposes and access to such

information is limited to a well defined group such as the research team, the research ethics committee or the research regulatory authority.

4.3 Rights of Participants

i. Research participants have the right to know the benefits and risks of their participation in a research study

ii. Research participants have the right to withdraw from participating in a research study without any penalty for their voluntary withdraw.

iii. Research participants or communities from which research participants come have the right to feedback from researchers.

4.4 Accountability and Transparency

Researchers shall be committed to research that is fair, honest and transparent. They shall be accountable to their profession, research participants, and the wider society, and shall make arrangements to have their research data preserved for a reasonable period of time for posterity.

4.5 Obligations to others

Researchers shall promote social relations based on the principle of nonexploitation, collaboration, and mentorship. They shall strive to establish working relationships that benefit other researchers and participants, and have primary ethical obligations to the people they study. They shall respect the dignity and well-being of all people involved in their research. Their research shall not unnecessarily consume the time of participants or make them incur undue loss of property and income. Research shall not expose research participants to risks due to their participation in the research.

4.6 Responsibility to the public

Social and humanities research shall be done to benefit society and groups and individuals within it by making the research appropriately available to sponsors, students, decision makers, other researchers and research participants. Above all, researchers shall conduct their work responsibly and in light of the moral and legal order of the society in which they practice. They shall be truthful and be responsible for the factual content of their statements and must consider the wider implications of the information that they disseminate. They shall make sure that the information presented is well understood, properly contextualized and responsibly utilized.

4.7 Responsibility to colleagues and fellow researchers

Social and humanities researchers shall maintain standards and appropriate professional behaviour that are shared amongst the professional research community. Without compromising obligations to funders, employers, subjects or society at large, this requires methods, procedures and findings to be open to collegial review and dissemination of findings to the scientific and scholarly community. Where junior researchers work with their senior colleagues the aims shall be to: transfer professional skills, mentor, and build capacity in them.

4.8 Responsibility to students and trainees

Where researchers use students, the following guidelines shall apply:

i. Research and teaching shall be conducted in such a way that does not discriminate on the basis of gender, marital status, race, social class, political convictions, religion, ethnicity, nationality, age or any other criterion irrelevant to academic performance;

ii. Ensure improvement in teaching and training techniques, and being available to the needs and interests of the students;

iii. Impress on students the ethical challenges involved in stages of social and humanities research;

iv. Teachers shall publicly acknowledge student assistance in research and preparation of their work; and

v. Wherever students are used in the research the aim shall be to transfer professional skills and to build capacity in them.

4.9 Non-discrimination

Researchers shall avoid discrimination against others on the basis of sex, race, religion, ethnicity, culture, or other social and human categories that are not related to their scientific competence and integrity.

4.10 Avoidance of conflict of interest

Researchers and members serving on research ethics review committees shall avoid conflict of interests. In this case, conflict of interests shall include but not limited to:

i. researchers and members of any research ethics review committee who serve as an investigator on research under consideration by the same committee;

ii. researchers and members who hold a significant financial interest in a body that funds or sponsors research or promotes products or services on which the research is being done;

iii. a member whose spouse or close relative has a research under review by the committee;

iv. researchers and members who have any special form of relationship with the sponsor of the research under consideration if such relationship is likely to influence decision of the committee;

v. any person who receives a bribe or inducement to do research that compromises objectivity.

Insider dealing shall not be allowed in the research review process, and award of research grants. In a case where conflict of interest is likely to occur, a member of the committee or researcher shall be required to declare the nature of the conflict of interest and provide relevant information. Such a member shall not participate in the review of a particular protocol in which such a member has a conflict of interest. Such a member shall recuse oneself and move out of the meeting room to allow the committee freely deliberates on the protocol in which a member has declared conflict of interest. Such a member shall only be recalled into the meeting room after decision on that protocol had been made. The declaration and recusal shall have to be properly reflected in the minutes of that meeting.

4.11 Objectivity

Researchers shall strive to avoid bias or deception in the design of methods, data analysis, and data interpretation of their research. They shall serve rather than threaten the interests of society in which they operate. For this reason they shall be aware of the fact that their assumptions may have an impact upon society. Hence, their duty is, on the one hand, to keep an unbiased attitude as far as possible, while, on the other hand, to acknowledge the tentative and relative character of the results of their research and not to conceal their own ideological position(s). No social sciences and humanities assumptions shall be presented as indisputable truths. Researchers shall need to clear misconceptions and misinterpretations about their research.

4.12 Integrity

Social science and humanities researchers bear responsibility for the

integrity and reputation of their disciplines of scholarship and of science in general. Researchers shall not deceive or knowingly misrepresent (i.e. fabricate evidence or results, falsify, plagiarize), or attempt to prevent reporting of misconduct in any way, or obstruct the scientific or scholarly research of others. Researchers shall also allow others to have access to their research data and other research materials for purposes of their own work.

4.13 Coercion and Undue Influence

Coercion and undue influence shall not be allowed. Coercion refers to a situation in which a person to some degree is forced, or at least strongly pushed, to do something that is not good for him or her to do. Its interchangeable term is undue influence. If individuals are put in a position where there is undue influence to participate in research, then their ability to control their own destiny has been compromised. It shall be noted that undue influence and inducement amount to coercion.

5.0 AUTONOMOUS IMPLEMENTATION OF THE FRAMEWORK

This framework is of a general application, but academic and other institutions are encouraged to develop their own frameworks in line with it. Such institutional frameworks/guidelines shall, however, be required to be endorsed by the NCST.

6.0 RESEARCH COMMUNICATION

Research communication entails popularization of research results. Researchers in the social sciences and humanities shall ensure that scientific knowledge is communicated to a wider audience beyond the research community. Reporting of research and its results shall be the responsibility of every researcher and the research institution. The responsibility may be delegated to either the sponsor or any individual upon mutual agreement and expressed commitment to publish or disseminate the results within a specified period.

6.1. Authorship

As a rule, research results shall be published whether they support or contradict the expected outcome. When publishing, the following authorship guidelines shall apply:

i. Authorship shall be based on the level of contribution made in terms of ideas, conceptualization, and actual performance of the research, analysis and writing of the report or any other publications based on the research.

ii. Co-authorship and its sequence should not be based on the status of an individual in the institution or elsewhere.

iii. All other persons not meeting the criteria for authorship but contributed to the conduct and completion of research or publication shall be properly acknowledged.

iv. Students shall be listed as principal authors on any multiple authored publications that considerably originate from their dissertations.

v. Appropriate acknowledgment shall be given where data or information from other studies or publication is quoted or otherwise included.

6.2. Research Dissemination

Researchers bear a special responsibility to convey research results in a comprehensive and responsible manner. Researchers may disseminate preliminary results of their research before being peer-reviewed or published in recognized journals. When such results are being disseminated through the popular media, great care shall be taken to ensure that the media people, not specifically trained in social science and humanities issues and research, are able to understand the limitations and implications of research results to avoid distortions.
It is incumbent upon research institutions to promote multifaceted and comprehensive research communication, characterized by high quality and relevance. Institutions conducting social science and humanities research shall establish committees responsible for dissemination of research results to ensure that the results reach end-users. The committees shall also be charged with the responsibility of publishing circulars and organizing events for specific dissemination of results.
All funded research shall have a component on dissemination of results. Institutions shall be required to establish budget lines for dissemination of research results and organize theme specific conferences or symposia.
Institutions shall establish research data banks and repositories from which they shall develop research indicators in the social sciences and humanities and compile annual inventories of research and to facilitate availability and access by other users.

7.0 APPROPRIATE RESEARCH ENVIRONMENTS

Researchers shall establish and maintain sound and appropriate research environments in which research can be conducted. Researchers shall actively participate in the initiatives and efforts to improve the quality of research environments in their communities and institutions, and to promote public involvement in these.

8.0 AFFILIATION AND RESEARCH CLEARANCE

As a matter of policy, it remains a fundamental requirement that all foreign based researchers intending to conduct research in Malawi should be affiliated to local research related institutions and government departments. The affiliating institutions' role shall be to aide such researchers to conduct research in Malawi according to the applicable regulatory requirements.
In considering affiliation, fees and MoUs may be required depending on procedures and policies of the affiliating local institutions.
Researchers in Civil Society Organisations/NGOs and other related institutions shall be required of their research to be reviewed and approved by an NCST authorized research and ethics review committee.

9.0 FORMAT FOR RESEARCH PROPOSALS

Research proposals/protocols shall be prepared according to the following general or specific format;

9.1 General Format

This format shall apply where a research and ethics review committee has not specified a format.

i. Proposal title
ii. Names of investigator(s) and qualifications (their CVs should be

appended)
iii. Institution of affiliation (local and/or international)
iv. Summary
v. Introduction/literature review
vi. Problem Statement/Justification
vii. Main and specific objectives
viii. Methodology/Materials and methods
This should include a description of details of the study design and methods to be used. The description should include study site(s)/location(s); study participants; sampling methods; sample size; data collection instruments; and data management and analysis methods.
Data collection instruments, where appropriate, must be translated into the appropriate local language and should be attached in the annex and be appropriately referred to.
ix. Ethics
This should include a description of strategies and/or processes that will be followed to guarantee the protection of the rights and welfare of the research subjects/communities as required and described under **section 4.0,** while taking into cognizance of the nature and design of a particular study.
Consent/assent forms or information sheets in English and in an appropriately translated local language should be attached in the annex and be appropriately referred to.
x. Work plan (where appropriate, roles and responsibilities of collaborators, should be stated clearly)
xi. Expected outcomes of the study
xii. Strategies of dissemination of research results
xiii. Budget
xiv. Declaration of source of funding (if already available or proposed)
xv. Reference

9.2 Specific Format

i. Some funding agencies may have different requirements which researchers shall be required to follow in soliciting funding.
ii. In submitting for research and ethical review to the **National Committee on Research in the Social Sciences and Humanities** as mentioned **under section 10,** researchers shall be **generally** required to;
follow the format that is defined in **section 9.1;**
submit both **an electronic copy and two hard copies** of the research proposal/protocol; and to
enquire from the secretariat on the other specific requirements and procedures for submission of a protocol for review by this committee which are not described herein.
iii. Institutional research and ethics committees shall specify their own formats that shall, however, be modeled on the general format.

10.0 MONITORING SYSTEM

Once misconduct during research has been reported, a proper process of investigation shall be set up. All relevant facts for investigation shall be gathered without taking sides and the findings shall be made public for purposes of preserving the integrity of the research community. The regulatory research authority shall impose strict measures in the case of fabrication, falsification, fraud, or plagiarism or any form of serious violation of this framework. All those that report any forms of misconduct shall be protected.

All records of research approved by institutional research ethics review committees shall be submitted to the NCST for record keeping and for creating research data base of all research taking place in the country. **In the event that there are no institutional research and ethics review committees, researchers shall be required to seek approval from the National Committee on Research in the Social Sciences and Humanities whose secretariat is at the NCST**.

11.0 APPLICATION OF THE FRAMEWORK

The Framework of Guidelines for Research in the Social Sciences and Humanities in Malawi shall apply to all researchers and research institutions in the social sciences and humanities doing research in Malawi. The guidelines give due consideration to prevent research activity from becoming unduly constricted, and limiting of academic or scientific freedom but placing emphasis that such freedom should occur within the framework of ethical principles set forth in this document as minimum standards. Nonetheless, all institutional and subject or discipline specific guidelines are subject to this framework and other relevant laws and national policies for conducting research in Malawi.

National Science and Technology Commission (NASTEC)
Region: Asia-Pacific Group
Country: Sri Lanka
Type of Organisation: Government
Type of Document: Code of Ethics

OBLIGATIONS OF RESEARCHERS

Researchers should protect the interest of the society within a broader dedication to it. They should recognize that the public has trust in them to uphold the integrity of the research, and it should contribute to the development of society.

1.1 Researchers are required to respect the dignity of human participants and take active steps to protect their well-being. They should follow institutional, professional and governmental ethical and regulatory guidelines [1]

1.2 Researchers should obligate themselves to withhold research findings that may harm the health or well-being of others [1]. If the findings may harm the well being of others, researchers should take active steps to prevent the misuse of them

1.3 Researchers should be intellectually honest. They should fully disclose information important to society and when exchanging information they should not conceal their findings [2]

1.4 Researchers should take active steps to correct errors or oversights in proposing, conducting or reporting research [3]. They should also respect others' criticism

1.5 Researchers should devote time to discover new knowledge and skills using clear objectives and repeatable methods [2]

1.6 Researchers have a duty to ensure that their work enhances the good name of the Institute and the profession to which they belong [4]

2. ADHERENCE TO POLICIES [1]

Researchers should be aware that, in conducting, reporting or reviewing research, plagiarism, fabrication or falsification of data and misrepresentation of methods are violations of the code of ethics.

2.1 Researchers should be aware of professional, institutional and governmental regulations and policies in proposing, conducting, reporting and reviewing research

2.2 Researchers should take active steps to resolve discrepancies when policies or regulations are unclear or contradict one another

3. OBLIGATIONS OF A RESEARCHER TO THE INSTITUTION

Researchers have an obligation towards the institution in which they conduct research. They should ensure that their work enhances the status of the institution.

3.1 Researchers should follow the institutional policies, laws, regulations and the code of ethics

3.2 Researchers should be aware of the impact their research would have on the institution. They should not cause problems to the institution by mishandling research

3.3 Researchers should respect the advisor/s, department heads and other supervisor/s in the institution [5]

3.4 Researchers should discuss situations involving research ethics with designated persons in the institution. Such discussions should be carried out in confidence

3.5 Researchers should ensure that they are aware of the latest policies formulated by the institution

3.6 Researchers should explain fully the scope of their work and peer review mechanisms when they are subjected to prospective financial supporters and to institution/s [5]

3.7 Researchers should not divulge unpublished institutional research findings when exchanging information with other institutes. They should maintain confidentiality at all times

3.8 Researchers should be required to adopt explicit policies which research institutions and government agencies follow to reduce conflicts over intellectual property rights of ownership and access [5]

3.9 Researchers when publishing/discussing their findings should acknowledge the institution in which the research was carried out

4. COMMITMENT TO COMPETENCY

Researchers are responsible for maintaining professional competency and remain knowledgeable within their areas of expertise.
2
4.1 Researchers should conduct their work within the scope of their own training and knowledge base [1]

4.2 Researchers should ensure that all persons who assist in the conduct of their research are adequately trained and perform their responsibilities competently [1]

4.3 Researchers should not foster discrimination based on gender, race, age, sexual orientation, religious affiliation, ethnic or national origin [1]

4.4 Researchers should seek assistance when stress or impairment interferes with their ability to conduct professional responsibilities [1]

4.5 Researchers should accept constructive criticism and respect others' views and opinions [2]

4.6 Researchers may discover honest mistakes and these should be acknowledged [5]

5. COMMITMENT TO CREDIBILITY

Researchers should engage in those practices that are accepted within the scientific community when proposing, conducting and reporting research.

5.1 Researchers should present themselves to the public in a competent, sincere and trustworthy manner [2]. They should conduct their professional responsibilities in a manner that is not intentionally deceitful

5.2 Researchers should practice honest stewardship of their research resources and use recognized accounting methods [1]

5.3 Researchers should not distort findings and they should willingly discard falsified hypotheses [2]

5.4 Researchers should convince the community of peers of the correctness of their concepts and ideas through a proper understanding of the methods, techniques and social conventions of science [4]

5.5 Researchers should not present or publish a component of the findings of a larger body of work, which could conceal the findings or lead to misunderstandings

5.6 Researchers who witness or suspect fraud or misconduct should follow established procedures to preserve the integrity of the scientific community and the scientific record [5]

5.7 Researchers accused of fraud or misconduct should not harass those believed or known to have made accusations against them

6. RESPONSIBILITIES TO COLLEAGUES AND PEERS [1]

Researchers as members of the scientific community have a responsibility towards their colleagues and peers.

6.1 Researchers should respect the rights of their colleagues and peers. They should not hinder the progress of their fellow scientists

6.2 Researchers should clarify early in a collaborative project expectations and responsibilities of those involved

6.3 Researchers should take active steps to maintain positive relationships with their colleagues. They should not divulge any discussion carried out in confidence and in the event that interpersonal conflict takes place they should seek consultation from relevant responsible personnel

6.4 Researchers should protect the integrity of intellectual property and research materials when reviewing others' work

7. PEER REVIEW

Researchers are often subjected to peer reviews, these reviews should be conducted in an objective, confidential and timely manner.

7.1 Researchers should respect their peers irrespective of their fields. They should not undermine their peers under any circumstances

7.2 Researchers should remain impartial and maintain confidentiality when reviewing peers

7.3 Researchers should take active steps to protect the integrity and intellectual property of review material

8. MENTORING, TRAINING AND SUPERVISORY RELATIONSHIPS

Researchers should nurture the intellectual, ethical and career development of any trainees, students, technicians or other personnel connected to their work.

8.1 Researchers should recognize the strengths and limitations of the above personnel and provide guidance, constructive feedback and assistance that match the changing needs [1]

8.2 Researchers should establish clear and appropriate rules and boundaries in their relationships with trainees, supervisors, students and technicians [1]

8.3 Researchers should not engage in disrespecting the character of or impeding the progress of their trainees, technicians and students

9. CONFLICTS OF INTEREST AND EXPLOITATION OF RESOURCES

Researchers should be aware that conflicts of interest and exploitation of resources occur in the context of professional activities. They should recognize and avoid or minimize them.

9.1 Researchers should take active steps to avoid real or perceived conflicts of interest. They should minimize bias, flawed judgment, harm or exploitation [1]

9.2 Researchers should design their research policies and procedures to protect the integrity of their research, the missions of the institution, the investment of stakeholders and public confidence in the credibility of research [5]

9.3 Researchers should be aware of the system of ethics, which govern the relationship of man and nature. Research activities should not accelerate the rate of extinction of animals or plants and should protect the environment [2]

10. RESEARCH DATA MANAGEMENT

Researchers should clearly and genuinely record methods and data to protect the integrity of their research material. Their materials, methods and data should be made available to others for analysis or checking when the need arises.

10.1 Researchers should adhere to procedures followed by the department/institution in retaining data

10.2 Researchers should utilize accepted/suitable/responsible experimental techniques and materials for collecting, recording, storing and analyzing data in order to minimize the influence of individual bias. In the event new techniques are developed and utilized, procedures should be specified clearly

10.3 Researchers should maintain data and records in a secure form. They must be retained intact for as long as there is continuing value to the researcher, i.e. patent requirements, legislative and other regulatory requirements for a period of at least five years from the date of publication

10.4 Researchers should take precautions when confidential research data records are stored electronically. They should ensure that access to such data and records is controlled

10.5 Researchers should be aware of the ownership of their research data, methods and findings

10.6 Researchers should acknowledge data derived from substantially similar research [1]

10.7 Researchers should retain copies of the data for their own use. However for protection of data and in the event of any possible allegation of falsification of data, researchers should

retain the original data in the department/research unit/institution in which the data originated [6]

10.8 Researchers should have available data related to a publication for discussion with other researchers. Where confidentiality provisions apply researchers should ensure that reference to the desirable data by third party occurs without breaching such confidentiality [6]

10.9 Researchers should adhere to confidentiality agreements to protect intellectual property rights of all concerned [6]

11. AUTHORSHIP AND PUBLICATION PRACTICES

Researchers should respect the intellectual property rights of others. And should not take & use another person's thoughts, writing and inventions as their own.

11.1 Researchers should be aware of the minimum requirements of an author of a publication as prescribed in the ' Vancouver Protocol'. In order for a researcher to claim authorship of a publication, he/she should have contributed by;

a. Participating in the conception and design of the research to which the publication relates ('relevant research'), directing its conduct or analysis and interpretation of relevant research data and

b. Drafting the article or revising it critically for important intellectual content and

c. Giving final approval of the version to be published from the scientific point of view

Other members who have contributed to a particular publication, not falling within the criteria of authorship should be included in the acknowledgements or in the appendix (Vancouver Protocol).

11.2 Researchers should facilitate discussion and set ground rules early in collaborative relationships regarding authorship assignment [1]. The order of authorship should be a joint decision of the co-authors [4]

11.3 Researchers should undertake responsibility for the accuracy of research reports for which they claim full or co-authorship [1]. When there is more than one co-author, one co-author should be nominated as executive author for administration and correspondence purposes

11.4 Researchers should preserve the integrity of the scientific record when publishing their research output. They should express their ideas without fear or favour. In addition, they should be willing to accept criticism from experts and referees [7] and when necessary take active steps to correct errors in a relevant publication

11.5 Researchers should acknowledge a publication which is substantially similar to another; when submitting one research output to more than one publisher, the researcher should disclose this information to the publisher at the time of submission

11.6 Researchers should respect the privacy of others' unpublished work. They should not submit or publish previously published materials without appropriate citation [1]

11.7 Researchers should after publication, share the data and other research materials with their colleagues upon request [5]

11.8 Researchers should adhere to confidentiality agreements and in the event that limitations and restrictions are agreed upon and these stipulations should be taken into consideration

11.9 Researchers should not report their research findings in the public media before they report to a research audience of experts in the field of research – preferably by publication in a peer-reviewed journal, except where there is a contractual arrangement [4]

11.10 Researchers should ensure that the source of financial support is acknowledged in a publication

12. ALLOCATION OF CREDIT

Researchers should comply with the principle of fairness and the role of personal recognition, within the reward system of science and should ensure proper allocation of credit.

12.1 Researchers should acknowledge the work of others in a standard scientific paper. It could be either in the list of authors, in the acknowledgments of contribution from others or in the list of references or citations [5]

12.2 Researchers should ensure that the work of research students, research assistants, technical officers and others is acknowledged/recognized in a publication to which they have made a contribution [1]

12.3 Researchers should attribute credit to others for their ideas/support/contribution in proposing, conducting or reporting their own work

12.4 Researchers should allocate due credit to the source of financial support which allowed that particular research project/programmme to be carried out

13. PUBLIC SPEAKING

Researchers should have proper regard for the safety and welfare of the public in the performance of their professional duties. They should ensure that research findings are accurately transferred to the public via seminars/ workshops/ lectures/ conferences.

13.1 Researchers should educate the public on their research findings and achievements. They should ensure that the research findings are extended to the public factually and without exaggeration

13.2 Researchers should present only completed findings to the public. They should not agitate the public by presenting incomplete work

13.3 Researchers should be objective in their presentation. They should express an opinion on a particular subject only when it is founded on adequate knowledge and honest conviction

13.4 Researchers should be dignified and modest in explaining their work. They should uphold the honor and dignity of their profession, and refrain from self-laudatory advertising

13.5 Researchers should preface any ex parte statements, criticisms, or arguments that they may issue by clearly indicating on whose behalf they are made. They should also acknowledge any assistance received in performing their duties

14. LABORATORY ETHICS

Researchers should conform to the rules and regulations set forth by the responsible authority of the institution. They should adhere to the practices and controls of the laboratory.

14.1 Researchers engaged in a laboratory study should wear clothing and other accessories appropriate to perform their duties. Such clothing and other accessories should be changed as often as necessary to ensure personal sanitation and health and to prevent microbiological, radiological or chemical contamination [8]

14.2 Researchers should label all reagents and solutions in the laboratory to indicate identity, concentration, date of manufacture and expiration and storage requirements. They should not use deteriorated or outdated reagents and solutions [8]

14.3 Researchers should regularly inspect, clean and maintain the equipment/ glassware in use. They should test, calibrate, clean and/or standardize the equipment used for the generation, measurement or assessment of data. Researchers should also allow the authorized personnel to carry out inspection of equipment, facilities, records and specimens which need to be maintained [8]

14.4 Researchers should ensure that fume hoods and other ventilators are in working condition. They should check/test the activity of the same prior to use. In the event of utilizing poisonous and highly toxic gases prior to use they should inform the appropriate authority and during use they should regularly check the activity of the fume hood [9]

14.5 Researchers should have a laboratory notebook in which they enter their research activities. This notebook should be validated and dated by a colleague. In the event a

researcher has embarked on patentable work he/she should report potentially valuable discoveries promptly to the patent official of the organization sponsoring the research [5]

14.6 Researchers should carry out test systems or tests and control articles known to be biohazardous, i.e., volatile substances, aerosols, radioactive materials and infectious agents in isolated and separated areas. The disposal of these material should be according to specified instructions from accredited organizations [8]

14.7 Researchers should effectively isolate subjects of research either known or suspected of being diseased or carriers of disease as appropriate for the diagnosis, treatment and control of disease [8]

14.8 Researchers should decontaminate waste material, reusable equipment and apparatus, animal carcasses and tissue samples, both animal and human, by decontaminating utilizing an autoclave, chemicals and incinerators respectively under appropriate conditions and specifications

14.9 Researchers should transfer all raw data, documentation, protocols, specimens and final reports to the archives during or at the close of the study. Separate space may be allocated for archives of limited access. All such data should be accessed, stored and retrieved only by authorized personnel [8]

15. CARE AND USE OF ANIMALS FOR RESEARCH

Researchers using animals for research should follow institutional, professional and governmental ethical and regulatory guidelines.

15.1 Researchers should substitute inanimate materials and processes for animals where appropriate. In the event animal subjects are used they should obtain ethical clearance from a relevant Ethics Committee.

15.2 Researchers should make efforts to use lower species which may be less susceptible to pain and distress when substitution of materials and

15.3 process are not possible [1]. They should also use procedures which will cause minimal pain to animals

15.4 Researchers should take active steps to reduce the use of animals to the minimum number necessary and in the event of sacrificing animals only the minimum number required should be sacrificed [1]

15.5 Researchers should provide and maintain proper environmental conditions, sufficient space, water, food etc. to ensure good health conditions and to minimize stress while housing the animals. They should provide facilities for the proper collection and disposal of all animal

waste and refuse and should ensure cleaning and sanitizing animal cages and accessory equipment at appropriate intervals [9]

15.6 Researchers should isolate all newly received animals from outside sources. They should evaluate their health status in accordance with acceptable veterinary medical practices [9]

16. CARE AND USE OF HUMAN BEINGS FOR RESEARCH

Researchers' primary intension when utilizing human subjects to advance knowledge should be to respect, benefit and uphold justice of individuals and communities.

16.1 Researchers should only utilize human subjects when absolutely necessary. When designing their research projects they should take appropriate steps to keep all the potentially negative features to a minimum [10]

16.2 Researchers working on human subjects should be qualified and experienced. They should obtain approval from a relevant ethics committee and embark only on research of high quality whereby interest of everyone is met

16.3 Researchers should submit their research proposals to the relevant ethics committee prior to embarking on their research. Each research proposal should be assessed on an individual basis with respect to its individual merits and risks. The details of all procedures should be considered with regard to their possible intrusiveness, invasiveness or distress provoking properties in relation to the target group of participants [10]

16.4 Researchers should receive approval from the related ethics committee for utilizing archived research data records. They however, need not have permission from subjects of research in order to access past records [10]

16.5 Researchers should inform the research participants regarding the extent to which they would be involved in the relevant study and should simultaneously receive individual informed consent from each of the research participants specifying that they have read and understood what is required of them and are willing to participate in this particular study. In the event that the prospective subject is not capable of giving informed consent, the consent of a nominated proxy/ a properly authorized representative should be obtained [11]

16.6 Researchers should treat all their human subjects equally. The standard of care/treatment provided to each individual should not differ. They should not deny an individual access to investigational drugs, vaccines and other agents due to their gender, race, age, sexual orientation, religious affiliation, ethnic, national origin or any other. In the event that the researcher also provides clinical care to the subject and if the subject were to withdraw from the study during its course the clinical care received should not be hampered [11]

16.7 Researchers should protect the rights and welfare of the individuals or communities subjected to a study. They should safeguard and ensure confidentiality of research data. Research subjects should be informed of the limits to the researcher's ability to safeguard confidentiality and of the anticipated consequences of breaching of confidentiality [11]

16.8 Researchers when investigating new treatment regimes should group individual research subjects into several clusters in order to evaluate the effectiveness of the treatment. They should not be subjective in their selection of investigating subjects. For instance one should not differentiate between subjects of developed or developing communities [12]

16.9 Researchers when utilizing human subjects for genetic research should identify and inform risks and benefits involved, maintain confidentiality and ensure that ethical guidelines are adhered to as prescribed by accredited institutions and organizations [1]

16.10 Researchers should adequately compensate their research subjects for their time, expenses, inconvenience and any other reasons incurred when necessary in accordance with the specifications made by the ethics committee [11]

16.11 Researchers should encourage the participants to provide feedback on the general findings and implications of research in which they have participated [11]

16.12 Researchers should not subject pregnant and nursing mothers to non-therapeutic research that carries any foreseeable risk to the neonate or fetus, unless this is intended to elucidate problems of pregnancy or lactation [12]

16.13 Researchers who engage in in–vitro fertilization should bear the burden of justifying the worthiness of their research, use the smallest possible number of embryos, submit proposals for review by an institutional review board, have no satisfactory alternative to using embryos, and accrue important clinical data from the research [12]

17. COMMITMENT TO INDIGENOUS POPULATIONS AND OTHER IDENTIFIABLE GROUPS

Researchers should respect the rights and protect the interests of indigenous populations and other identifiable groups [1].

17.1 Researchers should obtain advice, participation and viewpoints of the respective individuals and population prior to formulating research questions, designing research methods, collecting and analyzing data & thereby ensure minimum risks and maximize benefits to the individuals and population concerned [1]

17.2 Researchers should recognize that consent from or consultation with group authorities or representatives is sometimes necessary before obtaining consent from individuals within indigenous populations or other identifiable groups

17.3 Researchers should take active steps to distinguish individual property both tangible and intangible from collective property owned by indigenous populations or other identifiable groups

17.4 Researchers should take active steps to reduce the risk to indigenous populations or other identifiable groups that result from misuse of their research findings

18. ENVIRONMENTAL HEALTH AND SAFETY [1]

Researchers should be aware of the environmental, health and safety consequences of their work. They should be concerned about the health and well being of others.

18.1 Researchers should follow professional, institutional and regulatory guidelines relating to the environment, health and safety

18.2 Researchers should provide a safe and healthy environment for students, co-workers, staff, patients and visitors

18.3 Researchers should play a leadership role in environmental stewardship, health protection and safety standards.

National Society of Professional Engineers
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Engineering (including Chemical)
Type of Document: Code of Ethics

The *NSPE Code of Ethics for Engineers* is available at http://www.nspe.org/resources/ethics/code-ethics.

National Task Force for the Control of Precursor Chemicals (France)
Region: Western Europe and Others Group
Country: France
Type of Organisation: Government
Type of Document: Code of Conduct

Code of Conduct

The purpose of this code of conduct is to contribute to the fight against illicit manufacture of drugs by identifying suspicious transactions and report them to the National Mission of Chemical Precursors Control (MNCPC).

It is in the process of partnership jointly developed between MNCPC and professional organizations below:

- UIC (Union of Chemical Industries)
- UFCC (French Union of Chemical Distributors)
- PRODAROM (French Association of Fragrance Manufacturers)
- LEEM (Les Entreprises du Medicament)

whose details are recalled in Appendix 4, and any other professional organization that would join.

It aims to help businesses and members of the organizations involved in the production, use and supply chain of substances and equipment listed in Schedules 1 and 2 of this code of conduct:

- educate their staff on the issues of precursors,
- develop their vigilance at the stages of production, storage, sale and transportation
- facilitate evaluation of the measures adopted by companies during inspections conducted by the MNCPC on the sites concerned,
- increase cooperation and information exchange between business and the authorities,
- ensure monitoring of chemicals and equipment that could be diverted to the illicit manufacture of drugs,
- operate, operationally, alerts provided by the MNCPC,
- facilitate the obtaining of licenses under the regulations relating to Category 1 substances.

Nova Scotia Chemist Society
Region: Western Europe and Others Group
Country: Canada
Type of Organisation: Chemistry
Type of Document: Code of Ethics

Nova Scotia Chemist Society
CODE OF ETHICS
Adherence to the following principles is a requirement of membership.
As professional chemists, chemical technologists, chemists-in-training or chemical technologists-intraining,
the members of The Nova Scotia Chemists' Society undertake:
- To dedicate themselves to the highest standards of personal honour and professional integrity;
- To extend fairness and loyalty to associates, employers, subordinates and employees; and
- To accept and defend the primacy of public well-being.

In observance of these commitments, they shall adhere to the following:
13.01 Duties of Members to the Public
A member shall:
- have proper regard in all his or her work for the safety, health and welfare of the public;
- protect the public welfare by acting responsibly at all times and by cooperating with government and consumer agencies;
- not be associated with enterprises contrary to the public well-being or sponsored by persons of questionable integrity;
- show due diligence in the practice in the profession and demonstrate an effort to keep up to date with its changes;
- have the public interest take precedence over all other interests; and
- protect the environment by acting responsibly at all times and by cooperating with government and consumer agencies.
-

13.02 Duties of Members to their Employers or Clients
A member shall:
- provide competent and responsible services, and shall only undertake work which he or she is competent to carry out;
- be honest, diligent and conscientious in the performance of his or her duties.
- not be engaged in activities conflicting with his employment, nor accept remuneration for services rendered other than from his or her employer or client, unless his or her employer or client gives written consent to do so;
- set fees which fairly reflect the knowledge, skill and time involved in performing services; and
- not disclose confidential information without the express consent of his or her employer or client.

13.03 Duties of Members to Themselves, Other Members and the Society
A member shall:

- practice chemistry in accordance with the laws of Nova Scotia and Canada;
- present a good image to the public by maintaining high ethical standards of practice and standards of personal ethics that reflect credit to the Society;
- support the Society and further its aims;
- conduct himself or herself towards other members with fairness and good faith;
- endeavour to cooperate with other members, and will encourage the ethical dissemination of new methods and technical knowledge; and
- not deliberately or maliciously attempt to injure the reputation of another member.
- maintain a high level of competence through continuing education.

ORPIC
Region: Asia-Pacific Group
Country: Oman
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The Code of Business Conduct is available at http://www.orpic.om/Docs/Code%20of%20conduct_Engilsh.pdf.

Pakistan Engineering Council
Region: Asia-Pacific Group
Country: Pakistan
Type of Organisation: Engineering (including Chemical)
Type of Document: Code of Conduct

Code of Conduct:
(SRO 1463 (1) / 78)

Article 1

This Code of Conduct may be called the Pakistan Engineering Council Code of Conduct.
This shall come into force at once.
This shall apply to all members of the Pakistan Engineering Council.
Article 2

To maintain, uphold and advance the honor and dignity of the engineering professional in accordance with this Code, a member shall-

uphold the ideology of Pakistan;
be honest, impartial and serve the country, his employer, clients and the public at large with devotion;
strive to increase the competence and prestige of the engineering profession;
use his knowledge and skill for the advancement and welfare of mankind;
promote and ensure the maximum utilization of human and material resources of Pakistan for achieving self-reliance;
and not sacrifice the national interest for any personal gain.
Article 3

A member shall be guided in all professional matters by the highest standards of integrity and act as a faithful agent or a trustee for each of his client and employer.
A member shall-
be realistic and honest in all estimates, reports, statements and testimony and shall carry out his professional duties without fear or favor;
admit and accept his own errors when proved and shall refrain form distorting or altering the facts justifying his decision or action;
advise his client or employer honestly about the viability of the project entrusted to him;
not accept any other employment to the detriment of his regular work or interest without the consent of his employer;
not attempt to attract an engineer from another employer by false or misleading pretenses;
not restrain an employee from obtaining a better position with another employer; and
not endeavor to promote his personal interest at the expense of the dignity and integrity of the profession.
Article 4

A member shall have utmost regard for the safety, health and welfare of the public in the performance of his professional duties and for that purpose he shall

regard his duty to the public welfare as paramount;
seek opportunities to be of service in civic affairs and work for the advancement of the safety, health and well-being of the community;
not undertake, prepare, sign, approve or authenticate any plan, design or specifications which are not safe for the safety, health, welfare of a person or persons, or are not in conformity with the accepted engineering standards and if any client or an employer insists on such unprofessional conduct, he shall notify the authorities concerned and withdraw form further service on the project; and
point out the consequences to his client or the employer if his engineering judgment is over-ruled by any non-technical person.

Article 5

A member shall avoid all acts or practices likely to discredit the dignity or honor of the profession and for that purpose he shall not advertise his professional services in a manner derogatory to the dignity of the profession. He may, however, utilize the following means of identification.

professional cards and listing in recognized and dignified publications and classified section of the telephone directories,
sign boards at the site of his office or projects for which he renders services; and
brochures, business cards, letter-heads and other factual representations of experience, facilities, personnel and capacity to render services.

A member may write articles for recognized publications but such articles should be dignified, free form ostentations or laudatory implications, based on factual conclusions and should not imply other than his direct participation in the work described unless credit is given to others for their share of the work.

A member shall not allow himself to be listed for employment using exaggerated statements of his qualifications.

Article 6

A member shall endeavor to extend public knowledge and appreciation of engineering profession, propagate the achievements of the profession and protect it from misrepresentation and misunderstanding.

Article 7

A member shall express an opinion of an engineering subject only when founded on adequate knowledge, experience and honest conviction.

Article 8

A member shall undertake engineering assignments only when he possesses adequate qualifications, training and experience. He shall engage or advise for engaging of the experts and specialists whenever the client's or employers' interest are best served by such service.
A member shall not discourage the necessity of other appropriate engineering services, designs, plans or specifications or limit-free competition by specifying materials of particular make or model.

Article 9

A member shall not disclose confidential information concerning the business affairs or technical processes of any present or former client or employer without his consent.

Article 10

A member shall uphold the principles of appropriate and adequate compensation for those engaged in engineering work and for that purpose he shall not-

undertake or agree to perform any engineering service free except for civic, charitable, religious, or non-profit organizations or institutions;

undertake professional engineering work at a remuneration below the accepted standards of the profession in the discipline;

and accept remuneration from either an employee or employment agency for giving employment.

A member shall offer remuneration commensuration with the qualifications and experience of an engineer employed by him.

A member working in any sales section or department shall not offer or give engineering consultation, or designs, or advice other than specifically applying to the equipment being sold in that section or department.

Article 11

A member shall not accept compensation, financial or otherwise, from more than one party for the same service, or for services pertaining to the same work unless all interested parties give their consent to such compensation.

A member shall not accept:-

financial or other considerations, including free engineering design, from material or equipment suppliers for specifying their products; and

commissions or allowances, directly or indirectly, from contractors or other parties dealing with his clients or employer in connection with work for which he is professionally responsible.

Article 12

A member shall not compete unfairly with another member or engineer by attempting to obtain employment, professional engagements or personal gains by taking advantage of his superior position or by criticizing other engineers or by any other improper means or methods.

An engineer shell not attempt to supplant another engineer in a particular employment after becoming aware that definite steps have been taken towards other's employment.

A members shall not accept part-time engineering work at a fee or remuneration less than that of the recognized standard for a similar work and without the consent of his employer if he is already in another employment.
A member shall not utilize equipment, supplies, laboratory or office facilities of his employer or client for the purpose of private practice without his consent.
Article 13

A member shall not attempt to injure, maliciously or falsely, directly or indirectly, the professional reputation, prospects, practices or employment of another engineer or member.
A member engaged in private practice shall not review the work of another engineer for the same client, except with knowledge of such engineer or, unless the connection of such engineer with work has been terminated;
provided that a member shall be entitled to review and evaluate the work of other engineers when so required by his employment duties.
A member employed in any sales or industrial concern shall be entitled to make engineering comparisons of his products with products of other suppliers.
Article 14

A member shall not associate with or allow the use of his name by an enterprise of questionable character nor will he become professionally associated with engineers who do not conform to ethical practices or with persons not legally qualified to tender the professional service for which the association is intended.
A member shall strictly comply with the bye-laws, orders and instructions issued by the Pakistan Engineering Council from time to time in professional practice and shall not use the association with a non-engineering corporation, or partnership as a cloak for any unethical act or acts.
Article 15

A member shall give credit for engineering work to those to whom credit is due, recognize the proprietary interests of others and disclose the name of a person or persons who may be responsible for his designs, inventions, specifications, writings, or other accomplishments.
When a member uses designs, plans, specifications, data and notes supplied to him by a client or an employer or are prepared by him in reference to such client or the employer's work such designs, plans, specifications, data and notes shall remain the property of the client and shall not be duplicated by a member for any use without the express permission of the client.
Before undertaking any work on behalf of a person or persons for making improvements, plans, designs, inventions or specifications which may justify copyright or patent, a member shall get ownership of such improvements, plans, designs, inventions or specifications determined for the prupose of registration under the relevant copyright and patent laws.
Article 16

A member shall disseminate professional knowledge by interchanging information and experience with other members or engineers and students to provide them opportunity for the professional development and advancement of engineers under his supervision.

A member shall encourage his engineering employees to improve their knowledge, attend and present papers at professional meetings and provide a prospective engineering employee with complete information on working conditions and his proposed status of employment and after employment keep him informed of any change in such conditions.

Article 17

A member employed abroad shall order his conduct according to this Code, so far as this is applicable, and the laws and regulations of the country of his employment.

Article 18

A member shall report unethical professional practices of an engineer or a member with substantiating data to the Pakistan Engineering Council and appear as a witness, if required.

PETKIM Code of Conduct
Region: Western Europe and Others Group
Country: Turkey
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Petkim Code of Conduct* is available at http://www.petkim.com.tr/Sayfa/2/678/INVESTOR-RELATIONS-CORPORATE-GOVERNANCE-CODES-OF-CONDUCT.aspx.

PETKIM Code of Ethics
Region: Western Europe and Others Group
Country: Turkey
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Petkim Employee Code of Ethics* is available at http://www.petkim.com.tr/UserFiles/image/CEK/ece.pdf.

Petrobras Code of Conduct
Region: Group of Latin American and Caribbean Countries
Country: Brazil
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Petrobras Conduct Guide* is available at http://www.petrobras.com/en/about-us/governance/.

Petrobras Code of Ethics
Region: Group of Latin American and Caribbean Countries
Country: Brazil
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.petrobras.com/en/about-us/governance/.

Petrofac
Region: Asia-Pacific Group
Country: Saudi Arabia
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Petrofac's Code of Conduct* is available at http://www.petrofac.com/media/1073/pdf_140.pdf.

PETRONAS
Region: Asia-Pacific Group
Country: Malaysia
Type of Organisation: Chemistry - Industry
Type of Document: Combined

The *Petronas Code of Conduct and Business Ethics* is available at http://www.petronas.com.my/about-us/governance/Documents/COBE%20190612.pdf.

Philippine Institute of Chemical Engineers
Region: Asia-Pacific Group
Country: Philippines
Type of Organisation: Chemical Engineering
Type of Document: Code of Ethics

Section 1. The chemical engineer shall be guided in all his relations by the highest standards of honor and integrity and shall act with fairness and impartiality to all.
Section 2. The chemical engineer shall uphold at all times the dignity of the chemical engineering profession and shall protect it from misrepresentation.
Section 3. The chemical engineer shall avoid being associated with any enterprise which is of questionable character or is contrary to law or public welfare.
Section 4. The chemical engineer shall express a professional opinion only when he is adequately informed of the facts related there to and the purposes for which the opinion is asked.
Section 5. The chemical engineer shall not issue statements, criticism or arguments on matters of public concern which are inspired or paid for by private interests, unless he indicates in whose behalf he is making the statement.
Section 6. The chemical engineer shall not indulge in self-laudatory advertisement nor make exaggerated, untrue, or misleading statements in media or any public forum.
Section 7. The chemical engineer shall be mindful of the safety and convenience of the public at all times and shall make every effort to remedy or bring to the attention of his client or employer any dangerous defect in equipment or structures or dangerous conditions of operation which come to his knowledge.
Section 8. The chemical engineer shall consider it his professional obligation to protect the interest of his client, employer or any person of responsibility and he shall act accordingly as long as it does not conflict with law, public policy, and welfare.
Section 9. The chemical engineer shall make known to his client or employer all his other professional obligations, financial interests, or other considerations which might restrict or interfere with his meeting the legitimate expectations of his client or employer before undertaking an engagement.
Section 10. The chemical engineer shall not accept compensation, financial or otherwise form more than one client or employer who is in the same line of business or has conflicting interest with the others, without the consent of all parties; he shall not accept compensation directly or indirectly from parties dealing with his client or employer except with the consent of his client or employer.
Section 11. The chemical engineer shall present clearly the consequences or risk that will arise if his professional judgement or work, for which he is responsible, is overruled.
Section 12. The chemical engineer shall not hesitate to engage, or advise his client or employer to engage the services of other experts or specialists on problems on which his information or experience is inadequate.

Section 13. The chemical engineer shall regard as the property of his client or employer any plan, design, or other record which results from the use of information which is not common knowledge or public property, but which information is obtained from his client or employer.
Section 14. The chemical engineer shall exchange general information and experience with his fellow chemical engineers, contribute to the work of engineering societies and schools, and cooperate in such other endeavors as will enhance the effectiveness of the chemical engineering profession.
Section 15. The chemical engineer shall encourage and provide opportunity for the professional development or advancement of chemical engineers in his employ.
Section 16. The chemical engineer shall recognize the view that inadequate compensation for professional services ten toward inferior and unreliable work and shall not accept compensation beneath the generally accepted level of professional fee.
Section 17. The chemical engineer shall not compete with another engineer unfairly, such as reducing his usual professional charges for work after having been informed of the charges asked by others.
Section 18. The chemical engineer shall not injure or attempt to injure falsely or maliciously, directly or indirectly, the professional reputation, competence, capability, prospects, or practice of another professional.
Section 19. The chemical engineer shall endeavor at all times to give credit to those to whom credit is properly due.
Section 20. The chemical engineer shall not review the work of another chemical engineer for the same client or employer without the prior knowledge and consent of such engineer when the client or employer relation of such chemical engineer has already been terminated, prior notice is sufficient.
Section 21. The chemical engineer shall report any infraction of any rules of professional conduct to the Philippine Institute of Chemical Engineers (PICHE) for proper appraisal and shall be ready to testify, if necessary.
Section 22. This Code shall take effect after fifteen (15) days following its publication in the Official Gazette.

Polish Academy of Sciences Committee for Ethics in Science
Region: Eastern European Group
Country: Poland
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

The *Good Manners in Science* is available at
http://www.lms.lt/files/active/0/polish_goodmanners.pdf.

Qatar Chemical Company Ltd.
Region: Asia-Pacific Group
Country: Qatar
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.qchem.com.qa/internet/Pages/ethics.aspx.

Qatar Petroleum
Region: Asia-Pacific Group
Country: Qatar
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Qatar Petroleum Regulations Related to the Code of Ethics* is available at https://www.qp.com.qa/en/SupplyManagement/Tenders/SupplyManagmentFiles/code%20of%20ethics%20-%20english%5B2%5D.pdf.

Reliance Industries
Region: Asia-Pacific Group
Country: India
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at http://www.ril.com/getattachment/3724d19a-8a2b-4a6e-898a-a5c7f01aaf01/Code-of-Conduct.aspx.

Royal Society of Chemistry (Spain)
Region: Western Europe and Others Group
Country: Spain
Type of Organisation: Chemistry
Type of Document: Code of Conduct

The *Code of Conduct and Guidance on Professional Practice* is available at http://www.unav.es/cdb/ukrschcode.pdf.

Royal Society of Chemistry (UK)
Region: Western Europe and Others Group
Country: UK
Type of Organisation: Chemistry
Type of Document: Code of Conduct

The *Regulation of the profession and code of conduct* is available at http://www.rsc.org/images/code-of-conduct_tcm18-5101.pdf.

Royal Society of New Zealand Code of Professional Standards and Ethics
Region: Western Europe and Others Group
Country: New Zealand
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

The *Royal Society of New Zealand Code of Professional Standards and Ethics* is available at http://www.royalsociety.org.nz/organisation/about/code/.

Sabic
Region: Asia-Pacific Group
Country: Saudi Arabia
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Sabic Code of Ethics* is available at https://www.sabic.com/corporate/en/ourcompany/code-of-ethics/.

Sasol
Region: African Group
Country: South Africa
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Sasol Code of Ethics* is available at http://www.sasol.com/sustainability/ethics/sasol-code-ethics.

Science Council of Japan (SCJ)
Region: Asia-Pacific Group
Country: Japan
Type of Organisation: Science (including chemistry)
Type of Document: Code of Conduct

The *Code of Conduct for Scientists* is available at http://www.scj.go.jp/en/report/code.html.

Shell Code of Conduct
Region: Western Europe and Others Group
Country: Netherlands
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Shell Code of Conduct* is available at http://www.shell.com/global/aboutshell/who-we-are/our-values/code-of-conduct.html.

Shell Code of Ethics
Region: Western Europe and Others Group
Country: Netherlands
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.shell.com/global/aboutshell/who-we-are/our-values/code-of-ethics.html.

Showa Denko
Region: Asia-Pacific Group
Country: Japan
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct and Its Practical Guide* is available at http://www.sdk.co.jp/assets/files/english/about/corporate/SDK_Code%20of%20Conduct_e.pdf.

Sibur Holding Code of Conduct
Region: Eastern European Group
Country: Russia
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Corporate Conduct of OJSC «SIBUR Holding»* is available at http://investors.sibur.com/~/media/Files/S/Sibur-IR/corporate-documents/code-of-corporate-conduct.pdf.

Sibur Holding Code of Ethics
Region: Eastern European Group
Country: Russia
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Corporate Code of Ethics OJSC Sibur Holding* is available at http://investors.sibur.com/~/media/Files/S/Sibur-IR/corporate-documents/code-of-corporate-ethics.pdf.

Sinopec
Region: Asia-Pacific Group
Country: China
Type of Organisation: Chemical - Industry
Type of Document: Combined

The *Code of Business Conduct and Ethics* is available at http://www.sinopeccanada.com/en/documents/corp_gov_documents/code_conduct_2012.pdf.

SK Group
Region: Asia-Pacific Group
Country: South Korea
Type of Organisation: Chemical - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.sk.com/corporation/ethics.

SOCAR (The State Oil Company of the Azerbaijan Republic)
Region: Eastern European Group
Country: Azerbaijan
Type of Organisation: Chemical - Industry
Type of Document: Code of Conduct

The *Regulation On SOCAR Turkey Code Of Conduct* is available at http://www.socar.com.tr/store/img/common/SOCAR_Etik_K_Yonetmeligi_Eng.pdf.

Society of Chemical Industry (SCI)
Region: Western Europe and Others Group
Country: UK
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics for SCI Members* is available at http://www.soci.org/membership-and-networks/code-of-ethics.

Society of Environmental Toxicology and Chemistry (SETAC)
Region: Worldwide
Country: N/A
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The SETAC Code of Ethics is available at https://www.setac.org/?page=SETACEthics.

Solvay
Region: Western Europe and Others Group
Country: Belgium
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Code of Conduct* is available at http://www.solvay.com/en/binaries/CodeofConduct_EN-240556.pdf.

SQM (Sociedad Quimica y Minera S.A.)
Region: Group of Latin American and Caribbean Countries
Country: Chile
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://ir.sqm.com/English/investor-relation/corporate-governance/code-of-business-conduct/default.aspx.

Sumitomo Chemical
Region: Asia-Pacific Group
Country: Japan
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The Code of Conduct is available at http://www.sumitomo-chem.co.jp/english/csr/report/docs/er2002_e.pdf.

Sun Chemical
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.sunchemical.com/legal/code-of-ethics/.

Tata
Region: Asia-Pacific Group
Country: India
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Tata Code of Conduct* is available at http://www.tcs.com/SiteCollectionDocuments/About%20TCS/TCS_Associates_Code.pdf.

The American Society for Biochemistry and Molecular Biology (ASBMB)
Region: Western Europe and Others Group
Country: USA
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.asbmb.org/Page.aspx?id=70.

The Association for Clinical Biochemistry and Laboratory Medicine
Region: Western Europe and Others Group
Country: UK
Type of Organisation: Chemistry
Type of Document: Code of Conduct

THE CODE OF PROFESSIONAL CONDUCT OF THE ASSOCIATION FOR CLINICAL BIOCHEMISTRY AND LABORATORY MEDICINE

1 The Code of Conduct applies to all individual Members of the Association for Clinical Biochemistry and Laboratory Medicine, including Emeritus, Honorary, Fellow, Ordinary, Federation, Retired, Temporarily Retired and Student.

2 All Members having signed an application form agree to abide by the constitution and Bye-laws of the Association as currently in place and amended from time to time.

3 All Members agree that by being appropriately qualified and practising in the UK they are obliged to comply with the Code of Conduct established by their appropriate registration body; the Health and Care Professions Council (HCPC), the General Medical Council (GMC) or other body, where a registration body exists for that health professional.

4 Members agree to comply with the Code of Conduct of their employer.

5 Members agree that they have a duty to:

a Exercise their professional skills and judgement to the best of their ability and discharge their professional responsibilities with the highest standards of competence and integrity

b Conduct themselves honourably in the practice of their profession c Maintain good standards of laboratory and clinical practice

d Keep their knowledge and skills up to date and shall keep evidence of their continuing professional development to such standards as are required for audit

e Keep up to date with statutory Codes of Practice which affect their work

f Keep as confidential any information obtained during the course of their professional practice

g Respect patients' trust and not abuse their professional position to establish improper relationships with patients, to put pressure on patients to give or lend money or other benefits, to directly or indirectly recommend treatments or investigations which are not in their interests, withhold appropriate investigations treatments or referrals or put pressure on patients to accept private investigations or treatment

h Report concerns to employers or registration bodies where they believe that a doctor's or other colleague's health, conduct or performance is a threat to a patient

i Treat colleagues fairly and not make any patient doubt a colleague's ability, knowledge or skills by making unnecessary or inappropriate comments about them

j Work constructively within a team, respecting colleagues and communicating and co-operating with other health professionals and all others caring for patients

k Ensure that where work is delegated, colleagues are of suitable experience and competence to perform the tasks delegated to them and ensure that they are armed with sufficient information to provide a good standard of service

l Further the interests and objectives of the Association for Clinical Biochemistry and Laboratory Medicine but agree not to give the impression that they are acting or speaking for the Association unless they are authorised to do so

m Conduct all research with honesty and integrity, following all aspects of research protocol, only accepting payments approved by a research ethics committee, recording results truthfully and maintaining adequate records. Members agree to only make justified claims for authorship and to report evidence of fraud or misconduct in research to an appropriate person or authority.

6 Members agree that they will maintain professional standards at all times, keeping up to date with amendments to this Code of Conduct, the Associations Bye- laws and the Guidance/Regulations of their registration body.

7 This Code is not exhaustive and Members acknowledge that they will always be prepared to explain and justify their actions and decisions to the Association or their registration body if so required.

The Association of the Chemical Profession of Alberta
Region: Western Europe and Others Group
Country: Canada
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The Code of Ethics is available at http://www.pchem.ca/ethics.

The Bahrain Society of Engineers
Region: Asia-Pacific Group
Country: Bahrain
Type of Organisation: Engineering (including Chemical)
Type of Document: Code of Ethics

The *BSE Code of Ethics* is available at http://www.mohandis.org/en-US/Code_Of_Ethics.aspx.

The Chemical Society of Nigeria (CSN)
Region: African Group
Country: Nigeria
Type of Organisation: Chemistry
Type of Document: Code of Conduct

Chemistry and Global Sustainable Economic Development: Challenges and Opportunities for the Developing Nations" and observed as follows:

1. Chemistry remains central in the drive for global sustainable economic development globally as it plays major roles in food security (production of pesticides, storage, fertilizer, animal feed, etc.), development of renewable energy, pollution prevention/environmental protection and disease control among many other activities of man.

2. Various reports from the United Nations (UNCTAD and GATT) have indicated that above 33% of drug products in the developed countries are derived from higher plants; most of which are tropical plants growing in the equatorial countries like Nigeria
3. Even as plants and animals continue to play an essential role as sources of medicines in health care, greater demand and increased human population are leading to increased, unsustainable large-scale harvesting of medicinal plants and animal poaching in many parts developing countries, with some wild species already threatened with extinction. This puts practitioners of ethnomedicine (i.e. herbalists and other traditional healers) at a risk of extinction as well!
4. The world over, the chemical industry is one of the great movers of developed economies. Major products of the chemical industry (basic chemicals, specialty chemicals, consumer products, etc.) produced by different companies drive society. In Nigeria the main chemical industry is the Nigerian National Petroleum Company (NNPC), while others like UAC, Nasco Group, PZ Cussons, etc. depend a lot on chemicals as inputs for the consumer products they make.
5. With increase in awareness on the need for sustainable environmental protection, pollution prevention, safer industrial ecology and cleaner production technologies worldwide, there is heightened interest and almost a grand challenge to chemists to develop new products and processes that would satisfy society economically and still remain environment friendly. This is in the purview of Green Chemistry and emphasizes sustainability in the production of goods and services.
6. The emerging area of nanochemistry has potential applications in many industries and other areas of human endeavours, including, therapeutic drug delivery systems, diagnosis and sensing, environmental protection, water purification, etc.
7. Despite the importance of Chemistry in the overall development of any economy, its teaching and practice in Nigeria is grossly deficient and plagued by poor infrastructure.

Further to the foregoing observations, the Society realizes that:

a.) Sustainability necessitates a balance and harmony between our needs and wants and the preservation of a healthy environment and ecosystem.
b.) To that extent embracing 'sustainable chemistry' will maximize the use of resources efficiently through activities such as conservation of energy and non-renewable resources,

risk minimization, pollution prevention, minimization of waste at all stages of product life-cycle, with the development of products that are durable and can be reused and recycled.
c.) Significant progress has already been made in several key research areas such as biosynthesis, biocatalysis, photocatalysis, heterogeneous catalysis, design of safer chemicals and environmentally benign solvents, green corrosion inhibition and microwave assisted polymerization to reduce the environmental impact of chemicals.
d.) Chemists could apply their skills and develop synthetic technologies to tweak the structure of a natural product for the purposes of enhancing its potency or improving its selectivity and, physical and chemical properties. This approach will serve to preserve our biodiversity.
e.) The (chemical) industrial fortune of Nigeria can be boosted through massive investment in Chemistry and allied research and development.
f.) There is an urgent need for a critical look at the way Chemistry is presented and taught at all levels of education in Nigeria in order to make it more responsive to the challenges and opportunities for a developing economy.

The Conference, having examined these issues as related to its theme, recommends as follows:

i.) In recognition of the central role Chemistry plays in human life, government should address the relatively low profile of Chemists in our national life by creating greater participation of Chemistry professionals in various policy-making and implementation activities in the country, using capacity building through strategically directed investment in people, research and development for application towards achieving a developed economy on a sustainable basis.
ii.) Chemists in Nigeria should see self-employment (through manufacturing) as *the* desirable occupation for Chemistry to take its right place as the pivot for meeting the challenges of sustainable economic development in our nation so endowed with natural resources.
iii.) Government should review the legal and institutional framework of the Small and Medium Enterprises Investment Equity Scheme (SMEIES) with the view of removing requirements that challenge easy access by starters so as to encourage manufacturing.
iv.) The Chemical Society of Nigeria (CSN) and the Institute of Chartered Chemists of Nigeria (ICCON) should be encouraged (by way of substantial investment) to aggressively and strategically campaign for the adoption and application of the principles of *Green Chemistry* in our national techno-socioeconomic life.
v.) Government should urgently develop a National Policy on Chemistry Education to advance the cause of sustainable development in Nigeria.
vi.) Government should, as a matter of urgency, invest in aggressive research, human capacity development, and training and re-training in application of nanochemistry; seeing that this emergent area of chemistry has wide ranging applications, including combating the challenges of (breast) cancer and malaria in Nigeria.

In conclusion, the Chemical Society of Nigeria (CSN) pledges its loyalty to the Federal Government of Nigeria and offers its assistance to the government and the private sector in the implementation of the above recommendations.

1. The MDGs as contained in the UN Millenium Declaration in 2000 are human development indexed and relate generally to the well-being and welfare of our citizens

2. Chemistry is central to virtually all the MDGs; Chemists are therefore, key to the realization of these goals

3. To that extent there is an urgent need for a critical look at the way Chemistry is presented and taught at all levels of education in Nigeria, to make it more responsive to today's demands

4. Chemistry is an important vehicle for wealth creation and women empowerment, in light of their central role in bulk production of crops and agro-based food processing

5. Chemistry is playing a major role in unravelling the molecular basis of diseases, making it possible to design disease-specific drugs for therapeutic intervention

6. Chemistry is equally important in ensuring environmental protection and sustainability

7. There is yet to be established an ISO-compliant National Reference Laboratory where all categories of samples could be analyzed
.
8. The Report on the Environmental Assessment of Ogoniland, which is chemistry-based, is yet to be fully implemented.

The Conference, having examined the issues related to the Millennium Development Goals and the role Chemistry is playing and could further play, recommends as follows:

1. Government should, in recognition of the central role Chemistry plays in human life, develop a national policy and evolve a strategy to fund and manage research and development in all areas of Chemistry

2. Government as a matter of national priority should establis National Chemistry Resource Centres, across the country, for skills acquisition and hands-on training for young chemists; these Centres should also be charged with the additional mandate to continually review and manage how chemistry is presented and taught at all levels of education in Nigeria, in collaboration with the Institute of Chartered Chemists of Nigeria, ICCON

3. Government should, also as a matter of priority establish an ISO-compliant reference laboratory, to save the nation the embarrassment of having to go outside the

country to carry out analysis of samples in matters of critical national importance, as it was in the Zamfara lead-poisoning saga and the Ogoniland Environmental Assessment

4. Government is urged to, as a matter of extreme urgency, commence the implementation of the recommendations contained in the UNEP report on Environmental Assessment of Ogoniland presented to the Federal Government of Nigeria on the 4th August 2011, and seriously consider the CSN as an important stakeholder in the process

5. Government should provide tax incentives as a way of encouraging industries to increase their support for University fundamental and applied research in areas that urgently appeal to the MDGs.

Chemistry is the heart of science and science is the foundation on which technology is built.

2. Chemists must play a major role in the environmental consequences of chemical products and the processes by which these products are made.

3. Green Chemistry represents the pillars which holds up our sustainable future and focuses on maximizing the efficiency while minimizing the hazard of any chemical of choice and should be adopted in Nigeria.

4. Green Chemistry is an enabling science that will allow for economic and environmental progress in Nigeria

5. There is a need for the provision of information on latest technology and best practices in chemicals management.

6. There is a need for the establishment of an institutional framework and strengthening of National Capacity within an integrated National Programme for the sound management of chemicals.

7. There is a need for the implementation of the strategic approach for Green Chemistry in Nigeria by developing an appropriate policy and draft regulation for the use of environmentally friendly chemicals.

8. The Society encourages a holistic review of National policies on environment, science and technology to incorporate Green Chemistry and nanotechnology principles and issues.

The Society also realises that:

9. There is an impetus for the development and provision of sufficient alternative sources of energy for Nigerians. It is also important that the practice of Green Chemistry be incorporated in this drive so as to minimise and sustain the effect of hazardous chemicals on the environment.

10. For the effective implementation of this policy there should be a CSN/Government/Private Sector partnership to kick start the development of a roadmap for the effective takeoff of Green Chemistry in Nigeria.

11. To drive and popularise this new concept there is a need for aggressive human capacity development, training and re-training of today and future chemists and allied professions.

12. There is the need to encourage the establishment of Students Green Chemistry Clubs in our Secondary and Tertiary Institutions.

13. The educational curricular in our Secondary and Tertiary Institutions should be reviewed to incorporate Green Chemistry principles and issues.

14. There is a need for backup legislation at all levels of Governance for the implementation of Green Chemistry concepts in Nigeria.

15. The industrial fortune of Nigeria can be boosted through massive investment in Green Chemistry, biotechnology and nanotechnology research and development.

16. The Society applauds the effort of the Federal Government of Nigeria in the remarkable progress made so far in reducing e-wastes through the activation of the National Toxic Waste Dump programme which monitors the coastal areas and water ways of Nigeria to prevent illegal dumping of hazardous substances.

The conference, having examined the issues related to "Green Chemistry and Sustainable Development: Challenges and Prospects", resolves as follows:

1. Government should develop a national policy and evolve a strategy to fund and manage research and development in Green Chemistry.

2. Relevant professional bodies should adopt new approaches towards empowering and strengthening of links between industrial and academic research in the area of Green Chemistry.

3. Relevant Government Agencies and Industries should improve their support and funding for university research in Green Chemistry.

4. Human capacity development and training in Green Chemistry should be given urgent attention by sponsoring professionals for trainings and seminars.

5. Educators and administrators should ensure that Green Chemistry topics should be included in the curriculum at the basic, senior secondary and tertiary levels.

6. The relevant science, technology and environmental agencies such as Federal Ministry of Environment (FME), National Environmental Standards Regulation and Enforcement Agency (NESREA), Institute of Chartered Chemists of Nigeria (ICCON), etc should recognise the Chemical Society of Nigeria (CSN) in the Green Chemistry project.

After due considerations of all the issues relating to "Green Chemistry and Sustainable Development: Challenges and Prospects", the Chemical Society of Nigeria (CSN) recommends as follows:

1. Government should urgently develop a National Policy and enact an Act to ensure the incorporation of GreenChemistry practices to enhance Sustainable Development in Nigeria.

2. Government should invest substantially in "Green Chemistry" by the establishment of dedicated national laboratories and research institutes at regional/zonal levels.

3. The Chemical Society of Nigeria (CSN) and the Institute of Chartered Chemists of Nigeria (ICCON) should be encouraged to continue the campaign for the adoption of Green Chemistry application in Nigeria.

4. Government should provide tax incentives as a way of encouraging industries to increase their support for university fundamental research in the area of Green Chemistry and related applied sciences.

5. Government should encourage the growing of non-food, ethanol-based crops (cellulosic) for the production of biofuels.

6. The relevant government agencies should partner with the Chemical Society of Nigeria (CSN) in Human capacity development and training in Green Chemistry concepts.

In conclusion, the Chemical Society of Nigeria (CSN) pledges its loyalty to the Federal Government of Nigeria and offers its assistance to the government and the private sector in the implementation of the above recommendations

The European Register of Specialists in Clinical Chemistry and Laboratory Medicine
Region: Western Europe and Others Group
Country: N/A
Type of Organisation: Chemistry
Type of Document: Code of Conduct

The European Register of Specialists in Clinical Chemistry and Laboratory Medicine: Code of Conduct - Version 2 – 2008

EC4/EFCC Code of Conduct

General principles

EFCC is the European professional organisation representing Specialists in Clinical Chemistry and Laboratory Medicine, a profession determined by its high level of professional qualifications. The relevant national professional society in each of the EU Member States is represented within EFCC.

In all their work, Specialists in Clinical Chemistry and Laboratory Medicine shall conduct themselves in a manner that does not bring into disrepute the discipline and the profession of Clinical Chemistry and Laboratory Medicine. They shall value integrity, impartiality and respect for persons and evidence and shall seek to establish the highest standards of quality and ethics in their work. Because of their concern for valid evidence, they shall ensure that research is carried out in keeping with the highest standards of scientific integrity. Taking account of their obligations under the law, they shall hold the interest and welfare of patients and those in receipt of their services to be paramount at all times and ensure that the interests of participants in research are safeguarded.

All registrants, having signed an application form, agree to abide by this Code of Conduct. They are also obliged to comply with the Codes of Conduct of their appropriate national registration body and national societies, where appropriate.

Key principles

1. Quality and excellence

The Specialist in Clinical Chemistry and Laboratory Medicine shall put his* knowledge and ability concerning laboratory diagnostics (including the indication for analyses, the reliability of the results, the interpretation of results and scientific research) at the service of diagnosis, therapy and prevention of human and animal diseases. At all times he shall act in the best interests of patients, subject to any over-riding legal requirements, with the highest standards of competency and integrity.

2. Continuous professional development

In order to optimally fulfil his duties and in accordance with what is regarded as good practice in his profession and having regard to the laws of the country in which he is working, the Specialist in Clinical Chemistry and Laboratory Medicine shall:

a. maintain and develop his competence at the highest level of quality by following all relevant (scientific and practical) developments concerning health care in general and Clinical Chemistry and Laboratory Medicine in particular, by participating in relevant training courses and other appropriate continuous professional development programmes throughout his working life, and by practising his profession on a regular basis;

b. accept assignments only within his area of competence; beyond this limit, he will seek the collaboration of appropriate experts;

c. keep up-to-date with statutory codes of practice which affect his work.

The Specialist in Clinical Chemistry and Laboratory Medicine will display his commitment to the profession of Clinical Chemistry and Laboratory Medicine by taking part in the activities of its scientific societies, notably those which promote the profession, and contribute to continuing training of their members.

3. Compliance with codes of ethics and conduct

The Specialist in Clinical Chemistry and Laboratory Medicine shall comply not only with the provisions of this Code of Conduct but also with legislation and with any codes of practice and standards relating to his professional work which are applicable in the country in which he is working.

4. Honesty and integrity

The professional integrity and intellectual honesty of the Specialist in Clinical Chemistry and Laboratory Medicine shall be the guarantee of his impartiality of analysis, judgment and consequent decisions.

The Specialist in Clinical Chemistry and Laboratory Medicine shall at all times avoid deceit in professional and scientific respect, such as fraud, plagiarism, concealment, improper omission of information, and expressing incorrect or misleading opinions in both clinical work and in research.

The Specialist in Clinical Chemistry and Laboratory Medicine will not accept any obligation that brings him into conflict with his professional independence. In particular he undertakes:

a. not to solicit for, or accept, gifts, pecuniary advantages or benefits from the medical product or diagnostics industry, unless they are of low monetary value and relevant to the practice of Clinical Chemistry and Laboratory Medicine;

b. not to solicit for, or accept, hospitality at sales promotions, symposia or congresses and the like unless this hospitality is reasonable in level and secondary to the main purpose of the meeting and does not extend to persons other than health professional;

c. not to accept financial support from the industry, directly or indirectly, other than for events for purely professional and scientific purposes; such gifts must always be reasonable in level and remain subordinate to the main scientific objective of the event and must not be extended to persons other than health professionals.

5. Relationship with others

The Specialist in Clinical Chemistry and Laboratory Medicine shall at all times act with courtesy, honest and integrity in his relationships with patients and others, including professional colleagues, and must not engage in any activity or behaviour which would bring the profession into disrepute or undermine public confidence in the profession.

He must work constructively within a team, and communicate and co-operate with other health professionals and others caring for patients.

He must not abuse his professional position to establish improper relationships with patients, to persuade patients to give or lend money or benefits, to recommend treatments or investigations which are not in the patient's best interests, or to withhold investigations or treatments.

He must report concerns to employers or regulatory bodies where he believes a colleague's health, conduct or performance is a threat to a patient.

6. Independence and impartiality

The Specialist in Clinical Chemistry and Laboratory Medicine must exercise his professional judgment within the framework of his responsibilities impartially and objectively, after taking into account all relevant circumstances, in the best interests of his patient without pressure from external sources or conflicts of interest. He will ensure that the interests of participants in research are safeguarded and are paramount.

The Specialist in Clinical Chemistry and Laboratory Medicine will serve the individual patient to the best of his ability and provide the general public with such information, within in his field of competence, to enable a proper understanding of health care matters of public interest.

8. Confidentiality

Without prejudice to legislation on privacy applicable in the country where he is working, the Specialist in Clinical Chemistry and Laboratory Medicine will consider himself bound to respect the confidentiality of information obtained by him in his professional work. The Specialist in Clinical Chemistry and Laboratory Medicine will be on his guard against misuse of such information. He will ensure that information about a patient or other individual is not disclosed to others except in specified circumstances, such as to other health professionals involved in the care of the patient, and, where possible, with the informed consent of the patient.

9. Conflict with moral and ethical beliefs

The Specialist in Clinical Chemistry and Laboratory Medicine is not obliged to offer to provide a professional service in ways which conflict with his own moral or religious beliefs, but must respect the moral, religious and cultural beliefs of individual patients. He has an obligation to provide information on where the service requested can most conveniently be obtained from a professional colleague, or details of the institution or professional organisation from which that information can be obtained. If he has agreed to provide a

service, he must set aside any personal religious, cultural, philosophical or other convictions. He must ensure equitable access to his services to all who are entitled to use them.

10. Delegation and supervision

. As head and/or member of the team operating in the Clinical Chemistry and Laboratory Medicine laboratory, the Specialist in Clinical Chemistry and Laboratory Medicine will, given the specific circumstances of the situation concerned:

a. obtain a clear definition of the services required of him and/or his team;

b. ensure that all activities in the laboratory are organised and executed as accurately and as quickly as possible;

c. protect the safety and well-being of his colleagues and be conscious of nature and the environment;

d. show respect for superiors, colleagues and subordinates by taking due account of their requirements and aspirations, provided they conform to the laws and ethics of their profession;

e. strive for a high level of technical achievement which will also contribute to and promote a healthy and agreeable environment for his colleagues;

f. ensure that any member of support staff to whom a task is delegated has the knowledge, skills and competencies necessary to undertake that task effectively and efficiently, and that appropriate supervision is in place;

g. retain responsibility for the task delegated, except when the delegatee is at the same level of professional qualification.

11. Professional indemnity insurance

The Specialist in Clinical Chemistry and Laboratory Medicine should have in place a form of insurance in respect of potential liabilities to patients and, where applicable, to third parties arising out of his professional work. This should be at a level sufficient to ensure that a justified complainant would be adequately compensated. Such insurance may be provided through a national arrangement for services provided by the state, by an employer, through membership of a professional association or by the individual practitioner. Exceptionally, and by formal prior arrangement, the risk may be borne by the recipient of the service, in Member States where legislation permits such an arrangement. The patient should be made aware of these arrangements.

12. Advertising

Specialists in Clinical Chemistry and Laboratory Medicine practise in both the public and private health sectors and the relative distribution between the two varies considerably between the Member States. In Member States where advertising of a Specialist's services is permitted, any such advertising must be accurate, honest, legal, decent and proportionate, and must focus solely on the professional services offered. It must also conform to any national or EU legislation and guidelines in this area.

Sanctions

Should a Specialist in Clinical Chemistry and Laboratory Medicine not keep to a part of this Code of Conduct, his national regulatory body (where applicable) and his national society will be responsible for determining culpability and sanctions. However, if a registrant is subject to disciplinary sanction (eg. suspension, removal) from their national register, EC4 will apply the same sanction to the individual in relation to the EC4 Register.

Transparency

The national professional societies are listed, with links, on the EC4 Register website (8) where there are also links to this Code of Conduct and other documents. There are also links to the documents from the website of the European Economic and Social Committee/Single Market Observatory Self- and Co-regulation Database (9). Public access to the names held by the national regulatory bodies is available in some countries. At present public access to the names of registrants on the EC4 Register is not available but may be in the future. However this will require consent from each individual.

*Throughout this document he/his are taken for he/she and his/her respectively

The Hague Ethical Guidelines
Region: Worldwide
Country: N/A
Type of Organisation: Chemistry
Type of Document: Code of Ethics

Applying the norms of the practice of chemistry to support the Chemical Weapons Convention

The responsible practice of chemistry improves the quality of life of humankind and the environment. Through their many peaceful uses, such as in research and industry, chemicals play an essential role in this improvement. However, some chemicals can also be used as chemical weapons or to create them, and these weapons are among the most horrific in the world.

The 1993 Chemical Weapons Convention (CWC) embodies the powerful international norm against chemical weapons, requiring its States Parties *"never under any circumstances: (a) To develop, produce, otherwise acquire, stockpile or retain chemical weapons, or transfer, directly or indirectly, chemical weapons to anyone; (b) To use chemical weapons; (c) To engage in any military preparations to use chemical weapons; (d) To assist, encourage or induce, in any way, anyone to engage in any activity prohibited to a State Party under this Convention."* The task of destroying the world's declared stockpiles of chemical weapons is close to completion, but the threats that the use of chemicals as weapons pose to global security have not yet been eliminated.

As destruction of the remaining chemical weapons continues, a concerted effort is needed to prevent their re-emergence. This includes training and raising awareness among chemistry practitioners, defined as anyone trained in chemistry as well as others dealing with or handling chemicals. Their support is needed so that production and use of chemicals is accompanied by recognition of the responsibility to ensure that they are applied solely for peaceful and beneficial purposes. Fortunately, ethical standards established by the global chemistry community already provide a foundation. Building on that foundation, a group of experts from 24 countries from all regions of the world convened to define and harmonize key elements of ethical guidelines as they relate to chemical weapons based on existing codes.[2]

Such codes are primary ways through which the community's ethical standards are addressed. The key elements presented in this text should be incorporated into new and existing codes in order to align with the provisions of the CWC. A code need not mention chemical weapons or the CWC to support its basic goals, and provisions may need to be tailored for particular sectors or circumstances, while still reflecting the fundamental values. Taken together, "The Hague Ethical Guidelines" provide the key elements that should be applied universally.

[2] "Code" is used as a general term and includes the full range of such documents, from aspirational statements such as the Hippocratic Oath to codes that are enforceable, for example as part of a practitioner's terms of employment.

The Key Elements

Core element. Achievements in the field of chemistry should be used to benefit humankind and protect the environment.

Sustainability. Chemistry practitioners have a special responsibility for promoting and achieving the UN Sustainable Development Goals of meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Education. Formal and informal educational providers, enterprise, industry and civil society should cooperate to equip anybody working in chemistry and others with the necessary knowledge and tools to take responsibility for the benefit of humankind, the protection of the environment and to ensure relevant and meaningful engagement with the general public.

Awareness and engagement. Teachers, chemistry practitioners, and policymakers should be aware of the multiple uses of chemicals, specifically their use as chemical weapons or their precursors. They should promote the peaceful applications of chemicals and work to prevent any misuse of chemicals, scientific knowledge, tools and technologies, and any harmful or unethical developments in research and innovation. They should disseminate relevant information about national and international laws, regulations, policies and practices.

Ethics. To adequately respond to societal challenges, education, research and innovation must respect fundamental rights and apply the highest ethical standards. Ethics should be perceived as a way of ensuring high quality results in science.

Safety and Security. Chemistry practitioners should promote the beneficial applications, uses, and development of science and technology while encouraging and maintaining a strong culture of safety, health, and security.

Accountability. Chemistry practitioners have a responsibility to ensure that chemicals, equipment and facilities are protected against theft and diversion and are not used for illegal, harmful or destructive purposes. These persons should be aware of applicable laws and regulations governing the manufacture and use of chemicals, and they should report any misuse of chemicals, scientific knowledge, equipment and facilities to the relevant authorities.

Oversight. Chemistry practitioners who supervise others have the additional responsibility to ensure that chemicals, equipment and facilities are not used by those persons for illegal, harmful or destructive purposes.

Exchange of information. Chemistry practitioners should promote the exchange of scientific and technical information relating to the development and application of chemistry for peaceful purposes.

Endorsed by

Professor Muhamad Abdulkadir (Indonesia)
Professor Jasim Uddin Ahmad (Bangladesh)
Professor Abeer Al-Bawab (Jordan)
Professor Fernando Albericio Palomera (Spain)
Professor Jan Apotheker (The Netherlands)
Professor Mahdi Balali-Mood (Islamic Republic of Iran)
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Dr Philip Coleman (South Africa)
Professor Dr Hartmut Frank (Germany)
Professor David Gonzalez (Uruguay)
Professor Alastair Hay (United Kingdom of Great Britain and Northern Ireland)
Mr Steven Hill (United States of America)
Professor Dr Henning Hopf (Germany)
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Professor Mohd Jamil Maah (Malaysia)
Dr Detlef Maennig (Germany)
Professor Peter Mahaffy (Canada)
Dr Robert Mathews (Australia)
Professor Temechegn Engida (Ethiopia)
Dr Kabrena Rodda (United States of America)
Dr Ting Kueh Soon (Malaysia)
Professor Alejandra Graciela Suarez (Argentina)
Professor Leiv K. Sydnes (Norway)
Mr Cheng Tang (China)
Professor Natalia P. Tarasova (Russian Federation)
Dr Christopher Timperley (United Kingdom of Great Britain and Northern Ireland)
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Dr Prashant Yajnik (India)
Dr Muhammad Zafar-Uz-Zaman (Pakistan)
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Mr Muhammad Setyabudhi Zuber (Indonesia)

More information on The Hague Ethical Guidelines is available at https://www.opcw.org/special-sections/science-technology/the-hague-ethical-guidelines/.

The Hungarian Academy of Sciences
Region: Eastern European Group
Country: Hungary
Type of Organisation: Science (including chemistry)
Type of Document: Code of Conduct

CODE OF CONDUCT
OF THE
HUNGARIAN ACADEMY OF
SCIENCES

2. Fundamental moral and ethical principles of scientific research3

The most important moral rules of scientific research that scientific researchers should consider obligatory for themselves and which they must stand for can be described by the following concepts:

2.1. Honesty in presenting scientific goals and research intentions, a precise presentation of scientific methods, procedures and interpretations, and honesty also in explaining possibilities, dangers and justifiable claims inherent in the possible application of results.

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3 The Anglo-Saxon literature often uses the expression „scientific integrity". As the translation of science integrity is not a generally accepted term in the Hungarian language, we only use it sparsely in this document.

2.2. Reliability in performing research, recording, storing and presenting data. Eliminating negligence and inattention. Full reporting on the accomplishments and results of previous research.

2.3. Objectivity: interpretations and conclusions must be exclusively founded on facts or impartial and logical proof and on data the correctness of which can be verified at least on a theoretical level.

2.4. Impartiality and independence from any interested party or group interest, from ideological or political pressure groups, and from economic or financial influence.

2.5. Openness in discussing the results with other researchers and contributing to the augmenting of public knowledge through the publication of results. Openness presupposes the publicity and accessibility of the data supporting the results published in the scientific communication for all interested researchers

and the general public. In reasonable cases this fundamental principle may be restricted by special considerations arising from the nature of research (intellectual property rights, protection of personality rights etc.). Openness is also restricted during ongoing research.

2.6. Duty of care for participants in and the subjects of research, be they human beings, experimental animals, the environment, or cultural objects. Research on human subjects and animals should always rest on respect and duty of care, procedures mostly stipulated in laws as well..

2.7. Candour in presenting the work of others and providing references. The professional integrity of re-

searcher colleagues shall be respected, their results treated with honesty.

2.8. Responsibility for future science generations. The control and education of young scientists requires special attention and the mediation and increased respect of ethical norms.

2.9. Disinterested and impartial participation in scientific public life: in reviewing procedures and in the work of scientific bodies and committees.

3. Performing scientific research

3.1. Planning the research programme

3.1.1. Defining the goals of research

The validity of the principle of freedom of scientific research shall not mean that the planning of the particular research programme has no limits. Such restrictions may arise especially in the case of questionable research goals and methods, or indeed if the research planned may endanger or injure the individual, society, or the environment.

3.1.2. Morality and quality of research

The morality and quality of research presupposes self-critical and ethical judgment on the part of both the researcher and the scientific public. It is especially important that unrealistic goals should not be conceived of as research topics, and the researcher should not arouse unfounded expectations. It is necessary to ponder the originality of the problem arising, the preliminary data, the necessary finances and other circumstances. The research should not be determined

by an effort to produce fast results or the largest possible number of publications.

3.1.3. Documentation of the research plan

The research plan shall be recorded in a form stipulated by the financer of the research. Generally, the research plan includes who is responsible for the research programme, what is the role of the participants, what is the form and resource of the financing of the research, and how data and experimental observations shall be processed.

3.1.4. Clarification and recording of incompatibility

Supporters of the research and external financers shall accept that the researcher performs his or her work without being influenced. However, if by any special reason the research is influenced, it must be clearly stated under what circumstances and to which extent this is occurring whether during planning, performing, or in the course of the reviewing and publishing of data. Such agreements shall be preliminarily concluded in writing and made available for the management or ethics committee of the respective institute or organisation. The persons participating in the research programme shall clarify to competent authorities and those entitled to such clarification their financial or other commitments, in case this may in any form constitute incompatibility during the research. Personal interest or partiality must not influence the research, its objectivity, findings, or publication.

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3.1.5. Considering patents

In cases where the possibility or consideration of patent application arises, necessary rights and obligations shall be clarified in time, in an agreement concluded between participating persons and institutes and the supporters of the research, preferably in a written form.

3.2. Fulfilment of the research programme

3.2.1. Documentation of data and other research materials

In the case of sciences performing experiments and observations, - data shall be accurately documented so that the research can be controlled. Data and other documentation materials produced during the research, both those contained in electronic data storage

devices and hard copies shall be stored in a way that the damage, loss or manipulation thereof cannot occur. In case loss of data occurs, it must be documented separately.

Following the closure of the research programme the programme leader must see that after the completion of the programme the data and documentation materials are stored for a time commonly accepted in his/her respective area of science and their protection and preservation is secured.

3.2.2. Handover of the information relating to the research programme

Within the research working group the free circulation of information relating to the research shall be ensured. During the execution of the research prog -

ramme all participants shall be aware of what can be revealed on the research to persons outside the research.

Following the accomplishment of the research programme, data and other documentation materials necessary for the data to be controllable or repeatable or for the programme to be continued must be made available for such purposes.

4. Communication of scientific results

The primary forum the researcher reports on his or her results and publishes them shall be a scientific communication (publication) with the form accepted in the respective area of science and produced on the basis of independent professional review procedure.

4.1. Scientific publications

A scientific communication must be published in a recognised periodical or book in printing or electronically and having an independent editorial committee.

Prior to the publication, the scientific result may be placed in an internationally known archive, but this cannot be deemed a scientific communication. Indicating a non-scientific work (informative article, communication not published in a professional issue, educational excerpt etc.) as scientific communication constitutes an ethical misconduct.

4.2. Entirety and impartiality

Results shall be published impartially and in their entirety. In the communication the description of methods applied in experiments and examinations,

and their proper literature references shall be given, the fault of the experimental data and the limits of applied methods shall also be communicated. In the communication attention shall be called to the dangers occurring during the experiments. Arbitrary selection of data cannot be tolerated and results not in accordance with the conclusions cannot be withheld.

4.3. Proper quotation

The quotation of the widest possible range of substantial precedents of the research and the possible all-inclusive quotation of scientific publications containing disputed questions must be attempted. If one expropriates others' ideas, methods or data to him- or herself through incomplete quotation, he or she commits an ethical misconduct.

4.4. Author of the communication

4.4.1.

The person who, due to his or her scientific work, has given an important contribution to the planning or accomplishment of experiments, the evaluation and control of results shall be indicated as author. A position held in the institution or institute, or a role played in the financing of the research shall in itself not entitle anyone to pose as the author of the publication. Nor can honorary authorship be allowed.

4.4.2.

In the case of several authors and the presentation of the results of substantially differing experimental processes the particular contributions of the individual authors must be made obvious.

4.4.3.

The indication corresponding author may only be used by the consent of the other authors. Only those who have played a decisive or co-ordinating role in the communication may be indicated as such.

4.4.4.

It is not proper practice to communicate a particular experimental result in several separate publications for the purpose of augmenting the number of articles published by the researcher. Cases where the original article was written in a foreign language shall be excepted. In such cases, while in full deference to copyrights,

publication of the Hungarian language version is desirable for the purpose of the availability of the research results to wider Hungarian professional circles and for the care of an Hungarian scientific-professional language terminology. The practice of after-publication accepted in certain professional areas may also be an exception.

4.5. Correction

In case during the research work it emerges that someone's own data or conclusion published previously are faulty or wrong, the authors shall publish this fact without delay, preferably in the periodical that had carried the original article in the first instance. In the case of a publication of several authors the initi - ation of the correction is the obligation of the first author. During a correction, especially when indicating the name of the authors it must be avoided that anyone is unreasonably accused with scientific ethical misconduct. In case the correcting communication

does not indicate any of the authors of the original communication, the reason must be explained.

5. Infringement of scientific ethics

5.1. Grievous forms of infringement of research ethical norms

The most grievous forms of the infringement of scientific ethics are fabrication, falsification, plagiarism, and bringing personal influence to bear. These offences are very close to violations of the law and it can only be decided while considering the particular offence whether it reaches beyond ethical misconduct and hence must be treated as a violation of law.

5.1.1.

Fabrication is the publication of "results" without any base.

5.1.2.

Falsification is the manipulation, alteration, or deliberate neglect of data or results. Publication of falsified data also qualifies as an ethical misconduct.

5.1.3.

Plagiarism is the takeover of ideas, scientific results, words, texts of others and indicating them as one's own. Among grievous offences plagiarism can be caught out most easily. Namely, scientific communications

and new ideas and illustrative materials occurring therein are protected by copyright enforceable in court. However, this protection is not all-inclusive, all the above can become the subjects of plagiarism without a violation of law being clear. In such cases ethical
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rules can serve as a basis of orientation and provide protection for the author.

Plagiarism is first of all derogatory for the researcher and not so much for science itself. However, openness is one of the ethical fundamental principles of scientific research, according to which the development of science is based on the open communication and debate among scientists. Should scientists seclude themselves from such communication, being afraid of not being recognised as discoverers, this will spoil even the science itself.

It is an aggravated case of plagiarism when the editor or reviewer of the publication expropriates new thoughts or experimental results of an article submitted for publication, even indirectly, among others by its handover to a third party.

5.1.4.

Bringing personal influence to bear usually offends the dignity of persons, an offence that can easily turn into injury. It can aim at the acquisition of a position favourable to the person bringing his/her influence to bear, but also at the making of a decision unfavourable to a third party. Asking for consideration or any kind of bargain may also occur. Intimidation of the persons depending on the researcher, unjustified restriction of the freedom of research and any form of discrimination also belong to this category. The ethical misconduct of personal influence may be, subject to the circumstances, qualified as a criminal act akin to blackmail or defamation.

Further, toleration or neglect of the infringement of the abovementioned ethical rules under external
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duress and the threat of reprisal against the whistleblower shall also be qualified as personal influence.

This circle also involves the attempt of raising the number of references through personal pressure.

Hungarian scientific public opinion strongly condemns

misconducts of personal influence, including favouritism in kind, and prohibits them in normative regulations.

5.2. Other morally objectionable forms of behaviour and practice

Beside grievous ethical misconducts, numerous morally objectionable forms of behaviour and research practices are also worth considering. These can also undermine people's trust in science. Hereinafter, without striving for completeness, the following can be stressed:

5.2.1. Infringement of social consensus or the laws

In this context research activity harmful to the environment can be mentioned as an example. The violation of effective laws and other legal regulations regarding research (e.g. those relating to examinations carried out on human beings or animal tests) is ethically unacceptable.

5.2.2. Infringement of personality rights

Here one can mention the violation of dignity and freedom of persons involved in scientific examination as experimental objects, the omission of information on experimental risks, imperfect information, or the breach of secrecy.

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5.2.3. Inappropriate management of data

Denial of handover of data to other researchers causing failure of the reconstruction of experi mental results can be mentioned here. Improper storage of original data, alteration of data, neglecting data disturbing the outcome desired, distortion of data, and ignoring unexpected results can also be reckoned with here.

5.2.4. Misconducts regarding publication

It is an ethical misconduct to deny deserved authorship, insist on or grant undeserved authorships, and in general to indicate merits relating to authorship in a false way. A misconduct of this kind is a form of falsification.

In the field of the natural sciences during the publication of results (discoveries) a clear requirement is the exclusion of multiple publications, while in the case of the social sciences clear indication of after-publication is required.

Incomplete indication of the supporters of the research

is also objectionable.

5.2.5. Misconducts regarding proofreading, publishing, and critical procedures

On the part of proofreaders of scientific communications and editors of publications the toleration of incompatibility in the critical procedure shall be regarded as an ethical misconduct. Both on the part of the editor and the reviewer it shall be an ethical misconduct to give preference to certain authors during the publishing procedure or conversely, to hinder the publication of an article for personal reasons. In the

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same way, fundamental ethical principles may be infringed during the consideration of research tenders.

5.2.6. Publication of false or deceptive data relating to scientific work, publications, or awards

It shall qualify as an ethical misconduct if someone publishes false or deceptive data regarding his or her scientific work, or in relation to the science metric data relating to his or her publications, research, scientific awards.

The evaluation of the above behavioural and research practices can at least partially depend on the given cultural environment, local traditions, or the local legal system. It is desirable to formulate and continuously evaluate the norms in accordance with the local, in this case Hungarian, cultural traditions, values and public opinion drawing on the support of the international literature and the experiences obtained from cases considered by ethics committees.

6. Procedure in the case of suspected infringements of ethical rules

6.1. The body carrying out the ethical examination

In the case of a suspicion of misconduct infringing scientific ethical standards starting and carrying out the procedure shall always be the obligation of the institution (university, research or other institution), where the researcher suspected of committing such misconduct is working. Ethical misconducts occurring during the doctoral procedure of HAS shall constitute

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an exception, as the investigation thereof and the conducting of the relating ethical procedure shall be conducted by the Science Ethics Committee of HAS.

As stipulated in paragraph 1, the Science Ethics Committee of HAS may also proceed in other particular cases provided both the demandant and the respondent undertake in writing to subject themselves to the procedure. A public body member of HAS, applying for the title Doctor of HAS and contributing to the corresponding doctoral procedure in any form shall be obliged to subject him- or herself to the procedure by all means. In the case of decisions of the Science Ethics Committee adopted at the first instance, the Presidency of the HAS shall act as the forum of appeal.

It is desirable for the institutions conducting ethical procedures to have an ethics committee for the conducting of their investigations, or in the absence thereof to set up ad hoc committees in the case of a suspicion of ethical misconduct.

6.2. Fundamental principles of an ethical investigation

6.2.1. Ascertaining the seriousness of the misconduct

In case of an ethical misconduct the proper steps shall depend on the seriousness of the act. In this respect the level of demonstrable deliberateness and the weight of consequences shall be considered. Any person subject to the investigation can only be reprimanded in case it can be demonstrated that he or she committed the ethical misconduct deliberately and knowingly.

As a standard of considering evidence the principle of "strong body of evidences" shall be applied.

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6.2.2. Ensuring the internal integrity and legal regularity of the procedure

The investigation conducted shall be fully comprehensive, regulated, and balanced; it shall be based on exact exploration, objectivity, and completeness.

It shall be ensured that the persons participating in the investigation process are not affected or involved and cannot be accused with partiality.

Detailed, written and duly signed documents handled with confidence shall be prepared of the procedure.

6.2.3. Uniformity

Procedures shall in all cases be conducted in a way comparable to one another, according to the same principles and practices and shall be transparent in their every detail.

6.2.4. Balance

The investigation shall be carried out in full respect of the valid interests of all parties concerned and be in line with the relevant laws and regulations.

Persons accused of ethical misconduct shall be given full details of the ethical misconduct attributed to them and given the possibility for responding to allegations in writing, asking questions, presenting evidence, calling witnesses, and providing responses to the information presented.

Witnesses shall have the necessary information on the procedure, and they must be allowed to seek advice and assistance if they so wish.

Persons found to have committed a research misconduct shall be sanctioned proportionately.

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Decisions made shall be subject to appeal and there shall be a body or person receiving the appeal.

No person shall suffer any damage or penalty for making an allegation of ethical misconduct, but action shall be taken against persons found to have made allegations in bad faith.

6.2.5. Closeness of the management of the procedure and the information handled

The procedure shall be conducted as confidentially as possible in order to protect those involved in the investigation from unfounded accusations. Such confidentiality shall be maintained provided this does not harm the completeness of investigation, or the health and safety of participants in research.

Information arising during the investigation may only be handed over to a third party with a written statement of confidentiality.

If the organisation conducting the investigation has legal obligations to inform any other organisation regarding the content or findings of the investigation, those obligations must be fulfilled at the appropriate time by the appropriate means.

6.2.6. Presumption of innocence

Persons accused of having committed an ethical misconduct shall be presumed innocent until proven guilty.

No person should suffer any penalty until the alleg - ation of his or her having committed an ethical misconduct is fully proven.

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6.2.7. Publicity of the resolution of the Science Ethics Committee
The fact of a researcher having committed an ethic misconduct shall be made public. The resolutions are basically public, deviation is possible in case the publication infringes the personality rights of a person not reprimanded.
In its resolution the Science Ethics Committee makes a proposal for the form its stand should become public.
6.2.8. Sanctioning ethical misconduct
In the case of an ethical misconduct the proper measures and sanctions depend on the seriousness of the act. Following the ascertaining of the misconduct and beyond the publication thereof, the Science Ethics Committee, if it deems it necessary, informs the institution or organisation of the offender on the misconduct separately.
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PROCEDURES OF THE SCIENCE ETHICS COMMITTEE OF THE HUNGARIAN ACADEMY OF SCIENCES
1. Legal Status of the Science Ethics Committee
The Science Ethics Committee (SEC) of the Hungarian Academy of Sciences (HAS) is, according to point h) of paragraph (2) of article 9 of the Act XL of 1994 on the Hungarian Academy of Sciences (HASL) and paragraph (2) of article 32 of the Statutes (STAT) is a standing committee of the General Assembly of HAS, the members of which are elected by the General Assembly.
SEC shall fulfil its role independently, in exclusive subordination to the General Assembly and on the basis of the relevant effective laws, further it shall report on its activity to the General Assembly annually.
2. Scope of duties and competence of SEC
The duties of SEC are determined by the HASL, the STAT, the Procedures of HAS, the Code of Conduct (Code) and Memorandum (hereinafter collectively referred to as: Code of Conduct). (par. (13) of art. 24 of STAT)
2.1. SEC

2.1.1. takes a stand on the protection of the freedom of scientific research and the integrity of scientific public life in principal questions of science ethics (point g) of par. (1) of art. 3 of HASL., par (1) of art. 32 of STAT)
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The document was accepted by the members of the Presidency with their resolution No. 50/2010. X. 26..
2.1.2. upon request, it proceeds in all cases that endanger the ethical principles of scientific research, or whenever the suspicion of science ethic misconduct arises; (par. (2) of art. 32 of STAT and Memorandum)
2.1.3. examines petitions submitted on ethical misconduct occurring during doctoral procedures; (point 6.1. of Code)
2.1.4. based on the motion of the scientific section of HAS in charge of the particular field of science it makes decisions on the suspension of public body membership; (par. (2) of art. 21 of STAT)
2.1.5. proceeds at first instance in the cases determined in points 2.1.2-2.1.4, and also at second instance as an appellate forum upon request in case of decisions adopted by the science ethic committees of research institutes, higher education and other institutions and organiz ations; (Memorandum)
2.1.6. may, for the utilization of the experiences acquired during its proceeding, make a proposal for the amendment of the Code of Conduct towards the General Assembly; (Memorandum)
2.1.7. reports on its activity yearly to the General Assembly. (par. (9) of art. 27 of STAT)
2.2. The competence of SEC shall cover:
2.2.1. the public body members of HAS, the procedure for obtaining the scientific title Doctor of HAS and all persons participating therein, and the scientific researchers mentioned in point 1 of the Code of Conduct of HAS; (point 1 of Code)
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2.2.2. the science ethic cases in which both the demandant and the respondent announce in writing that they subject themselves to the procedure. (par. (3) of art. 32 of STAT, point 6.1. of Code) In the case of those listed under point 2.2.1 the conducting of the procedure does not need a statement of subjection from either the demandant or the respondent.

3. Members and officers of SEC
3.1. SEC has twenty-two members elected by the General Assembly in a secret ballot for 3 years (one academic period). The members may be elected for an additional academic period at the longest. The members of the Science Ethics Committee are nominated by the scientific sections of HAS, one person per section of the full and corresponding members of the Academy and one person from among doctor members of the public body. In case a member of the committee is permanently hampered (for a period exceeding 6 months) in the fulfilment of his/her committee duties, or his or her membership ceases for any reason, on base of the nomination from the section concerned the Nominating Committee makes a proposal to the General Assembly for the election of a new member. (point h) of par. (2) of art. 9 of HASL and par. (2) of art. 32 of STAT)
3.2. The President of HAS shall provide for the calling of the first sitting of SEC following its election. The members of SEC shall elect the chairperson chairing the first sitting and the president of SEC out of their own circle. It is the duty of the chairperson to conduct the election of a president. Prior to the election of a
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president any member of the committee can make a proposal on the person of the president. The chairperson can also be elected to serve as president of SEC.
The member of SEC who has been president of SEC for only one period can be elected for a second period. par. (6) of art. 27 of STAT)
3.3. The committee elects the president of SEC with a simple majority secret ballot. With the election of the president of SEC the duty of the chairperson shall cease. The mandate of the president of SEC shall last for the period of the mandate of SEC. The work of SEC is governed by the president of the committee. In case the president is permanently hampered (for a period exceeding 6 months) in the fulfilment of his/her committee duties, or his or her committee membership ceases for any reason, SEC shall elect a new president (point d) of par. (1) of art. 58. of STAT)
3.4. The secretariat duties of SEC shall be fulfilled by the Legal and Administrative Department of the HAS Secretariat. The secretary of SEC is a lawyer nominated

from among the civil servants of the department by the head of department and charged with the fulfilment of the duty by the president of SEC. The secretary shall be mandated with the handover of a written, filed letter of commission. The president of SEC may cease the mandate of the secretary and call the head of department upon the nomination of a new secretary. The secretary participates at the sittings of SEC with consultation right but with no right of vote.

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4. Operation of SEC

4.1. SEC proceeds as a body and exercises its competences at the committee sitting, its members have voting rights. It formulates a position, or it may do so in cases or in relation to activities determined in points 2.1.1, 2.1.6 and 2.1.7 and it adopts a resolution in cases determined in points 2.1.2, 2.1.3, 2.1.4 and 2.1.5.

4.2. Voting on the position or resolution (hereinafter collectively referred to as: decision) of the committee can only be executed personally. An absent member can only submit an opinion or proposal in writing (electronically, via e-mail, facsimile, etc.). In exceptional and reasoned cases when the members of SEC are acquainted with all relevant details of a certain case, the president of SEC can call upon the members to vote electronically or in writing at a later date.

4.3. SEC shall sit as often as the need arises, but at least three times a year. The president shall convene SEC at least 8 days prior to the sitting by indicating the agenda, venue and date in writing (via mail, fax or e-mail). In extraordinary cases the sitting may be convened within 8 days as well.

4.4. The sitting of SEC shall be prepared by the secretary of the committee according to the directions of the president and they shall jointly provide for the execution of the decisions of SEC.

4.5. The sitting is presided by the president. In the case of the incapacitation of the president the present members shall elect a chair from among themselves.

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4.6. The sitting is in quorum when at least 12 members of SEC are present. SEC adopts its resolutions with a simple majority of open votes, in the case of a

tie, however, the vote of the president shall decide the outcome. Moreover, terms of point II of the annex of STAT shall also apply to voting.

4.7. At least one third of the committee members may propose in writing that the president convene SEC, with an indication of the agenda suggested. In case the president fails to grant the proposal within 15 days, the originators themselves are also entitled to convene SEC. The committee convened in this way shall elect a chair at the extraordinary meeting with a simple majority secret ballot. Moreover, the committee shall hold the extraordinary sitting and adopt its decision according to the general rules.

4.8. Minutes shall be drawn up of the sittings of SEC containing the venue and date of the sitting, the agenda discussed, the proposals made, the outcome of the voting and all data or facts the recording of which is asked for by any committee member, so especially a minority report of the committee members regarding the resolution or its reasoning. The secretary of SEC shall compile the minutes within 5 working days after the sitting and send it to the president of SEC for app - roval. Following approval by the president the secretary shall send the minutes to members of SEC without delay. In case any of the members of SEC finds that the minutes do not faithfully record things said at the sitting or any data, fact or circumstance, such a member may propose it to be amended. The amend-

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ment shall be decided on by the president. The minutes shall be approved by SEC at its next sitting.

4.9. The president of SEC shall primarily keep contact with the members of SEC via e-mail, while the materials of the sittings shall also be sent via e-mail by the secretary upon the authorization and mandate by the president of SEC.

4.10. In its annual report to the General Assembly SEC shall give a short report on the affairs it has handled or is in the process of handling.

5. Procedure in individual cases

5.1. A submission addressed to SEC shall be filed by the secretary of SEC and immediately sent to the president of SEC. If it is the president who receives the submission directly, he or she shall send it to the secretary

for filing. A submission sent electronically is only examined in merit if it arrives from an identifiable person or organisation. In individual cases the president shall examine whether SEC has competence and jurisdiction to proceed in the case and decides on the secrecy classification request relating to the notifying person.
The notifier shall, in case his or her classification request is denied by the president of SEC or SEC, be called upon for a statement by setting a deadline on whether he or she maintains the request or seeks remedy according to the following.
According to the main rule, the person of the notifier shall be public for the respondent person, members of SEC, and in the second instance procedure for
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the members of the Presidency and the secretary of SEC. However, at the time of the notification, in especially reasoned cases the notifier can ask the encryption of his or her data vis a vis the persons participating in the procedure (including the respondent as well), or a part thereof. The confidential management of data shall be decided on by the president of SEC. In case the president of SEC denies the request on the encryption of the data, the notifier may, with the exception of the request on encryption also affecting the members of SEC and within 15 days from the receipt of the decision on denial, request SEC to order the confidential management of data. Against a decision of SEC on encryption there shall be no further remedy. In the case of the denial of the request on the encryption relating to the members of SEC by the president of SEC there shall be no remedy; in this case the notifier shall be called upon for a statement as above.
In an electronic way (via mail for member of SEC with no electronic mailing system) simultaneously with the sending of the submission, the president of SEC shall make a reasoned proposal for the members of SEC to reject the submission, if
- the notification is evidently frivolous, unfounded or anonymous,
- the notification is related to the verification of a final resolution adopted by SEC or in a second instance procedure by the Presidency, except if
• the notification contains new data or information

not known for the decision maker at the
acceptance of the first or second instance science
ethic resolution, or
• following the science ethic procedure, the court
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has, between the same parties and with the
same statements of facts, come to a decision
being contrary to the decision of SEC or the
Presidency,
- the notification contains a petition contrary to a
decision adopted in a case finally adjudged by a
court of law,
- the submission calls the competence of a court or
other authority into question,
- the complaint objects to a decision of an academic
body (committee, scientific section, Presidency,
etc.) adopted in a professional scientific question,
or otherwise the complaint asks for a position in
a scientific question,
- according to his or her consideration the handling
of the complaint belongs to the competence of a
different public body, social or labour organis -
ation (e.g. bar or medical association).
Within 15 days the members of SEC shall inform
the president of SEC on their position on the proposal
with a “yes” or “no” vote. In the case of a tie among the
members of SEC the vote of the president of SEC shall
decide. The president of SEC shall adopt his or her decision
on the acceptance or rejection of the submission
according to the result of the voting.
5.2. In case the initiation of the case is reasoned to
fall within the regulations relating to the activity of
SEC and the competence and jurisdiction of SEC can
be clearly ascertained, the president of SEC shall present
the case to SEC for examination.
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5.3. The demandant shall be informed by the secretary
in writing on the decision of the president of SEC
on the submission (on the acceptance of the submission
or on the rejection thereof in default of the competence
and jurisdiction of SEC) within 30 days from
the receipt of the submission. The information shall include:
5.3.1. which sitting is expected to examine the case;
5.3.2. who will proceed in the case as a member of

SEC;
5.3.3. that during the procedure the demandant can ask questions and explain his or her reasons, present evidence, call witnesses and get acquainted with the documents of the case;
5.3.4. that the demandant can submit an objection of incompatibility against the persons participating in the procedure;
5.3.5. the president of SEC shall inform the demandant on a substantial decision (adopted in a procedural question) of the committee within 15 days after the acceptance of such a decision.
5.4. The secretary of SEC shall inform the person affected by the submission (the respondent) on the fact that a science ethic procedure was initiated against him or her and shall give the information detailed in points 5.3.1-5.3.5 to him/her, as well as on the understanding that the respondent is entitled to get acquainted with the complaint submitted against him or her in its entirety.
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5.5. The submission shall be examined on its receipt, preferably at the first sitting of SEC, on the basis of the available documents. The case shall be settled within six months of the receipt of the submission at the latest. If SEC finds that the case cannot be settled within six months, it shall set an additional deadline of three months at the longest with a resolution. The procedural deadline shall not include the term of the procedure of other organisations/persons contacted by SEC for the ascertaining of the statement of facts or the adoption of the decision. The SEC resolution signed by the president of SEC shall be sent to the demandant and the respondent by the secretary.
5.6. If the president makes a proposal to SEC for the examination of the case, SEC shall decide on the basis of the available documents after the debate held at its sitting, or shall determine the procedural actions the execution of which can be expected to take place at its next sitting at the latest.
5.7. In more complicated cases the president of SEC shall
a) call a rapporteur out of the members of SEC to carry out a presentation of the case and the submission

of proposal for resolution;
b) call upon an ad hoc committee of the members of SEC. The members of the ad hoc committee shall elect a president from among themselves. The ad hoc committee shall, with majority, prepare a proposal for resolution and submits it to SEC for discussion.
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The investigation can be led by the president him/herself who can involve at his or her own discretion the members of SEC in the number deemed necessary by the president. In this case the president shall prepare the proposal for resolution and submit it with reasoning to SEC for discussion.
5.8. During the investigation the statement of facts shall be explored.
5.8.1. The procedure shall be conducted in the smallest possible circle.
5.8.2. Both parties (the demandant and the respondent or the representatives thereof) shall be given the possibility to explain their reasons in writing.
5.8.3. The person accused with having committed an ethical misconduct shall be given the possibility of getting acquainted with the complaint submitted against him/her to the SEC in the fullest detail, further, upon his/her request of responding in writing, asking questions, presenting evidence, calling witnesses and getting acquainted with the documents of the case. In especially reasoned cases, if the statement of facts cannot be cleared otherwise, the president of SEC can ex officio grant the possibility for the notifier or the respondent of verbally explaining his/her reasons before the ad hoc committee or the sitting of SEC.
5.8.4. SEC shall obtain documents and expert opinions as occasion requires.
5.8.5. SEC shall pay special attention to the respect of personality rights and the protection of personal data.
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5.8.6. Unless it is its obligation by law, SEC can only hand over or make available information acquired during the investigation to a third person in reasoned cases and in return for the statement of confidence signed by this third person (points 6.2.4 and 6.2.5 of Code). SEC shall only be entitled to forward or make

available data to third persons in cases and ways determined by the Act LXIII of 1992 on the Protection of Personal Data and the Disclosure of Information of Public Interest.

5.8.7. Minutes are drawn up of the sittings of the ad hoc committee and the hearings.

5.9. SEC shall send its resolution adopted in individual cases at first instance to the persons concerned within 15 days in writing. The resolution (its purview part containing the decision and the reasoning) shall be formulated on a separate sheet by each resolution, numbered in a yearly ascendant order and recorded in the registry of resolutions.

The resolution shall contain

5.9.1. the decision adopted by SEC in the case,

5.9.2. the reasoning of the decision,

5.9.3. information on the fact that an appeal against the resolution of SEC adopted at first instance can be submitted to the Presidency of HAS, addressed to the president of SEC within 15 days on receipt of the resolution,

5.9.4. the information that in the absence or bela - tedness of an appeal the resolution shall come into force,

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5.9.5. the ascertaining of the fact that following the decision SEC publishes the resolution on the website of the Hungarian Academy of Sciences or chooses a different form of publication,

5.9.6. the reasoning of the fact why SEC does not inform the public (point 6.2.7 of the Code)

5.9.7. its decision whether it finds it necessary to inform the institution or organisation of the offender on the resolution separately. (point 6.2.8 of the Code)

5.10. The notifier, the respondent and the person being affected by the explicit and substantial statement of the resolution of SEC are entitled to submit an appeal against the resolution of SEC adopted at first instance. In the case of an appeal submitted against the resolution of SEC adopted at first instance, within 15 days after the receipt of the appeal, the president of SEC shall introduce the appeal, along with the simultaneous sending of the documents of the case, to the President of HAS for adjudication.

5.11. In case SEC proceeds in the cases of objection to decisions adopted in the research ethic committees of research institutes, high education and other institutions and organisations, shall apply the terms of points 5.1-5.10 implicitly. In the resolution that can be condemning, exempting, or contravening the resolution adopted at first instance, it must be stated that there shall be no further remedy against the resolution.
5.12. In the case of the proposal of a scientific of HAS section on the suspension of a public body membership the terms of point 5 shall also be applied implicitly.
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5.13. SEC shall ex officio proceed against the person initiating a science ethic procedure if he/she is found during the investigation to have initiated the procedure maliciously.
5. 14. Incompatibility rules
The persons listed below cannot participate in the procedure of the Science Ethics Committee:
− who is a close relative of the notifier or the respondent,
− who is in a subordinate relation with the notifier or the respondent in any legal employment relationship,
− who cannot be expected to exercise an unbiased consideration of the case because of any other reason properly justifying incompatibility.
The objection of incompatibility against the members of SEC can be submitted by the notifier, the respondent and a member of SEC. The objection shall be submitted immediately on learning about incompatibility. The objection can be submitted until the end of the first hearing of SEC, irrespective of the fact whether a substantial decision was adopted in the case at the first hearing. Following the first hearing the objection of incompatibility can only lie in case if it occurred after the hearing but still prior to the adoption of the substantial decision. No appeal shall lie after the adoption of the substantial decision. The objection of incompatibility shall be decided on by the president of SEC who shall inform the petitioner of the objection on his/her decision within 15 days after receipt of the submission. The incompatibility notified relating to the president of SEC shall be decided on by SEC by voting
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with the president of SEC not participating in the voting.

The petitioner shall be informed on the decision of SEC within 15 days after its adoption.

6. Miscellaneous

6.1. The president of SEC is responsible for the lawful operation of SEC.

6.2. The administrative, technical conditions necessary for the operation of SEC shall be provided by the Legal and Administrative Department of the HAS. The documents of SEC shall be registered, handled and filed separately from other documents of the department.

6.3. In the procedures of SEC, in questions not regulated in these procedures, the rules of HASL, STAT, the procedures of HAS, the Code of Conduct of HAS and the effective and relevant laws shall be applied implicitly.

7. Final provisions

The procedures of SEC shall come into force upon their approval by the Presidency of the Academy, on the day of their publication in the Academic Journal. On their coming into force, the procedures shall be published on the website of HAS as well. (par. (1) of art. 28 of STAT)

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APPEALING A DECISION MADE BY THE SCIENCE ETHICS COMMITTEE

As stipulated by Point 6.1. of the Code of Conduct of the Hungarian Academy of Sciences, an appeal against a decision made at first instance by the Science Ethics Committee can be lodged with the Presidency of HAS as the forum of appeal.

1. Appeals can be submitted within 15 calendar days after the receipt of the resolution of the Science Ethics Committee.

2. The appeal shall be submitted to the Presidency of the Academy, addressed to the president of the Science Ethics Committee.

3. The president of the Science Ethics Committee shall send the appeal within 30 days after its receipt to the Presidency of the Academy, addressed to the President of the Academy. He/she shall enclose to the appeal the relevant documents of the case and his/her reasoned stance to the appeal.

4. The President of the Academy shall call upon an

expert with the necessary expertise from among public body members of HAS for the preparation of the files mentioned in Point 3 for a sitting of the Presidency and for reporting thereon. The notifier and the demandant are entitled to submit an objection against the person of the expert, and request the appointment of another expert.

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The document was adopted by the members of the Presidency with their resolution No. 50/2010. X. 26.

5. The expert agreed upon shall prepare his/her opinion (proposal) relating to the case within 30 days. The expert's opinion shall be sent to the notifier and the respondent who may study it for not longer than 15 days. The notifier and the respondent can submit an objection against the expert's opinion. In its second instance procedure the Presidency shall decide on the basis of all available documents.

6. On learning the expert's proposal and the objection the Presidency shall negotiate the appellate case at its next sitting pending its work schedule but only if the proposal (objection) arrives at the Presidency at least 15 days prior to the sitting. In case the proposal (objection) arrives within 15 days prior to the date of the first presidency sitt - ing pending its work schedule, it can also be examined at the next presidency sitting. The observance of the expert's opinion (objection) shall not be obligatory for the Presidency while adopting its decision of second instance.

7. With its resolution the Presidency may

− affirm the decision of the Science Ethics Committee, or

− amend the decision of the Science Ethics Committee, or annul the decision of the Science Ethics Committee, and if necessary remand the Science Ethics Committee for a new procedure.

8. The Presidency shall, with regard to the position of the Science Ethics Committee stated in its resolution of first instance relating to the disclosure,

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decide on the publication of its resolution on the website of the Academy or in the Academic Journal.

9. Incompatibility rules:
The persons listed below cannot participate in the decision-making procedure of the Presidency:
− who took part in the adoption of the decision of first instance,
− who contributed to the first instance procedure of the SEC as experts or were heard as witnesses,
− who is a close relative of the notifier or the respondent,
− who is in a subordinate relation with the notifier or the respondent in any employment relationship,
− of whom no unbiased consideration of the case can be expected because of any other reason of incompatibility.
Incompatibility rules relating to the members of the Presidency shall be applied to the expert called upon by the president of the Academy as well.
Objections of incompatibility against the members of the Presidency can be submitted by
− the notifier,
− the respondent,
− any member of the Presidency,
− the expert in relation to his/her own person.
The objection shall be submitted immediately after learning about the incompatibility. No objection of in-
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compatibility can be submitted after the first presidency sitting negotiating the case, except when an incompatibility occurs after the hearing but still prior to the adoption of a substantial decision. The objection of incompatibility submitted shall be decided on by the President of the Academy who shall inform the petitioner of the objection on his/her decision within 15 days after the submission. Members of the Presidency should decide upon any incompatibility relating to the President by voting (the President being excluded from this votes). The petitioner shall be informed on the decision of the Presidency within 15 days after its adoption.
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The Institute of Chemical Engineers (IChemE) Professional Conduct
Region: Worldwide
Country: N/A
Type of Organisation: Chemical Engineering
Type of Document: Code of Conduct

The *Rules of Professional Conduct and Disciplinary Regulations* are available at http://www.icheme.org/~/media/Documents/icheme/About_us/code-of-professional-conduct-and-disciplinary-regulations-april-2014.pdf.

The Institute of Chemical Engineers (IChemE) Professional Ethics
Region: Worldwide
Country: N/A
Type of Organisation: Chemical Engineering
Type of Document: Code of Ethics

The *Professional Ethics* is available at http://www.icheme.org/about_us/ethics.aspx.

The Institution of Engineers Malaysia
Region: Asia-Pacific Group
Country: Malaysia
Type of Organisation: Engineering (including Chemical)
Type of Document: Code of Conduct

The *Professional Conduct and Discipline* is available at http://www.myiem.org.my/content/professional_conduct_and_discipline-68.aspx.

The Institute of Professional Engineers New Zealand
Region: Western Europe and Others Group
Country: New Zealand
Type of Organisation: Engineering (including Chemical)
Type of Document: Code of Ethics

The *Code of Ethics* is available at https://www.ipenz.nz/home/professional-standards/code-of-ethics.

The International Council of Chemical Associations
Region: Worldwide
Country: N/A
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Responsible Care Global Charter* is available at http://www.icca-chem.org/ICCADocs/09_RCGC_EN_Feb2006.pdf.

The International Union of Biochemistry and Molecular Biology
Region: Worldwide
Country: N/A
Type of Organisation: Science (including chemistry)
Type of Document: Code of Ethics

The mission of the IUBMB is to foster and support the growth and advancement of biochemistry and molecular biology as the foundation from which the biomolecular sciences derive their basic ideas and techniques in the service of mankind.

The members of the Adhering Bodies and Associate Adhering Bodies of the IUBMB are at the forefront in the quest for new knowledge in these sciences which has as its ultimate goal the advancement of human welfare. The IUBMB encourages these members to undertake all of their scientific explorations in the spirit of trust that underlies their obligations to the public, to other investigators and to trainees, as described below.

Obligations to the Public:

1 They will conform to high ethical, professional and scientific standards in both conducting and reporting their research activities.

2 They will be guided by, promote and follow practices in a spirit of intellectual honesty to enhance the public interest and well-being.

3 They will use funds appropriately and responsibly in the pursuit of relevant scientific research.

4 They will follow government and institutional requirements and those of international and national professional organisations that regulate research such as those that ensure the current and future welfare of both human and non-human subjects of the research and the protection and sustainability of the environment.

5 They will report the findings of their research arising from public funding with due diligence and in a full, open and timely fashion to the scientific community.

6 They will share in a reasonable manner unique materials developed through publicly funded research when requested by other scientists who require them for their own legitimate research.

7 They will not engage knowingly in research that is intended for the production of agents of biological warfare or bioterrorism, nor promote such agents.

Obligations to Other Investigators:

1 They will have actually performed the experiments as described in their reports and will describe the methods used in sufficient detail that the results they report can be repeated by others.

2 They will present their best interpretation of their work in their description and discussion of it and will not incorporate the work of others as if it were their own in their reports.

3 They will summarize honestly, or refer appropriately to, previous relevant work, done either by themselves or by others, in their reports.

4 They will acknowledge in their publications contributions made by others and refrain from accepting honorary authorships.

5 They will treat in strict confidence manuscripts and grant applications submitted to them for review, will avoid inappropriate use of information contained in such submissions and will respect any confidential information gained in the exercise of their profession.

6 Other than in the case of preliminary communications or abstracts they will not submit the same work or work that is substantially similar for publication more than once.

7 They will disclose any direct or indirect financial and/or other interests that could present a conflict of interest when reporting results, serving as reviewers or mentoring students.

8 They will not deliberately include misleading or inaccurate information relating to research activity or fail to provide relevant information in their curriculum vitae, grant applications, job applications or public statements.

9 They will support colleagues who find themselves in difficulties that may arise from adherence to this code and also support the efforts of professional organisations to protect such colleagues.

Obligations to Trainees:

1 They will provide training and professional guidance and share experiences that advance the scientific knowledge and skills and an appreciation of the ethical, research and professional standards, of the trainees they mentor.

2 They will ensure that the number of trainees that they mentor at any given time is not too large to permit effective interaction with them and oversight of their research and will provide appropriate help in advancing their careers.

3 They will provide appropriate help to suitably qualified individuals who seek training and originate from parts of the world where biochemistry and molecular biology are still in the early stages of development and where adequate training opportunities may not be available.

4 They will maintain their professional competence by keeping abreast of new information and developments in their areas of expertise.

5 They will give appropriate recognition to the research contributions of their trainees and foster publication of the trainees' research both in a timely fashion and without undisclosed limitations.

6 They will create and maintain a working environment in which all participants are treated with respect regardless of religion, national origin, gender, political preferences, culture or any other attributes not relevant to the pursuit of scientific research.

The Linde Group
Region: Western Europe and Others Group
Country: Germany
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.the-linde-group.com/internet.global.thelindegroup.global/en/images/Code_of_Ethics_EN14_6436.pdf.

The Netherlands Code of Conduct for Scientific Practice
Region: Western Europe and Others Group
Country: Netherlands
Type of Organisation: Government
Type of Document: Code of Conduct

The Netherlands Code of Conduct for Scientific Practice is available at http://www.vsnu.nl/files/documenten/Domeinen/Onderzoek/The_Netherlands_Code_of_Conduct_for_Scientific_Practice_2012.pdf.

The Nigerian Society of Engineers
Region: African Group
Country: Nigeria
Type of Organisation: Engineering (including Chemical)
Type of Document: Code of Conduct

The *Code of Conduct for Engineers* is available at http://www.nice-nigeria.org/component/content/article/58-about-nice/193-code-of-conduct-for-engineers.

The Royal Australian Chemical Institute
Region: Western Europe and Others Group
Country: Australia
Type of Organisation: Chemistry
Type of Document: Code of Ethics

The *Code of Ethics – By-law 13* is available at http://www.raci.org.au/document/item/90.

UK Chief Scientific Adviser
Region: Western Europe and Others Group
Country: UK
Type of Organisation: Government
Type of Document: Code of Ethics

The Universal Ethical Code for Scientists is available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/283157/universal-ethical-code-scientists.pdf.

UK Research Integrity Office
Region: Western Europe and Others Group
Country: UK
Type of Organisation: Government
Type of Document: Code of Conduct

The *Code of Practice for Research* is available at http://ukrio.org/publications/code-of-practice-for-research/.

UN Environment Programme
Region: Worldwide
Country: N/A
Type of Organisation: International Organisation
Type of Document: Code of Ethics

CODE OF ETHICS ON THE INTERNATIONAL TRADE IN CHEMICALS

PART I. GENERAL PROVISIONS

I. OBJECTIVE

1. The objective of this code is to set forth principles and guidance for private sector parties, governing standards of conduct in the production and management of chemicals in international trade, taking into account their entire life cycle, with the purpose of reducing risks to human health and the environment which might be posed by such chemicals.

II. DEFINITIONS

2. For purposes of the code:

(a) "Banned chemical" means a chemical which has, for health or environmental reasons, been prohibited for all uses by final governmental regulatory action;

(b) "Severely restricted chemical" means a chemical for which , for health or environmental reasons, virtually all uses have been prohibited nationally by final government regulatory action, but for which certain specific uses remain authorized;

(c) "Hazardous chemical" means a chemical which represents a threat to human or animal health or to the environment.

(d) "Private sector parties" means industry, workers and their representatives, environmental and consumer groups and other non-governmental organizations, and the public.

(e) "Industry" means all segments involved in production and management of chemicals, taking into account their entire life cycle, including producers, formulators, importers and exporters, traders, and transporters.

(f) "International trade in chemicals" means export or import of chemicals.

(g) "Export" and "import" mean, in their respective connotations, the movement of a chemical from one State to another State, but exclude mere transit operations.

(h) "Management" means the handling, supply transport, storage, treatment, application or other use of a chemical subsequent to its initial manufacture or formulation.

(i) "Prior informed consent" (PIC) refers to the principle that international shipment of a chemical that is banned or severely restricted in order to protect human health and the environment should not proceed without the agreement, where such agreement exists, or contrary to the decision of, the designated national authority in the importing country. For the purpose of this code, "designated national authority" means a national government authority designated for purposes of information exchange and the prior informed consent procedure being carried out by UNEP and FAO.

(j) "Prior informed consent procedure" (PIC procedure) means the procedure for formally obtaining and disseminating the decisions of importing countries as to whether they wish to receive future shipments of chemicals which have been banned or severely restricted, being carried out by UNEP and FAO.

(k) "PIC decision" means a decision by a importing country of a chemical subject to the PIC procedure with respect to the future import of chemicals.

III. EXEMPTIONS

3. The code should not apply to:

(a) Pharmaceuticals, including narcotics, drugs and psychotropic substances;

(b) Radioactive materials;

(c) Chemicals imported for the purpose of research or analysis in quantities not likely to affect the environment or human health;

(d) Chemicals imported as personal or household effects, in quantities reasonable for these uses;

(e) Food additives.

IV. THE COMMITMENT TO IMPROVED HEALTH, SAFETY AND ENVIRONMENTAL PROTECTION RELATED TO THE INTERNATIONAL TRADE IN CHEMICALS

4. Private sector parties involved in the international trade in chemicals should make a commitment to undertake self-regulatory measures to meet the standards of conduct set out in the principles and guidance contained in Part II below in order to ensure the safe production and management of chemicals in domestic and international trade, taking into account their entire life cycle.

5. Private sector parties should recognize in the commitment their shared responsibility, along with the governments of chemical exporting and importing countries, for the protection of human health and the environment. In particular, business and industry should recognize their responsibility for fully participating in the implementation and evaluation of activities related to Agenda 21 .

6. The private sector parties that have already entered into the commitment under "Responsible Care" or a similar instrument consistent with this code, such as the FAO Code of Conduct, are encouraged to make a declaration, expressing that existing commitments are consistent with this code. The parties that have not made commitment under "Responsible Care" or a similar instrument should demonstrate their commitment by making an appropriate declaration in a written statement and publish such declaration.

7. Private sector parties making such written declaration should notify UNEP of their respective decisions to enter into commitment to meet the standards of conduct set out in the principles and guidance contained in the code.

8. The parties that have made such written declaration under paragraph 5 and entered into voluntary commitment under the code should initiate necessary action to meet the standards of conduct set out in the principles and guidance below within 180 days after the commitment is notified to UNEP.

9. The commitment by the private sector parties should include the following elements:

(a) Increase chemical safety and enhance the sound production and management of chemicals, taking into account their entire life cycle, in all countries by providing government authorities and relevant private sector parties with relevant information on chemicals in domestic and international trade.

(b) Comply with the PIC procedure being carried out by UNEP and FAO to the extent applicable to private sector parties.

10. Enterprises/companies involved in the production or management of chemicals in domestic and international trade, taking into account their entire life cycle, should demonstrate this commitment at all levels of their enterprises/companies, starting with the highest level of management. This commitment should be communicated throughout the enterprises/companies.

PART II. GENERAL PRINCIPLES AND GUIDANCE FOR THE IMPLEMENTATION OF THE GENERAL PRINCIPLES

I. GENERAL PRINCIPLES

11. Having agreed to take appropriate actions to protect human health and the environment from adverse effects from the production and management of chemicals in international trade, taking into account their entire life cycle, and to promote chemical safety, private sector parties should:

(a) Act in accordance with the guidance set out in this code, and develop the means for applying the guidance in a manner appropriate to local circumstances;

(b) Allocate the resources necessary for the application of the guidance to their own activities;

(c) Enhance co-operation among private sector parties as well as with government agencies and relevant international organizations for the promotion the code;

(d) Cooperate with local community to address problems related to chemicals in international trade and solving such problems, including the provision of relevant information.

12. Enterprises/companies involved in the international trade in chemicals, such as producers, formulators, transporters, traders including exporters and importers, should:

(a) Develop management systems to enable the proper production and management of chemicals, taking into account their entire life cycle;

(b) To the extent practicable, evaluate and do business with suppliers, contract manufacturers, transporters, traders and professional users who meet applicable safety, health and environmental criteria.

13. Private sector parties should promote the application of the guidance set out in the code by:

(a) Establishing the means for sharing experience with various private sector parties, including those parties in different countries or regions, and, as appropriate, with relevant government authorities, concerning measures taken in accordance with the code;

(b) Offering assistance to others who produce and manage chemicals, taking into account their entire life cycle.

14. Private sector parties should work with government authorities responsible for health and environmental protection from harmful effect of chemicals in international trade, including customs offices, in accordance with the principles and guidance in the code.

15. Private sector parties should take initiatives to assist in the implementation of internationally agreed instruments related to chemicals in international trade, in particular the prior informed consent procedure being carried out by UNEP and FAO, as well as those instruments related to chemical accident prevention, preparedness and response.

16. Private sector parties, in co-operation with Governments and relevant international organizations, should establish a procedure for reviewing and revising the code, as appropriate.

II. GUIDANCE FOR THE IMPLEMENTATION OF THE GENERAL PRINCIPLES

17. The following guidance, set out in seven categories, represent the standards of conduct which should be undertaken in order to fulfil the commitment and general principles set out above. Private sector parties should apply the paragraphs relevant to them, in a way which will be effective under their particular circumstances.

A. Reducing Risks

18. Chemical producers and formulators should:

(a) Make every reasonable effort, to the extent practicable, to reduce risks by:

(i) Introducing appropriate procedures to minimize adverse health and environmental effects from chemicals being manufactured and managed, taking into account

their entire life cycle, under both normal operating conditions as well as emergency situations.

(ii) Developing safer packaging, and using clear and concise labelling, taking into account existing international scheme with respect to packaging and labelling.

(iii) Take initiatives, to the extent possible, in following chemicals to the ultimate consumer, keeping track of any problems arising in actual use of the chemicals, as a basis for changes in labelling, directions and packaging.

(b) When safe manufacture and management of a chemical, taking into account its entire life cycle, does not seem possible, voluntarily take corrective action and help find solutions to difficulties.

(c) Halt manufacturing and trade, and recall products when appropriate due to the unacceptable risks associated with the product.

19. Chemical producers, formulators and traders should:

(a) Co-operate with relevant government authorities of importing countries and comply with their PIC decisions, recognizing that this might be dependent upon the governments of exporting countries fulfilling their responsibility to transmit to their industry the PIC decisions of importing countries under the PIC procedure .

(b) Co-operate with government authorities in order to ensure implementation of the export notification procedures for banned or severely restricted chemicals, where applicable.

20. Industry should:

(a) Whenever possible, endeavour to reduce the quantity of hazardous chemicals used.

(b) Co-operate with government authorities in activities related to chemical accident prevention, preparedness and response, including the development of emergency preparedness plans and support international activities in this area.

(c) In co operation with the Government, ensure safe management and disposal of chemicals, taking into account their entire life cycle.

21. Private sector parties should ensure that transfer of know-how for the production of chemicals be subject to the standards of conduct set out in the code.

B. Testing and Assessment

22. Chemical producers and formulators should:

(a) As regards new chemicals, produce and commercialize only the chemicals that are known to have gone through a process of testing and assessment that is conducted in accordance with national laws and regulations or internationally accepted procedures and updated where appropriate, and where necessary, taking into account the specific conditions of intended use. This testing and assessment should provide the necessary basis for an evaluation of the risks of the chemical in order to allow appropriate actions to protect human health and the environment.

(b) Provide summaries of the reports of such testing and assessment to government authorities and, upon request, provide these authorities with the full reports in accordance with applicable national laws and regulations, where such laws and regulations have been in force.

(c) Identify reasonably foreseeable uses and misuses of chemicals and, in order to do so, seek feedback from occupational users on use and misuse of chemicals. To the extent appropriate, undertake additional testing and revision of assessment taking into account the information on uses and misuses of chemicals.

(d) Ensure that proposed uses, labelling, information and advertising reflect the results of the testing and assessment.

(e) Provide, as appropriate, chemical producers and formulators in other countries or government authorities with advice and assistance related to testing and assessment, including assistance in the interpretation and evaluation of data.

(f) Ensure that contract manufacturers are kept informed of new significant health, safe and environmental data on chemicals in international trade.

C. Quality Assurance

23. Chemical producers and formulators should:

(a) Maintain quality assurance procedures to ensure that chemicals comply with relevant human health and environmental standards and specifications, including non-

exploitation of products which are out of date and, to this end, co-operate with government authorities, as appropriate.

(b) Ensure, to the extent possible, that chemicals manufactured or formulated by a subsidiary company or a contract manufacturer meets appropriate human health and environmental requirements and standards which are consistent with the requirements of the country of manufacture as well as those of the parent or contracting company.

24. Chemical producers, formulator and traders should ensure that the quality of a chemical complies with the information in the attached label and with the literature and specifications published by a chemical's manufacturer.

D. Classification, Packaging and Labelling

25. Chemical producers, formulators and traders should:

(a) Ensure that:

(i) chemicals are labelled;

(ii) labels include appropriate recommendations, instructions, warnings, precautions and first aid information;

(iii) labels show appropriate hazard classifications;

(iv) labels provide appropriate lot or batch information;

(v) labels are in a format appropriate for traders, transporters and occupational users with respect to, for example the language used and the use of symbols and pictograms.

(b) Ensure that classification, packaging and labelling of chemicals conform to applicable international rules, regulations and guidelines, such as the FAO Guidelines, including, for example those dealing with transportation. Where no such international rules, regulations or guidelines are available, an appropriate national or regional system for classification, packaging and labelling should be applied. Labelling requirements should cover:

(i) information to be given in the label;

(ii) legibility, durability and size of the label;

(iii) uniformity of labels and symbols, including colours.

26. Traders and transporters should ensure that chemicals are handled and transported safely in accordance with the information in the labels attached to the packages.

E. Provision of Information

27. Chemical producers and formulators should:

(a) Provide occupational users, traders, transporters and contract manufacturers with appropriate information and guidance, which should be kept up-dated, to enable proper development, manufacture and management of all chemicals, taking into account their entire life cycle. Safety data sheets (or material safety data sheets) should be prepared for hazardous chemicals and be provided to occupational users, traders, and contract manufacturers to the extent that this could improve safety in the handling and use of the chemicals.

(b) Provide information and instructions in a form and language which will ensure safe and effective use of a chemical.

(c) Ensure consistency of all safety information provided on a given chemicals.

(d) Provide government authorities and consumers with relevant information on:

(i) health and environmental hazards which might be posed by chemicals in international trade;

(ii) recommended protective measures;

(iii) first aid measures.

In providing such information, claims for protection of confidential and proprietary information should not compromise the overriding objective of protecting health and the environment and promoting safety.

(e) Provide the information on safe handling of chemicals when they are outdated or expired.

28. Industry should:

(a) Make reasonable efforts to ensure that the information relevant to health and environmental protection from harmful effects of chemicals reaches the occupational users or

traders in importing countries. The information should be included in the labels attached to the packages whenever possible.

(b) Co-operate with governments and competent international organizations for the purpose of information exchange, including the provision of information, upon request, to a government authority in an importing country concerning banned or severely restricted chemicals and alternatives to such chemicals.

(c) Communicate on health, safety and environmental matters to government authorities and other interested parties. In this regard, industry should establish and implement policies to ensure openness in health, safety and environmental information in a manner appropriate to local circumstances.

(d) Assist UNEP to establish databases to be used by designated national authorities for registration and monitoring of chemicals, taking into account their entire life cycle, and for attention to emergencies.

F. Education and Training

29. For the purpose of preventing harmful effects of chemicals in international trade to health and the environment, industry should continue to:

(a) Educate and train employees at all levels on the proper management of chemicals, taking into account their entire life cycle.

(b) Provide employees with safety data sheets or similar relevant information.

(c) Educate and train relevant employees so that they can advise occupational users and traders on the proper management of chemicals, taking into account their entire life cycle.

(d) Disseminate educational information to, inter alia, chemical handlers and consumers, as well as other interested parties such as medical personnel and customs officials, through a coordinated effort of Governments, international organizations and industry.

(e) Provide support for training of occupational users and government authorities in importing countries, including training for emergency responses.

G. Advertising and Marketing

30. Recognizing difference in countries, and with a view to providing accurate information of chemicals to ultimate consumers, such as occupational users, industry should:

(a) Ensure that advertising is consistent with the standards of conduct set out in the code. Statements used in advertising should be capable of technical substantiation. Advertising should not be likely to mislead any buyer, in particular with regard to safety or suitability of use. Advertisements should not encourage uses inconsistent with approved labels or at variance with generally-accepted recommendations. Advertising should draw attention to warnings and should encourage careful reading of labels.

(b) Encourage importing enterprises/companies and relevant trade associations to cooperate in order to achieve fair and safe marketing and trade practices and to help government authorities to stamp out malpractice.

PART III. MONITORING AND FOLLOW-UP

31. Industry, non-governmental organizations, workers and consumers unions, and other relevant public interest groups, in cooperation with Governments and international organizations, should:

(a) Take active role to monitor activities of industry and other private sector parties involved in the international trade in chemicals as to whether those activities are in compliance with the standards of conduct set out in the principles and guidance above.

(b) Report the results of the monitoring to government authorities and competent international organizations, such as UNEP, with a view to:

(i) Improving performance of industry and other private sector parties involved in the international trade in chemicals;

(ii) Assisting Governments to adopt or amend national laws, regulations and administrative measures governing activities in the international trade in chemicals.

(iii) Co-operating with Governments and international organizations to develop relevant international instruments.

(c) Communicate on health, safety and environmental matters related to chemicals in international trade with other interested parties.

32. Industry is encouraged to cooperate with UNEP and non-governmental organizations in the implementation and monitoring of the standards of conduct set out in the principles and guidance above.

33. Industry should ensure that workers and others are not punished for monitoring and reporting its performance to Governments, international organizations and relevant private sector parties.

34. Private sector parties are encouraged to enter into voluntary agreements with Governments for the application of the standards of conduct set out in the principles and guidance above.

35. Private sector parties, in cooperation with Governments and international organizations such as UNEP, should promote the code to extend the parties committed to apply the standards of conduct set out in the principles and guidance above.

36. Private sector parties should develop procedures for self-evaluation to assess performance in undertaking self-regulatory measures to meet the standards of conduct set out in the principles and guidance above.

37. Private sector parties, in cooperation with Governments and international organizations, should periodically monitor compliance, review and revise, as appropriate, the code at international fora which will be convened by UNEP subject to the availability of resources.

38. UNEP will, within available resources:

(a) maintain, up-date and publish a list of those private sector parties that have entered into commitment under the code;

(b) compile and publish reports on progress in the application of the standards of conduct set out in the principles and guidance above.

UNODA
Region: Worldwide
Country: N/A
Type of Organisation: International Organisation
Type of Document: Code of Ethics

MAINTENANCE OF RECORDS

Personnel concerned with the categories mentioned in Article 3 above and dealing with the precursor
chemicals are required to maintain statutory records as prescribed under their national legislation and
follow the minimum procedures recommended below relating to the following:
1) Production
2) Storage and handling
3) Dispatch
4) Transportation
5) Marketing
6) Import/Export
7) Financial Transactions
The records so maintained are required to be preserved for a minimum period of TWO years.

PRODUCTION

The Production department should maintain and keep a daily record, for each precursor manufactured
or captively used, which must include the following information:
Voluntary Code of Conduct (VCC) for Trade and Industry
1. Opening stock
2. Amounts produced/manufactured
3. Amounts sold/dispatched
4. Amounts imported
5. Amounts exported
6. Amounts lost, destroyed or reduced by effects such as shrinkage and other causes such as accidents, pilferage, manufacturing losses, etc.,
7. Amounts consumed internally
8. Closing stock
The quantity of the chemical must be recorded in prescribed weights and measures such as kilograms,
liters etc.
The said record must be duly authenticated on a daily basis by the Head/Authorized Officer of the
company. The company must declare the raw materials used, process flow chart and the input/output
ratio relating to the manufacture of the precursor chemical. Similar declaration must be made by the
captive consumers/actual users in relation to the precursor chemicals used by them. This may be done
once in a year at the beginning of the fiscal year.
In the absence of laid down procedures for maintenance of records in a country, statutory records

maintained under any other law/rule of the country giving all the above details may also be accepted as
official record.

STORAGE AND HANDLING

The Precursor chemicals are required to be stored in secured containers/tanks in such a manner that
physical checks and verification of the stock can be undertaken easily.
The tanks/containers must be labeled in bold letters giving details of the precursor chemicals stored in
it.
Daily stock levels must be monitored internally by the Head/Authorized Officer of the company
(including recording the temperature wherever necessary) and must be tallied with the statutory records
maintained for the same.
The handling of the precursor chemicals must be restricted to specific persons deployed for the purpose
to ensure that there is no pilferage.
Records must be maintained relating to storage, issue, receipt and such records are required to be audited
internally at regular intervals.
Any loss of the substance in handling or due to environmental conditions such as temperature variations
etc. must be recorded and reported to statutory authorities within the specified time frame.

In case of packed material, the substance must be packed in secured packages/containers serially
numbered along with details of name of manufacturer, address, gross weight, tare weight and net
weight. The packages/containers must be printed or labeled in bold letters indicating the substance
contained in them. In cases of substances containing mixture or preparations of the precursor chemicals, the break up of the net weight of the precursor chemical and other salts along with the
percentage of the chemical in the mixture must be mentioned separately.
The delivery documents must be prepared in quadruplicate. The original and duplicate copies are for the
consignee, who will acknowledge on the duplicate copy and send it to the consignor within a specified
time frame. The triplicate copy is for the transporter and the quadruplicate copy is for the record of the
consignor.
The delivery must be made only at the address of the consignee or their assigned place of delivery
mentioned in the delivery documents and not to any other place.
In addition to the delivery documents, statutory documents relating to the ownership and registration of
the vehicle, containing details of the gross, tare and net weight of the vehicle, certification about its road

worthiness, date of calibration, if any etc. must accompany the consignment.
The driving license and photograph of the driver of the vehicle must be scrutinized by the manufacturer/ Transport Company
Copies of the driving license, documents relating to the transporting vehicle must be obtained by the
company engaging the transporter and kept as record to assist in future investigations.
Any loss of the substance during transportation like leakage due to wear and tear, accidents, etc., must be
reported to the Competent Regulatory Authority immediately or to the nearest police station or any
other statutory authority notified by the CNA of the country.
The above conditions must be followed, even when the company itself is carrying out the transportation.

MARKETING

The company while marketing the precursor chemicals, must follow the "KNOW YOUR CUSTOMER" (KYC) principle, obtain the following minimum information and verify it before
delivery of the first consignment:
a. Details of the name, address, contact telephone and facsimile
numbers, email address of the purchaser
b. The intended use and place of consumption by obtaining an
End Use Certificate.
c. Details of the statutory registration of the purchasing company
with relevant authorities under the law in the country

Payments to be received direct from the purchaser and not through commission agents or intermediaries if these are not authorized prior to the sale

Follow proper accounting procedures of the financial transactions and periodical auditing to identify suspicious transactions

REPORTING OF IRREGULAR TRANSACTIONS

The companies engaged in the manufacture, preparation, processing, storage, distribution, importation,
exportation, marketing and transportation of the chemicals listed in Table-I & II shall immediately
report to the Competent National Authorities (CNAs) any transaction or proposed transaction to which
they are parties when they have reasonable grounds to suspect that such chemicals may be used in the
production, manufacture, preparation or extraction of illicit narcotic drugs or psychotropic substances.
Reasonable grounds of suspicion are as follows:

Domestic Trade

1. Purchasers not willing to give all the required information and declarations
2. Purchaser's offer to pay much higher price for immediate supply.
3. Purchaser's offer of payment by cash only
4. Purchaser's offer to pick up supply in own vehicle
5. Walk-in-clients coming in person at the supplier's premises
6. Placement of orders for unusual large quantities
7. Placing order for special packing, especially in small containers

8. Request for delivery at a place other than the consignee address mentioned in delivery documents
9. Any order for abnormal quantities received from existing customers must be reported to the
Competent National Authorities. Situations wherein the quantity ordered is more than double the normal order usually placed or any order in excess by 50kg/Litre can be viewed as abnormal quantity.

International Trade

The industry and trade must comply with provisions of their respective national legislations in regard to
import/ export of the substances. Internationally, a Pre-Export Notification (PEN) regime is in place
that requires CNAs to communicate an intended import/export to their concerned counterpart by
issuing PEN in respect of the substances listed in Table I & II of the UN Convention, 1988.
The CNA of the exporting country informs the CNA of the importing country of the intended export.
The latter is required to conduct verification of the bonafides of the importing company/importer and
communicate their finding to the CNA of the exporting country within 15 days. On receipt of clearance
from the importing country, the CNA of the exporting country issues a NOC for export of the substance. The CNA also notifies the countries through which the consignment transits to prevent
diversion from normal trade.

In case no response is received within the stipulated time frame, the CNA of the exporting country
permits the export.
The CNA may also stop the shipment from taking place in case it receives an adverse communication
from the importing country before the actual export takes place.
On their part, the industry and trade must try to identify suspicious transactions during the course of
their business in international trade. Reasonable grounds of suspicion are as follows:
1. Destination of the goods - Consignments destined to drug- producing region or areas adjoining a country known for illicit manufacture of drugs. The consignees in the border areas may be fictitious.
2. Beware of orders received through the internet
3. Requirement for the chemical in the importing country
4. Irregular ordering pattern
5. Is there a bona fide delivery address? Does the address indicate Post Office Box no?
6. Does the customer require it in an individual's name in the company or in the name of the company/ firm?
7. Orders received from importer based in a country with request to ship the consignment to a different country
8. Offer to pay full amount prior to export of the consignment
9. Request to ship the consignment through a specific carrier or to follow a specific route, which may not be the normal route
10. Documents such as import permits produced appear to be forged

11. Payments received from a country different from the destination of the goods
12. Customers not willing to enter into regular correspondence or continue to maintain contact
13. Conduct which is normally against good business practice

The industry and trade, whenever they come across a transaction involving one or more of the grounds referred to above, must immediately bring to the notice of the CNA such instances without any delay and also cooperate and assist in the follow-up investigation. A suspect transaction reporting format should be devised and all such transactions when reported to the CNAs may be shared at its discretion with the trade and industry.

The cooperation of the industry and trade in reporting suspect transactions will not only facilitate the CNAs / Regulatory / Enforcement authorities in preventing the diversion of the substances from licit trade and in identifying the persons involved, but will also protect the industry and trade in the event of backtrack investigation by the authorities.

DISPOSAL OF PRECURSOR CHEMICALS

The industry and trade must destroy or dispose of any of the substances or formulations or mixtures containing those substances only with the prior approval and under the supervision of the Regulatory Authority, in the manner prescribed by it.

NON SCHEDULED SUBSTANCES

Some of the substances used in the illicit drug manufacture that are listed in Tables I and II of the 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances have become especially difficult for traffickers to obtain as more and more States have implemented the provisions of that Convention. Traffickers have therefore sought to obtain chemicals that may be used as substitutes for those that are more closely monitored. They have found and used new methods for processing or manufacture, requiring substances that are currently not under international control.

The industry and trade must commit itself by showing responsibility for its actions and establish uniform procedures and a common approach to prevent the diversion of the substances included in the Limited International Special Surveillance List. They must also consider:

To provide the necessary education to staff and, where practical, to end-users; to sensitize and raise their understanding of the use of the substances included in the limited international special surveillance list

in illicit drug manufacture; and to create a greater awareness of the need to adopt measures to prevent
the diversion from licit channels to the illicit traffic of such substances
To nominate one or more liaison officers to ensure that appropriate systems and procedures are
introduced and maintained including reporting of suspicious orders and inquiries, and train staff to
identify suspicious inquiries and orders to facilitate implementation of the monitoring programmes
To encourage a climate of self regulation and to develop a culture of active participation with the
relevant Competent National Authorities, whereby suspicion and not regulatory control, forms the basis
of initiating investigations

MUTUAL COOPERATION

The Competent National Authorities and the members of the industry and trade should foster a spirit of
mutual cooperation. While the industry and trade should comply with the requirements of the regulatory mechanism on precursor control and assist the enforcement authorities in the investigation
of diversion cases, the regulatory and enforcement authorities should create awareness on the need for
exercising precursor chemical control and enhance their knowledge by educating the management and
staff to identify suspicious transactions while updating them on the recent trends adopted by the illegal
drug trade in the use of chemicals for the manufacture of drugs. The industry and trade should
nominate one or more liaison officers at field level to facilitate timely sharing of information on
suspicious orders and its investigation.

NATIONAL LEGISLATIONS

The procedures prescribed above may be followed complementing the provisions already laid down in
the respective national legislations. Wherever procedures prescribed above appear to be contrary to the
procedures laid down under the national legislation, the procedures laid down in the respective national
legislation shall prevail.

CONFIDENTIALITY

All information provided shall be treated as confidential and not divulged to any person save and except
for law enforcement, judicial or internal control purposes, or for international cooperation.
The CNAs of each country must hold periodical meetings with the industry and trade and update the

Voluntary Code of Conduct by including/ excluding practices depending upon the situation prevailing
in each country.
This model VCC is not exhaustive and countries may amend/include/exclude specific procedures as
per their legal regimes or needs.

World Chemical Engineering Council
Region: Worldwide
Country: N/A
Type of Organisation: Chemical Engineering
Type of Document: Code of Conduct

The *Major Goals* are available at http://www.chemengworld.org/Goals.html.

World Federation of Engineering Organisations
Region: Worldwide
Country: N/A
Type of Organisation: Engineering (including Chemical)
Type of Document: Code of Ethics

The *Code of Ethics* is available at http://www.wfeo.org/ethics/.

Yara Code of Conduct
Region: Western Europe and Others Group
Country: Norway
Type of Organisation: Chemistry - Industry
Type of Document: Code of Conduct

The *Corporate Social Responsibility Policy and Code of Conduct* is available at http://yara.com/doc/26353_Code_of_Conduct_A5.pdf.

Yara Code of Ethics
Region: Western Europe and Others Group
Country: Norway
Type of Organisation: Chemistry - Industry
Type of Document: Code of Ethics

The *Ethics Handbook* is available at http://yara.com/doc/36309_Ethics_book_EN_2015.pdf.

Yasref
Region: Asia-Pacific Group
Country: Saudi Arabia
Type of Organisation: Chemistry - Industry
Type of Document: Combined

The *Code of Business Ethics & Conduct* is available at http://www.yasref.com/about/code-of-conduct.