



Verification Division  
S/1273/2015  
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ENGLISH only

**NOTE BY THE TECHNICAL SECRETARIAT****REPORT OF THE FORTY-FIRST MEETING OF THE VALIDATION GROUP FOR THE  
UPDATING OF THE OPCW CENTRAL ANALYTICAL DATABASE  
24 AND 25 MARCH 2015**

1. The Validation Group (hereinafter “the Group”) met on 24 and 25 March 2015 to discuss the evaluation of new analytical data for possible inclusion in the OPCW Central Analytical Database (OCAD) and to consider matters related to it. Mr James Riches of the United Kingdom of Great Britain and Northern Ireland acted as Chairperson of the meeting.
2. The Group welcomed Mr Mohammad Taghi Naseri of the Islamic Republic of Iran to the gas-chromatography (retention index) (GC(RI)) Subgroup.
3. The evaluators for the analytical techniques evaluated new data and sent their written reports to the coordinators for each analytical technique. The names of the coordinators who were present at the meeting, along with the technique for which each is responsible, are listed below:

GC(RI)	Mr Gary Mallard (Acting) (United States of America)
Mass spectrometry (MS)	Mr Sten-Åke Fredriksson (Sweden)
Infrared (IR) spectroscopy	Mr Armando Alcaraz (United States of America)
Nuclear magnetic resonance (NMR) spectroscopy	Mr Damian Magiera (Germany)

4. The coordinators provided an evaluation summary of the data presented to the Group for discussion at the meeting. The evaluators finalised the evaluation of the analytical data and confirmed that the approved data is technically valid.
5. This report of the Group’s Forty-First Meeting presents the sets of validated analytical data of scheduled chemicals to be forwarded to the Director-General for appropriate action (Annex 1) and chemicals relevant to the Chemical Weapons Convention (hereinafter “the Convention”) (Annex 2).
6. The Technical Secretariat (hereinafter “the Secretariat”) informed the Group that the data on scheduled chemicals validated by the Group at previous meetings were approved by the Executive Council (hereinafter “the Council”) at its Seventy-Eighth Session.



7. The Secretariat informed the Group that the Council at its Seventy-Eighth Session approved the removal from the OCAD of the entries recommended for removal by the Group at its Fortieth Meeting.
8. Proposed additions to the working list of chemicals relevant to investigations of alleged use, managed by the OPCW Laboratory, were distributed to the Group for comment. The Group agreed that the full working list containing a justification for each entry would be distributed to the Group before the next meeting. The relevance of chlorine gas and other industrial chemicals was discussed. It was agreed that the physical and chemical properties of these chemicals might preclude the collection of data for most of the techniques in use by the Group but that this should not preclude their inclusion on the list.
9. The Group discussed the relevance to the Convention of the non-scheduled chemicals data that had been evaluated at previous meetings. At present, a number of entries (approximately 350) are designated as non-scheduled without any further justification (for example, the schedule to which the chemical relates). The Group decided that justification statements for each entry would be provided. It was agreed that a list of these justification statements would be distributed to the Group for discussion at the next meeting.
10. It was agreed by the Group that future submissions of data for non-scheduled chemicals must contain a statement justifying their relevance to the Convention.
11. The Group discussed technical and administrative aspects of including MS/MS data in the OCAD. A set of submission conditions was agreed by the Group. Sets of validated data will need to be included in an appropriate searchable format. Mr Gary Mallard agreed to help with formatting the database options for searching MS/MS data relating to the inclusion or otherwise of the precursor ion. It was agreed that the number 5 would be used to classify this technique.
12. The Group discussed differences in chemical names of scheduled chemicals used by industry and those on the OCAD. A specific example given was methyl methylphosphonate, which is often referred to in industry and academic publications as methyl methylphosphonic acid or methyl methylphosphonic anion. The Group agreed that it would not change its naming rules but would encourage the use of the synonym field in future data submissions.
13. The Group discussed changing the primary name of some chemicals in the OCAD to reflect the chemical being derivatised and the shorthand notation of the resulting derivative. For example, methyl methylphosphonate-TMS derivative could replace methyl trimethylsilyl methylphosphonate.
14. A list of existing OCAD entries with name changes proposed at the Fortieth Meeting of the Group were agreed as shown in the following table.

<b>OPCW Chemical ID Number</b>	<b>Old Name</b>	<b>New Name</b>
1677	Ethylphosphonothioic dichloride	Ethylphosphonothionic dichloride
2560	Ethylphosphonothioic difluoride	Ethylphosphonothionic difluoride
1843	Isopropylphosphonothioic dichloride	Isopropylphosphonothionic dichloride
2587	Isopropylphosphonothioic difluoride	Isopropylphosphonothionic difluoride
2002	Methylphosphonothioic dichloride	Methylphosphonothionic dichloride
2607	Methylphosphonothioic difluoride	Methylphosphonothionic difluoride
2216	Propylphosphonothioic dichloride	Propylphosphonothionic dichloride
2823	Propylphosphonothioic difluoride	Propylphosphonothionic difluoride

15. The NMR Subgroup agreed to trial a proposed electronic format for NMR data before the next meeting.
16. The Secretariat expressed regret that an error had been made, causing the Group at its Fortieth Meeting to question the data from three chemicals submitted by laboratory 28. The data were re-examined and after clarification, the data were included in version 17 of the OCAD.
17. MS, GC(RI) and NMR data are available for the next meeting of the Group. Available data from all analytical techniques will be sent to the Group at least six weeks before its next scheduled meeting.
18. The next meeting is scheduled to take place on 2 and 3 September 2015. The evaluators agreed to send their written evaluation reports to the appointed coordinators no later than 19 August 2015. The evaluators have agreed to come to the meeting prepared to finalise the evaluation of the analytical data referred to in the previous paragraph.
19. Annex 3 to this report lists the evaluators.

Annexes:

- Annex 1: Lists of Approved Data Recommended for Inclusion in the OPCW Central Analytical Database
- Annex 2: Lists of Approved Data Relevant to the Convention
- Annex 3: List of Members of the Validation Group

**Annex 1****LISTS OF APPROVED DATA RECOMMENDED FOR INCLUSION  
IN THE OPCW CENTRAL ANALYTICAL DATABASE**

Note: In the last column of the tables that follow, “A” means “accepted” and “B” means “accepted subject to minor corrections”.

**TABLE 1: LIST OF APPROVED IR DATA OF SCHEDULED CHEMICALS**

<b>OPCW Code</b>	<b>Chemical Name</b>	<b>Schedule</b>	<b>Decision</b>
04-1-0349v	Cyclopentyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A
04-1-0351v	2-Methylcyclohexyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A
04-1-0352v	Cycloheptyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A
04-1-0353v	Cyclooctyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A

**TABLE 2: LIST OF APPROVED MS DATA OF SCHEDULED CHEMICALS**

<b>OPCW Code</b>	<b>Chemical Name</b>	<b>Schedule</b>	<b>Decision</b>
04-2-0557	Cyclopentyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A
04-2-0558	Cyclohexyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A
04-2-0559	2-Methylcyclohexyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A
04-2-0560	Cycloheptyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A
04-2-0561	Cyclooctyl S-2-diethylaminoethyl isopropylphosphonothiolate	1.A.03	A
07-2-3337	2-Dimethylaminoethyl methylphosphonofluoridate	2.B.04	B
07-2-3338	2-Dimethylaminoethyl ethylphosphonofluoridate	2.B.04	B
07-2-3339	2-Dimethylaminoethyl propylphosphonofluoridate	2.B.04	B
07-2-3340	2-Dimethylaminoethyl isopropylphosphonofluoridate	2.B.04	B
07-2-3341	2-Diethylaminoethyl methylphosphonofluoridate	2.B.04	B
07-2-3343	2-Diethylaminoethyl propylphosphonofluoridate	2.B.04	B
07-2-3344	2-Diethylaminoethyl isopropylphosphonofluoridate	2.B.04	B
07-2-3345	2-Dipropylaminoethyl methylphosphonofluoridate	2.B.04	B
07-2-3346	2-Dipropylaminoethyl ethylphosphonofluoridate	2.B.04	B
07-2-3347	2-Dipropylaminoethyl propylphosphonofluoridate	2.B.04	B
07-2-3348	2-Dipropylaminoethyl isopropylphosphonofluoridate	2.B.04	B
07-2-3349	2-Diisopropylaminoethyl methylphosphonofluoridate	2.B.04	B
07-2-3350	2-Diisopropylaminoethyl ethylphosphonofluoridate	2.B.04	B
07-2-3351	2-Diisopropylaminoethyl propylphosphonofluoridate	2.B.04	B

<b>OPCW Code</b>	<b>Chemical Name</b>	<b>Schedule</b>	<b>Decision</b>
07-2-3352	2-Diisopropylaminoethyl isopropylphosphonofluoridate	2.B.04	B
07-2-3353	O-2-Dimethylaminoethyl methylphosphonothionofluoridate	2.B.04	B
07-2-3354	O-2-Dimethylaminoethyl ethylphosphonothionofluoridate	2.B.04	B
07-2-3355	O-2-Dimethylaminoethyl propylphosphonothionofluoridate	2.B.04	B
07-2-3356	O-2-Dimethylaminoethyl isopropylphosphonothionofluoridate	2.B.04	B
07-2-3357	O-2-Diethylaminoethyl methylphosphonothionofluoridate	2.B.04	B
07-2-3358	O-2-Diethylaminoethyl ethylphosphonothionofluoridate	2.B.04	B
07-2-3359	O-2-Diethylaminoethyl propylphosphonothionofluoridate	2.B.04	B
07-2-3360	O-2-Diethylaminoethyl isopropylphosphonothionofluoridate	2.B.04	B
07-2-3361	S-2-Dimethylaminoethyl isopropylphosphonothiolofluoridate	2.B.04	B
07-2-3362	S-2-Diethylaminoethyl isopropylphosphonothiolofluoridate	2.B.04	B
07-2-3363	S-2-Diisopropylaminoethyl ethylphosphonothiolofluoridate	2.B.04	B
07-2-3364	S-2-Diisopropylaminoethyl propylphosphonothiolofluoridate	2.B.04	B
07-2-3365	S-2-Diisopropylaminoethyl isopropylphosphonothiolofluoridate	2.B.04	B
07-2-3366	S-2-Dimethylaminoethyl methylphosphonothiolothionofluoridate	2.B.04	B
07-2-3367	S-2-Dimethylaminoethyl ethylphosphonothiolothionofluoridate	2.B.04	B
07-2-3368	S-2-Dimethylaminoethyl propylphosphonothiolothionofluoridate	2.B.04	B
07-2-3369	S-2-Dimethylaminoethyl isopropylphosphonothiolothionofluoridate	2.B.04	B
07-2-3370	S-2-Diethylaminoethyl methylphosphonothiolothionofluoridate	2.B.04	B
07-2-3371	S-2-Diethylaminoethyl ethylphosphonothiolothionofluoridate	2.B.04	B
07-2-3372	S-2-Diethylaminoethyl propylphosphonothiolothionofluoridate	2.B.04	B
07-2-3373	S-2-Diethylaminoethyl isopropylphosphonothiolothionofluoridate	2.B.04	B
07-2-3374	S-2-Dipropylaminoethyl methylphosphonothiolothionofluoridate	2.B.04	B

<b>OPCW Code</b>	<b>Chemical Name</b>	<b>Schedule</b>	<b>Decision</b>
07-2-3375	S-2-Dipropylaminoethyl ethylphosphonothiolothionofluoridate	2.B.04	B
07-2-3376	S-2-Dipropylaminoethyl propylphosphonothiolothionofluoridate	2.B.04	B
07-2-3377	S-2-Dipropylaminoethyl isopropylphosphonothiolothionofluoridate	2.B.04	B
07-2-3378	S-2-Diisopropylaminoethyl methylphosphonothiolothionofluoridate	2.B.04	B
07-2-3379	S-2-Diisopropylaminoethyl ethylphosphonothiolothionofluoridate	2.B.04	B
07-2-3380	S-2-Diisopropylaminoethyl propylphosphonothiolothionofluoridate	2.B.04	B
07-2-3381	S-2-Diisopropylaminoethyl isopropylphosphonothiolothionofluoridate	2.B.04	B
28-2-0039r	Methyl N,N-dimethyl-P-methylphosphonamidate	2.B.04	A
28-2-0111r	O-Allyl N,N-dimethyl-P-methylphosphonamidothionate	2.B.04	B
28-2-0120r	N,N,N',N'-Tetramethyl-P-methylphosphonothionic diamide	2.B.04	B
28-2-0142br	O-sec-Butyl S-propyl P,P'-dimethyldiphosphonodithiono-P'-thiolate	2.B.04	A
28-2-0155r	Diheptyl dimethylpyrophosphonate	2.B.04	A
28-2-0161r	O-Methyl-d3 N,N-dimethyl-P-ethylphosphonamidothionate	2.B.04	B
28-2-0166ar	O-Methyl N,N-dimethyl-P,P'-diethyldiphosphonodithiono-P-amidate	2.B.04	B
28-2-0167br	O-Ethyl N,N-dimethyl-P,P'-diethyldiphosphonodithiono-P-amidate	2.B.04	B

**TABLE 3: LIST OF APPROVED GC(RI) DATA OF SCHEDULED CHEMICALS**

Note: A “1” under the “Column” heading of GC(RI) data means an HP5 or an SE54 column and a “2” means a DB-5MS column.

OPCW Code	Chemical Name	Schedule	Column	RI(a)	Decision
07-4-3200	2-Dimethylaminoethyl methylphosphonofluoridate	2.B.04	2	1044	B
07-4-3201	2-Dimethylaminoethyl ethylphosphonofluoridate	2.B.04	2	1137	B
07-4-3202	2-Dimethylaminoethyl propylphosphonofluoridate	2.B.04	2	1222	B
07-4-3203	2-Dimethylaminoethyl isopropylphosphonofluoridate	2.B.04	2	1189	B
07-4-3204	2-Diethylaminoethyl methylphosphonofluoridate	2.B.04	2	1200	B
07-4-3205	2-Diethylaminoethyl ethylphosphonofluoridate	2.B.04	2	1295	B
07-4-3206	2-Diethylaminoethyl propylphosphonofluoridate	2.B.04	2	1379	B
07-4-3207	2-Diethylaminoethyl isopropylphosphonofluoridate	2.B.04	2	1347	B
07-4-3208	2-Dipropylaminoethyl methylphosphonofluoridate	2.B.04	2	1358	B
07-4-3209	2-Dipropylaminoethyl ethylphosphonofluoridate	2.B.04	2	1451	B
07-4-3210	2-Dipropylaminoethyl propylphosphonofluoridate	2.B.04	2	1534	B
07-4-3211	2-Dipropylaminoethyl isopropylphosphonofluoridate	2.B.04	2	1500	B
07-4-3212	2-Diisopropylaminoethyl methylphosphonofluoridate	2.B.04	2	1334	B
07-4-3213	2-Diisopropylaminoethyl ethylphosphonofluoridate	2.B.04	2	1427	B
07-4-3214	2-Diisopropylaminoethyl propylphosphonofluoridate	2.B.04	2	1511	B
07-4-3215	2-Diisopropylaminoethyl isopropylphosphonofluoridate	2.B.04	2	1476	B
07-4-3216	O-2-Dimethylaminoethyl methylphosphonothionofluoridate	2.B.04	2	1101	B
07-4-3217	O-2-Dimethylaminoethyl ethylphosphonothionofluoridate	2.B.04	2	1193	B
07-4-3218	O-2-Dimethylaminoethyl propylphosphonothionofluoridate	2.B.04	2	1278	B
07-4-3219	O-2-Dimethylaminoethyl isopropylphosphonothionofluoridate	2.B.04	2	1247	B
07-4-3220	O-2-Diethylaminoethyl methylphosphonothionofluoridate	2.B.04	2	1254	B
07-4-3221	O-2-Diethylaminoethyl ethylphosphonothionofluoridate	2.B.04	2	1346	B
07-4-3222	O-2-Diethylaminoethyl propylphosphonothionofluoridate	2.B.04	2	1430	B
07-4-3223	O-2-Diethylaminoethyl isopropylphosphonothionofluoridate	2.B.04	2	1400	B
07-4-3224	S-2-Dimethylaminoethyl isopropylphosphonothiolofluoridate	2.B.04	2	1368	B
07-4-3225	S-2-Diethylaminoethyl isopropylphosphonothiolofluoridate	2.B.04	2	1517	B

OPCW Code	Chemical Name	Schedule	Column	RI(a)	Decision
07-4-3226	S-2-Diisopropylaminoethyl ethylphosphonothiofluoridate	2.B.04	2	1587	B
07-4-3227	S-2-Diisopropylaminoethyl propylphosphonothiofluoridate	2.B.04	2	1671	B
07-4-3228	S-2-Diisopropylaminoethyl isopropylphosphonothiofluoridate	2.B.04	2	1640	B
07-4-3229	S-2-Dimethylaminoethyl methylphosphonothiothionofluoridate	2.B.04	2	1303	B
07-4-3230	S-2-Dimethylaminoethyl ethylphosphonothiothionofluoridate	2.B.04	2	1399	B
07-4-3231	S-2-Dimethylaminoethyl propylphosphonothiothionofluoridate	2.B.04	2	1486	B
07-4-3232	S-2-Dimethylaminoethyl isopropylphosphonothiothionofluoridate	2.B.04	2	1460	B
07-4-3233	S-2-Diethylaminoethyl methylphosphonothiothionofluoridate	2.B.04	2	1457	B
07-4-3234	S-2-Diethylaminoethyl ethylphosphonothiothionofluoridate	2.B.04	2	1552	B
07-4-3235	S-2-Diethylaminoethyl propylphosphonothiothionofluoridate	2.B.04	2	1638	B
07-4-3236	S-2-Diethylaminoethyl isopropylphosphonothiothionofluoridate	2.B.04	2	1612	B
07-4-3237	S-2-Dipropylaminoethyl methylphosphonothiothionofluoridate	2.B.04	2	1610	B
07-4-3238	S-2-Dipropylaminoethyl ethylphosphonothiothionofluoridate	2.B.04	2	1704	B
07-4-3239	S-2-Dipropylaminoethyl propylphosphonothiothionofluoridate	2.B.04	2	1787	B
07-4-3240	S-2-Dipropylaminoethyl isopropylphosphonothiothionofluoridate	2.B.04	2	1764	B
07-4-3241	S-2-Diisopropylaminoethyl methylphosphonothiothionofluoridate	2.B.04	2	1584	B
07-4-3242	S-2-Diisopropylaminoethyl ethylphosphonothiothionofluoridate	2.B.04	2	1681	B
07-4-3243	S-2-Diisopropylaminoethyl propylphosphonothiothionofluoridate	2.B.04	2	1766	B
07-4-3244	S-2-Diisopropylaminoethyl isopropylphosphonothiothionofluoridate	2.B.04	2	1740	B
28-4-0042r	Methyl N,N-dimethyl-P-methylphosphonamidate	2.B.04	1	1037	A
28-4-0107r	O-Ethyl-d5 N,N-dimethyl-P-methylphosphonamidothionate	2.B.04	1	1155	B
28-4-0114r	O-Allyl N,N-dimethyl-P-methylphosphonamidothionate	2.B.04	1	1249	B
28-4-0123r	N,N,N',N'-Tetramethyl-P-methylphosphonothionic diamide	2.B.04	1	1270	B
28-4-0164r	O-Methyl-d3 N,N-dimethyl-P-ethylphosphonamidothionate	2.B.04	1	1173	B
28-4-0166r	O-Ethyl-d5 N,N-dimethyl-P-ethylphosphonamidothionate	2.B.04	1	1234	B



## Annex 2

## LISTS OF APPROVED DATA RELEVANT TO THE CONVENTION

Note: In the last column of the tables that follow, “A” means “accepted” and “B” means “accepted subject to minor corrections”.

**TABLE 4: LIST OF APPROVED MS DATA OF NON-SCHEDULED CHEMICALS**

OPCW Code	Chemical Name	Schedule	Decision
08-2-0129	Benzylidene malononitrile	NS	B
08-2-0131	3-Fluorobenzylidene malononitrile	NS	B
08-2-0132	4-Fluorobenzylidene malononitrile	NS	B
08-2-0133	2-Chlorobenzylidene malononitrile	NS	B
08-2-0135	4-Chlorobenzylidene malononitrile	NS	B
08-2-0136	2-Bromobenzylidene malononitrile	NS	B
08-2-0137	2-Iodobenzylidene malononitrile	NS	B
08-2-0138	2-Hydroxybenzylidene malononitrile	NS	B
08-2-0139	2-Nitrobenzylidene malononitrile	NS	B
08-2-0140	3-Nitrobenzylidene malononitrile	NS	B
08-2-0142	2-Methoxybenzylidene malononitrile	NS	B
08-2-0143	3-Methoxybenzylidene malononitrile	NS	B
08-2-0144	4-Methoxybenzylidene malononitrile	NS	B
08-2-0145	2-Difluoromethoxybenzylidene malononitrile	NS	B
08-2-0146	2-Methylbenzylidene malononitrile	NS	B
08-2-0147	2-Trifluoromethylbenzylidene malononitrile	NS	B
08-2-0148	3-Trifluoromethylbenzylidene malononitrile	NS	B
08-2-0149	4-Trifluoromethylbenzylidene malononitrile	NS	B
08-2-0151	4-Pentafluorosulfanylbenzylidene malononitrile	NS	B
08-2-0152	4-Hydroxy-3-methoxybenzylidene malononitrile	NS	B
08-2-0153	3,4-Dimethoxybenzylidene malononitrile	NS	B
08-2-0154	2-Cyanobenzylidene malononitrile	NS	B
08-2-0155	2-Chloro-3-hydroxybenzylidene malononitrile	NS	B
08-2-0156	2,6-Dichlorobenzylidene malononitrile	NS	B
08-2-0157	2,6-Difluorobenzylidene malononitrile	NS	B
08-2-0158	2,3,6-Trichlorobenzylidene malononitrile	NS	B
08-2-0160	2-Pyridinylmethylene malononitrile	NS	B
08-2-0161	3-Bromo-4,5-dimethoxybenzylidene malononitrile	NS	B
08-2-0162	Quinolin-4-ylmethylidene malononitrile	NS	B
08-2-0163	2-Fluoro-4-pentafluorosulfanylbenzylidene malononitrile	NS	B
08-2-0164	2-Fluoro-5-pentafluorosulfanylbenzylidene malononitrile	NS	B
08-2-0165	4-Difluoromethoxybenzylidene malononitrile	NS	B
08-2-0166	3-Bromobenzylidene malononitrile	NS	B
08-2-0167	2,3-Dichlorobenzylidene malononitrile	NS	B
08-2-0168	2,4-Dichlorobenzylidene malononitrile	NS	B

<b>OPCW Code</b>	<b>Chemical Name</b>	<b>Schedule</b>	<b>Decision</b>
08-2-0169	3,4-Dichlorobenzylidene malononitrile	NS	B
08-2-0171	4-Bromobenzylidene malononitrile	NS	B
08-2-0172	3-Iodobenzylidene malononitrile	NS	B
08-2-0173	4-Iodobenzylidene malononitrile	NS	B
08-2-0174	2-Ethoxybenzylidene malononitrile	NS	B
08-2-0175	2-Chloro-6-fluorobenzylidene malononitrile	NS	B
08-2-0176	2-Ethylbenzylidene malononitrile	NS	B
08-2-0177	3,4-Diethoxybenzylidene malononitrile	NS	B
08-2-0178	2-Chloro-6-nitrobenzylidene malononitrile	NS	B
08-2-0179	Biphenyl-2-ylmethylene malononitrile	NS	B
08-2-0180	3-Cyanobenzylidene malononitrile	NS	B
08-2-0181	4-Cyanobenzylidene malononitrile	NS	B
08-2-0182	Biphenyl-3-ylmethylene malononitrile	NS	B
08-2-0183	Biphenyl-4-ylmethylene malononitrile	NS	B
08-2-0184	2,5-Difluorobenzylidene malononitrile	NS	B
08-2-0186	2,3-Difluorobenzylidene malononitrile	NS	B
08-2-0187	2-Naphthalen-1-ylmethylidene malononitrile	NS	B
08-2-0188	1,4-Bis(2-trimethylsilyloxyethylthio)butane	NS	B
08-2-0189	Methyl N,N-diethylaminoethyl-2-sulfonate	NS	B
08-2-0191	tert-Butyldimethylsilyl N,N-diethylaminoethyl-2-sulfonate	NS	B

**TABLE 5: LIST OF APPROVED GC(RI) DATA OF NON-SCHEDULED CHEMICALS**

Note: A “1” under the “Column” heading of GC(RI) data means an HP5 or an SE54 column and a “2” means a DB-5MS column.

<b>OPCW Code</b>	<b>Chemical Name</b>	<b>Schedule</b>	<b>Column</b>	<b>RI(a)</b>	<b>Decision</b>
08-4-0156	1,4-Bis(2-trimethylsilyloxyethylthio)butane	NS	2	2088	B
08-4-0158	1,4-Bis(2-trimethylsilyloxyethylsulfonyl)butane	NS	2	2685	A
08-4-0159	tert-Butyldimethylsilyl N,N-diethylaminoethyl-2-sulfonate	NS	2	1692	A
08-8-0157	Methyl N,N-diethylaminoethyl-2-sulfonate	NS	2	1361	A

## Annex 3

LIST OF MEMBERS OF THE VALIDATION GROUP<sup>1</sup>

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