

**NOTE BY THE DIRECTOR-GENERAL****LISTS OF NEW VALIDATED DATA OF NON-SCHEDULED CHEMICALS FOR APPROVAL BY THE EXECUTIVE COUNCIL FOR INCLUSION IN THE OPCW CENTRAL ANALYTICAL DATABASE**

1. In accordance with a decision by the Executive Council (hereinafter “the Council”) at its Fourth Session (EC-IV/DEC.2, dated 5 September 1997), “Proposed Mechanism for Updating the OPCW Central Analytical Database”, which was subsequently adopted by the Conference of the States Parties (hereinafter “the Conference”) at its Second Session (subparagraph 11.2(c) of C-II/8, dated 5 December 1997), the Director-General established a Validation Group (hereinafter “the Group”) to evaluate new data to be proposed for inclusion in that database. The Group met for the forty-fourth time on 28 and 29 September 2016, and for the forty-fifth time on 29 and 30 March 2017 and discussed the classification of non-scheduled chemicals relevant to the Chemical Weapons Convention (hereinafter “the Convention”) that had been previously validated. A set of those chemicals, listed with their justification statements in the Annex to this Note, is recommended for inclusion in the OPCW Central Analytical Database (OCAD) and submitted to the Director-General for appropriate action.
2. In accordance with the aforementioned mechanism, lists of new validated data proposed for inclusion was submitted to the members of the Council and distributed to all States Parties more than 30 days before the opening of the Eighty-Fifth Session, during which the Council was requested to consider the data. The Technical Secretariat (hereinafter “the Secretariat”) hereby submits to the members of the Council and distributes to all States Parties, in the Annex to this Note, lists of validated analytical data of non-scheduled chemicals relevant to the Convention proposed for inclusion in the OCAD.
3. A database selection program enabling subsets of the OCAD data to be selected for specific applications was demonstrated by the Secretariat at the Industry Cluster meeting of 7 October 2016 and at a side event of the Twenty-First Session of the Conference (29 November 2016). By using this software, data of relevant non-scheduled chemicals can be selected for use on site, according to the mission purpose, subject to the inspected State Party’s agreement. One or more tables of data in the Annex may be selected for addition to the on-site database, which can minimise on-site false positive identifications (for industry inspections) and provide data of relevant non-scheduled chemicals needed for investigations of alleged use. It is noted that non-scheduled analytical derivatives of scheduled chemicals and approved chemicals for gas chromatography-mass spectrometry (GC-MS) performance tests



will continue to be used on site in accordance with present practice (C-I/DEC.64, dated 22 May 1997 and Corr. 1, dated 13 October 1997).

4. The Verification Division will, upon request, make available to States Parties copies of the validated mass spectrometry (MS) and gas chromatography (retention index) (GC(RI)) data listed in the Annex. In accordance with the mechanism referred to in paragraph 1 above, any State Party that had concerns about the proposed inclusion in the OCAD of any of this data should have made them known to the Secretariat before the Eighty-Fifth Session of the Council.

Annex (English only): Lists of Validated Data of Non-Scheduled Chemicals Relevant to the Chemical Weapons Convention

Annex

LISTS OF VALIDATED DATA OF NON-SCHEDULED CHEMICALS RELEVANT TO THE CHEMICAL WEAPONS CONVENTION

TABLE 1: LIST OF VALIDATED DATA OF NON-SCHEDULED DEGRADATION PRODUCTS AND/OR KNOWN SYNTHESIS IMPURITIES OR BY-PRODUCTS RELATED TO SCHEDULES 1.A.01 AND 1.A.02

| OPCW Code(s) | Chemical Name | Justification |
|------------------------|--|---|
| 08-4-0085 08-2-0109 | Isopropyl trimethylsilyl N,N-diethylphosphoramidate | TMS derivative of isopropyl N,N-diethylphosphoramidate: hydrolysis product of isopropyl N,N-diethylphosphoroamidocyanidate 1.A.02 |
| 08-4-0086 08-2-0110 | Isopropyl trimethylsilyl N,N-dipropylphosphoramidate | TMS derivative of isopropyl N,N-dipropylphosphoramidate: hydrolysis product of isopropyl N,N-dipropylphosphoroamidocyanidate 1.A.02 |
| 08-4-0084 08-2-0108 | Methyl trimethylsilyl N,N-diethylphosphoramidate | TMS derivative of methyl N,N-diethylphosphoramidate: hydrolysis product of methyl N,N-diethyl phosphoroamidocyanidate 1.A.02 |
| 08-4-0079 08-2-0103 | Methyl trimethylsilyl N,N-dipropylphosphoramidate | TMS derivative of methyl N,N-dipropylphosphoramidate: hydrolysis product of methyl N,N-dipropyl phosphoroamidocyanidate 1.A.02 |
| 08-4-0091 08-2-0115 | Ethyl trimethylsilyl N,N-diethylphosphoramidate | TMS derivative of ethyl N,N-diethylphosphoramidate, hydrolysis product of ethyl N,N-diethylphosphoroamidocyanidate 1.A.02 |

TABLE 2: LIST OF VALIDATED DATA OF NON-SCHEDULED DEGRADATION PRODUCTS AND/OR KNOWN SYNTHESIS IMPURITIES OR BY-PRODUCTS RELATED TO SCHEDULE 1.A.03

| OPCW Code(s) | Chemical Name | Justification |
|--------------------------------------|---|--|
| 07-4-2935 24-4-0002r 07-2-3172 | Bis(2-N,N-diethylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2940 07-2-3177 | (2-N,N-Diethylaminoethyl)(2-N,N-diisopropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2885 07-2-3122 | (2-N,N-Diethylaminoethyl)(2-N,N-diisopropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2905 07-2-3142 | (2-N,N-Diethylaminoethyl)(2-N,N-dimethylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |

| OPCW Code(s) | Chemical Name | Justification |
|------------------------|--|--|
| 07-4-2938 07-2-3175 | (2-N,N-Diethylaminoethyl)(2-N,N-dipropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2883 07-2-3120 | (2-N,N-Diethylaminoethyl)(2-N,N-dipropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2937 07-2-3174 | (2-N,N-Diethylaminoethyl)(2-N-ethyl-N-isopropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2882 07-2-3119 | (2-N,N-Diethylaminoethyl)(2-N-ethyl-N-isopropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2914 07-2-3151 | (2-N,N-Diethylaminoethyl)(2-N-ethyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2859 07-2-3096 | (2-N,N-Diethylaminoethyl)(2-N-ethyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2936 07-2-3173 | (2-N,N-Diethylaminoethyl)(2-N-ethyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2881 07-2-3118 | (2-N,N-Diethylaminoethyl)(2-N-ethyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2929 07-2-3166 | (2-N,N-Diethylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2874 07-2-3111 | (2-N,N-Diethylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2939 07-2-3176 | (2-N,N-Diethylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2884 07-2-3121 | (2-N,N-Diethylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2922 07-2-3159 | (2-N,N-Diethylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2867 07-2-3104 | (2-N,N-Diethylaminoethyl)(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2910 07-2-3147 | (2-N,N-Diisopropylaminoethyl)(2-N,N-dimethylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |

| OPCW Code(s) | Chemical Name | Justification |
|------------------------|--|--|
| 07-4-2855 07-2-3092 | (2-N,N-Diisopropylaminoethyl)(2-N,N-dimethylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2897 07-2-3134 | (2-N,N-Diisopropylaminoethyl)(2-N,N-dipropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2949 07-2-3186 | (2-N,N-Diisopropylaminoethyl)(2-N-ethyl-N-isopropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2894 07-2-3131 | (2-N,N-Diisopropylaminoethyl)(2-N-ethyl-N-isopropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2919 07-2-3156 | (2-N,N-Diisopropylaminoethyl)(2-N-ethyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2864 07-2-3101 | (2-N,N-Diisopropylaminoethyl)(2-N-ethyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2945 07-2-3182 | (2-N,N-Diisopropylaminoethyl)(2-N-ethyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2890 07-2-3127 | (2-N,N-Diisopropylaminoethyl)(2-N-ethyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2934 07-2-3171 | (2-N,N-Diisopropylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2879 07-2-3116 | (2-N,N-Diisopropylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2954 07-2-3191 | (2-N,N-Diisopropylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2899 07-2-3136 | (2-N,N-Diisopropylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2927 07-2-3164 | (2-N,N-Diisopropylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2872 07-2-3109 | (2-N,N-Diisopropylaminoethyl)(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2850 07-2-3087 | (2-N,N-Dimethylaminoethyl)(2-N,N-Diethylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |

| OPCW Code(s) | Chemical Name | Justification |
|------------------------|---|--|
| 07-4-2908 07-2-3145 | (2-N,N-Dimethylaminoethyl)(2-N,N-dipropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2853 07-2-3090 | (2-N,N-Dimethylaminoethyl)(2-N,N-dipropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2907 07-2-3144 | (2-N,N-Dimethylaminoethyl)(2-N-ethyl-N-isopropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2852 07-2-3089 | (2-N,N-Dimethylaminoethyl)(2-N-ethyl-N-isopropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2902 07-2-3139 | (2-N,N-Dimethylaminoethyl)(2-N-ethyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2847 07-2-3084 | (2-N,N-Dimethylaminoethyl)(2-N-ethyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2906 07-2-3143 | (2-N,N-Dimethylaminoethyl)(2-N-ethyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2851 07-2-3088 | (2-N,N-Dimethylaminoethyl)(2-N-ethyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2904 07-2-3141 | (2-N,N-Dimethylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2849 07-2-3086 | (2-N,N-Dimethylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2909 07-2-3146 | (2-N,N-Dimethylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2854 07-2-3091 | (2-N,N-Dimethylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2903 07-2-3140 | (2-N,N-Dimethylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2848 07-2-3085 | (2-N,N-Dimethylaminoethyl)(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2947 07-2-3184 | (2-N,N-Dipropylaminoethyl)(2-N-ethyl-N-isopropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |

| OPCW Code(s) | Chemical Name | Justification |
|------------------------|--|--|
| 07-4-2892 07-2-3129 | (2-N,N-Dipropylaminoethyl)(2-N-ethyl-N-isopropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2917 07-2-3154 | (2-N,N-Dipropylaminoethyl)(2-N-ethyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2862 07-2-3099 | (2-N,N-Dipropylaminoethyl)(2-N-ethyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2943 07-2-3180 | (2-N,N-Dipropylaminoethyl)(2-N-ethyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2888 07-2-3125 | (2-N,N-Dipropylaminoethyl)(2-N-ethyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2932 07-2-3169 | (2-N,N-Dipropylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2877 07-2-3114 | (2-N,N-Dipropylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2951 07-2-3188 | (2-N,N-Dipropylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2896 07-2-3133 | (2-N,N-Dipropylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2925 07-2-3162 | (2-N,N-Dipropylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2916 07-2-3153 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-ethyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2861 07-2-3098 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-ethyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2942 07-2-3179 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-ethyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2887 07-2-3124 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-ethyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2931 07-2-3168 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |

| OPCW Code(s) | Chemical Name | Justification |
|------------------------|--|---|
| 07-4-2876 07-2-3113 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2948 07-2-3185 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2893 07-2-3130 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2924 07-2-3161 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2869 07-2-3106 | (2-N-Ethyl-N-isopropylaminoethyl)(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2915 07-2-3152 | (2-N-Ethyl-N-methylaminoethyl)(2-N-ethyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2860 07-2-3097 | (2-N-Ethyl-N-methylaminoethyl)(2-N-ethyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2913 07-2-3150 | (2-N-Ethyl-N-methylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2858 07-2-3095 | (2-N-Ethyl-N-methylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2918 07-2-3155 | (2-N-Ethyl-N-methylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2863 07-2-3100 | (2-N-Ethyl-N-methylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2912 07-2-3149 | (2-N-Ethyl-N-methylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2857 07-2-3094 | (2-N-Ethyl-N-methylaminoethyl)(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis. |
| 07-4-2930 07-2-3167 | (2-N-Ethyl-N-propylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2875 07-2-3112 | (2-N-Ethyl-N-propylaminoethyl)(2-N-isopropyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |

| OPCW Code(s) | Chemical Name | Justification |
|--------------------------------------|---|--|
| 07-4-2944 07-2-3181 | (2-N-Ethyl-N-propylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2889 07-2-3126 | (2-N-Ethyl-N-propylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2923 07-2-3160 | (2-N-Ethyl-N-propylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2868 07-2-3105 | (2-N-Ethyl-N-propylaminoethyl)(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2933 07-2-3170 | (2-N-Isopropyl-N-methylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2878 07-2-3115 | (2-N-Isopropyl-N-methylaminoethyl)(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2921 07-2-3158 | (2-N-Isopropyl-N-methylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2866 07-2-3103 | (2-N-Isopropyl-N-methylaminoethyl)(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2926 07-2-3163 | (2-N-Isopropyl-N-propylaminoethyl)(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2871 07-2-3108 | (2-N-Isopropyl-N-propylaminoethyl)(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2952 07-2-3189 | (2-N,N-Diisopropylaminoethyl)(2-N,N-Dipropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2870 07-2-3107 | (2-N,N-Dipropylaminoethyl)(2-N-Methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2880 24-4-0001r 07-2-3117 | Bis(2-N,N-diethylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2955 24-4-0004r 07-2-3192 | Bis(2-N,N-diisopropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |

| OPCW Code(s) | Chemical Name | Justification |
|---|---|--|
| 07-4-2900 24-4-0003r 07-2-3137 24-2-0031 | Bis(2-N,N-diisopropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2901 24-4-0006r 07-2-3138 | Bis(2-N,N-dimethylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2846 07-2-3083 24-2-0033 | Bis(2-N,N-dimethylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2950 24-4-0008r 07-2-3187 24-2-0036 | Bis(2-N,N-dipropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2895 24-4-0007r 07-2-3132 | Bis(2-N,N-dipropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2946 07-2-3183 | Bis(2-N-ethyl-N-isopropylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2891 07-2-3128 | Bis(2-N-ethyl-N-isopropylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2911 07-2-3148 | Bis(2-N-ethyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2856 07-2-3093 | Bis(2-N-ethyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2941 07-2-3178 | Bis(2-N-ethyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2886 07-2-3123 | Bis(2-N-ethyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |

| OPCW Code(s) | Chemical Name | Justification |
|------------------------|--|--|
| 07-4-2928 07-2-3165 | Bis(2-N-isopropyl-N-methylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2873 07-2-3110 | Bis(2-N-isopropyl-N-methylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2953 07-2-3190 | Bis(2-N-isopropyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2898 07-2-3135 | Bis(2-N-isopropyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2920 07-2-3157 | Bis(2-N-methyl-N-propylaminoethyl)disulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2865 07-2-3102 | Bis(2-N-methyl-N-propylaminoethyl)sulfide | Known impurity and/or degradation product associated with 1.A.03 synthesis |
| 07-4-2796 07-2-3033 | N,N-Dimethyl-N-(2-trimethylsilyloxyethyl)amine | TMS derivative of N,N-dimethylaminoethanol. Exempted in 2.B.11 but a degradation product of 1.A.03 chemicals |
| 08-4-0076 08-2-0101 | Trimethylsilyl N,N-diethylaminoethyl-2-sulfonate | TMS derivative of N,N-diethylaminoethyl-2-sulfonate: degradation product of 2-(N,N-diethylamino)ethanethiol which is associated with schedule 1.A.03 |
| 08-4-0077 08-2-0102 | Trimethylsilyl N,N-diisopropylaminoethyl-2-sulfonate | TMS derivative of N,N-diisopropylaminoethyl-2-sulfonate: degradation product of 2-(N,N-diisopropylamino)ethanethiol which is associated with schedule 1.A.03 |
| 08-4-0075 08-2-0100 | Trimethylsilyl N,N-dimethylaminoethyl-2-sulfonate | TMS derivative of N,N-dimethylaminoethyl-2-sulfonate: degradation product of 2-(N,N-dipropylamino)ethanethiol which is associated with schedule 1.A.03 |
| 07-4-2836 07-2-3073 | N,N-Dimethylaminoethanol | Exemption in schedule 2.B.11 but a degradation product of 1.A.03 chemicals |
| 07-4-2840 07-2-3077 | N,N-Diethylaminoethanol | Exemption in schedule 2.B.11 but a degradation product of 1.A.03 chemicals |
| 07-4-2800 07-2-3037 | N,N-Diethyl-N-(2-trimethylsilyloxyethyl)amine | TMS derivative of N,N-diethylaminoethanol. Exempted in 2.B.11 but a degradation product of 1.A.03 |

TABLE 3: LIST OF VALIDATED DATA OF NON-SCHEDULED DEGRADATION PRODUCTS AND/OR KNOWN SYNTHESIS IMPURITIES OR BY-PRODUCTS RELATED TO SCHEDULE 1.A.04

| OPCW Code(s) | Chemical Name | Justification |
|---------------------|--|---|
| 17-4-0077 | | |
| 24-4-0018r | Divinylsulfone | Degradation product of sulfur mustard 1.A.04 |
| 17-2-0102 | | |
| 25-2-0005 | | |
| 17-4-0076 | | |
| 24-4-0017r | Divinylsulfoxide | Degradation product of sulfur mustard 1.A.04 |
| 17-2-0101 | | |
| 24-2-0041 | | |
| 24-4-0013r | N-(2-Trimethylsilyloxyethyl)thiomorpholine | TMS derivative of N-(2-hydroxyethyl)thiomorpholine (a reaction product of sulfur mustard 1.A.04 with a decon reagent: monoethanolamine) |
| 24-2-0039 | | |
| 24-4-0012r | N-(2-Hydroxyethyl)thiomorpholine | Reaction product of sulfur mustard 1.A.04 with a decon reagent: monoethanolamine |
| 24-2-0038 | | |
| 24-4-0010r | 1,4-Dithiane | Impurity in sulfur mustard 1.A.04 |
| 25-2-0001 | | |
| 24-4-0011r | 1,4-Oxathiane | Impurity in sulfur mustard 1.A.04 |
| 25-2-0002 | | |
| 24-4-0009r | 2-Chloroethyl 2-hydroxyethyl sulfide | Hydrolysis product of sulfur mustard 1.A.04 |
| 24-2-0037 | | |
| 24-4-0019r | 2-Chloroethyl vinyl sulfide | Degradation product of sulfur mustard 1.A.04 |
| 24-2-0042 | | |
| 17-4-0071 | | |
| 24-4-0021r | 2-Chloroethyl vinyl sulfone | Degradation product of sulfur mustard 1.A.04 |
| 17-2-0096 | | |
| 24-2-0044 | | |

| OPCW Code(s) | Chemical Name | Justification |
|--------------|--|---|
| 17-4-0070 | | |
| 24-4-0020r | 2-Chloroethyl vinyl sulfoxide | Degradation product of sulfur mustard 1.A.04 |
| 17-2-0095 | | |
| 24-2-0043 | | |
| 17-4-0069 | 2-Chloroethylthioethyl 2-chloroethylidithioethyl ether | Analogue of bis(2-chloroethylthioethyl)ether (O-mustard). Known impurity in synthesis associated with 1.A.04 |
| 17-2-0094 | | |
| 24-4-0041r | 1,3-Bis(2-trimethylsilyloxyethylsulfonyl)propane | TMS derivative of 1,3-bis(2-hydroxyethylsulfonyl)propane a degradation product of 1,3-bis(2-chloroethylthio)propane 1.A.04 |
| 24-2-0060 | | |
| 17-4-0073 | | |
| 24-4-0016r | Bis(2-chloroethyl)sulfone | Oxidation product of sulfur mustard 1.A.04 |
| 17-2-0098 | | |
| 25-2-0004 | | |
| 17-4-0074 | | |
| 24-4-0015r | Bis(2-chloroethyl)sulfoxide | Oxidation product of sulfur mustard 1.A.04 |
| 17-2-0099 | | |
| 24-4-0022r | 2-Hydroxyethyl vinyl sulfide | Degradation product of sulfur mustard 1.A.04 |
| 24-2-0045 | | |
| 24-4-0024r | 2-Hydroxyethyl vinyl sulfone | Degradation product of sulfur mustard 1.A.04 |
| 24-2-0047 | | |
| 24-4-0035r | 1,2-Bis(2-trimethylsilyloxyethylsulfonyl)ethane | TMS derivative of 1,2-bis(2-hydroxyethylsulfonyl)ethane, degradation product of 1,2-bis(2-chloroethylthio)ethane (sesquimustard) 1.A.04 |
| 24-2-0054 | | |
| 25-2-0020 | 1,2-Bis(2-trimethylsilyloxyethylthio)ethane | TMS derivative of 1,2-bis(2-hydroxyethylthio)ethane, hydrolysis product of 1,2-bis(2-chloroethylthio)ethane (sesquimustard) 1.A.04 |
| 24-4-0033r | Bis(2-trimethylsilyloxyethyl)sulfone | TMS derivative of bis(2-hydroxyethyl)sulfone, degradation product of bis(2-hydroxyethyl)sulfide (thiodiglycol) 2.B.13 |
| 25-2-0023 | | |
| 24-4-0032r | Bis(2-trimethylsilyloxyethyl)sulfoxide | TMS derivative of bis(2-hydroxyethyl)sulfoxide, degradation product of bis(2-hydroxyethyl)sulfide (thiodiglycol) 2.B.13 |
| 08-2-0124 | | |
| 24-4-0039r | Bis(2-trimethylsilyloxyethylsulfonyl)methane | TMS derivative of bis(2-hydroxyethylsulfonyl)methane, degradation product of bis(2-chloroethylthio)methane 1.A.04 |
| 24-2-0058 | | |

| OPCW Code(s) | Chemical Name | Justification |
|--------------------------------------|--|--|
| 24-4-0026r 25-2-0021 | Bis(2-trimethylsilyloxyethylthioethyl)ether | TMS derivative of bis(2-hydroxyethylthioethyl)ether, hydrolysis product of bis(2-chloroethylthioethyl)ether (O-mustard) 1.A.04 |
| 24-4-0031r 24-2-0052 | Bis(2-trimethylsilyloxyethylthiomethyl)ether | TMS derivative of bis(2-hydroxyethylthiomethyl)ether, hydrolysis product of bis(2-chloroethylthiomethyl)ether 1.A.04 |
| 24-4-0029r 08-4-0156 08-2-0188 | 1,4-Bis(2-trimethylsilyloxyethylthio)butane | TMS derivative of 1,4-bis(2-hydroxyethylthio)butane, hydrolysis product of 1,4-bis(2-chloroethylthio)butane 1.A.04 |
| 24-4-0045r 24-2-0064 | 1,5-Bis(2-trimethylsilyloxyethylsulfonyl)pentane | TMS derivative of 1,5-bis(2-hydroxyethylsulfonyl)pentane, degradation product of 1,5-bis(2-chloroethylthio)pentane 1.A.04 |

TABLE 4: LIST OF VALIDATED DATA OF RIOT CONTROL AGENTS

| OPCW Code(s) | Chemical Name | Justification |
|-------------------------------------|-----------------------------------|--|
| 16-4-0047 19-4-0007 16-2-0018 | 2-Chloroacetophenone | Riot control agent (code CN) On list of declared riot control agents compiled by the OPCW (S/1177/2014) |
| 19-4-0009 08-2-0133 24-2-0076 | 2-Chlorobenzylidene malononitrile | Riot control agent (code CS) On list of declared riot control agents compiled by the OPCW (S/1177/2014) |
| 24-4-0056r 25-2-0017 | Capsaicin | Riot control agent (component of pepper spray) On list of declared riot control agents compiled by the OPCW (S/1177/2014) |
| 19-4-0010 24-2-0077 | Dibenz[b,f][1,4]oxazepine | Riot control agent (code CR) On list of declared riot control agents compiled by the OPCW (S/1177/2014) |
| 24-4-0057r 25-2-0018 | Pelargonic acid vanillylamide | Riot control agent (component of pepper spray) On list of declared riot control agents compiled by the OPCW (S/1177/2014) |

TABLE 5: LIST OF VALIDATED DATA OF NON-SCHEDULED CHEMICALS REQUIRED TO REMOVE FALSE POSITIVES IN SCHEDULE 2.B.11 INSPECTIONS

| OPCW Code(s) | Chemical Name | Justification |
|------------------------|---|--|
| 07-4-2840 07-2-3077 | N,N-Diethylaminoethanol | Exemption in schedule 2.B.11 but a known false positive of other 2.B.11 chemicals |
| 07-4-2800 07-2-3037 | N,N-Diethyl-N-(2-trimethylsilyloxyethyl)amine | TMS derivative of N,N-diethylaminoethanol. Exempted in 2.B.11 but a known false positive of other 2.B.11 chemicals |

TABLE 6: LIST OF VALIDATED DATA OF NON-SCHEDULED CHEMICALS REQUIRED TO REMOVE FALSE POSITIVES IN SCHEDULE 2.B.12 INSPECTIONS

| OPCW Code(s) | Chemical Name | Justification |
|---|---|--|
| 07-4-2880 24-4-0001r 07-2-3117 | Bis(2-N,N-diethylaminoethyl)sulfide | A known false positive for a 1.A.03 chemical |
| 07-4-2900 24-4-0003r 07-2-3137 24-2-0031 | Bis(2-N,N-diisopropylaminoethyl)sulfide | A known false positive for a 1.A.03 chemical |
| 07-4-2846 07-2-3083 24-2-0033 | Bis(2-N,N-dimethylaminoethyl)sulfide | A known false positive for a 1.A.03 chemical |

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