

**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 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 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 will be submitted to the members of the Council and distributed to all States Parties no later than 30 days before the opening of the Eighty-Fourth Session, during which the Council will be 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 of the States Parties (29 November 2016). By using this software, data of scheduled chemicals and relevant non-scheduled chemicals can be selected for use on site, according to the mission purpose, after negotiation between the inspection team and the inspected State Party. 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.



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 has concerns about the proposed inclusion in the OCAD of any of this data should make them known to the Secretariat before the Eighty-Fourth 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
08-2-0082	Ethyl 2-methoxyethyl N,N-dimethylphosphoramidate	Decontamination product of Tabun 1.A.02
08-4-0085	Isopropyl trimethylsilyl N,N-diethylphosphoramidate	TMS derivative of isopropyl N,N-diethylphosphoramidate: hydrolysis product of isopropyl N,N-diethylphosphoroamidocyanidate 1.A.02
08-2-0109	Isopropyl trimethylsilyl N,N-dipropylphosphoramidate	TMS derivative of isopropyl N,N-dipropylphosphoramidate: hydrolysis product of isopropyl N,N-dipropylphosphoroamidocyanidate 1.A.02
08-4-0086	Methyl trimethylsilyl N,N-diethylphosphoramidate	TMS derivative of methyl N,N-diethylphosphoramidate: hydrolysis product of methyl N,N-diethyl phosphoramidocyanidate 1.A.02
08-2-0110	Methyl trimethylsilyl N,N-dipropylphosphoramidate	TMS derivative of methyl N,N-dipropylphosphoramidate: hydrolysis product of methyl N,N-dipropyl phosphoramidocyanidate 1.A.02
08-4-0084	Ethyl trimethylsilyl N,N-diethylphosphoramidate	TMS derivative of ethyl N,N-diethylphosphoramidate, hydrolysis product of ethyl N,N-diethylphosphoroamidocyanidate 1.A.02
08-2-0108	Ethyl trimethylsilyl N,N-dipropylphosphoramidate	TMS derivative of ethyl N,N-dipropylphosphoramidate, hydrolysis product of ethyl N,N-dipropyl phosphoramidocyanidate 1.A.02
08-4-0079		
08-2-0103		
08-4-0091		
08-2-0115		

**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	Bis(2-N,N-diethylaminoethyl)disulfide	Known impurity and/or degradation product associated with 1.A.03 synthesis
07-2-3172		
07-4-2940	(2-N,N-Diethylaminoethyl)(2-N,N-diisopropylaminoethyl)disulfide	Known impurity and/or degradation product associated with 1.A.03 synthesis
07-2-3177		
07-4-2885	(2-N,N-Diethylaminoethyl)(2-N,N-diisopropylaminoethyl)sulfide	Known impurity and/or degradation product associated with 1.A.03 synthesis
07-2-3122		

OPCW Code(s)	Chemical Name	Justification
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
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

OPCW Code(s)	Chemical Name	Justification
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
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

OPCW Code(s)	Chemical Name	Justification
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
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

OPCW Code(s)	Chemical Name	Justification
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
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-methylamino)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

OPCW Code(s)	Chemical Name	Justification
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
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



OPCW Code(s)	Chemical Name	Justification
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
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

<b>OPCW Code(s)</b>	<b>Chemical Name</b>	<b>Justification</b>
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
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

<b>OPCW Code(s)</b>	<b>Chemical Name</b>	<b>Justification</b>
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
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		
17-2-0111	2-(2-Chlorovinyl)-1,3,6,2-dioxathiasocane	Reaction product of lewisite 1 with thiodiglycol
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 17-2-0095 24-2-0043	2-Chloroethyl vinyl sulfoxide	Degradation product of sulfur mustard 1.A.04
17-4-0069 17-2-0094	2-Chloroethylthioethyl 2-chloroethylidithioethyl ether	Analogue of bis(2-chloroethylthioethyl)ether (O-mustard). Known impurity in synthesis associated with 1.A.04
24-4-0040r	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
24-4-0041r 24-2-0060	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
24-4-0028r	1,3-Bis(2-trimethylsilyloxyethylthio)propane	TMS derivative of 1,3-bis(2-hydroxyethylthio)propane hydrolysis product of 1,3-bis(2-chloroethylthio)propane 1.A.04
17-4-0073 24-4-0016r 17-2-0098 25-2-0004	Bis(2-chloroethyl)sulfone	Oxidation product of sulfur mustard 1.A.04
17-4-0074 24-4-0015r 17-2-0099	Bis(2-chloroethyl)sulfoxide	Oxidation product of sulfur mustard 1.A.04
24-4-0022r 24-2-0045	2-Hydroxyethyl vinyl sulfide	Degradation product of sulfur mustard 1.A.04
24-4-0024r 24-2-0047	2-Hydroxyethyl vinyl sulfone	Degradation product of sulfur mustard 1.A.04
24-4-0034r	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
24-4-0035r 24-2-0054	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
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

OPCW Code(s)	Chemical Name	Justification
24-4-0037r	1,2-Bis(2-trimethylsilyloxyethylsulfonyl)ether	TMS derivative of bis(2-hydroxyethylsulfonyl)ether, degradation product of bis(2-chloroethylthio)ether (O-mustard) 1.A.04
24-4-0033r 25-2-0023	Bis(2-trimethylsilyloxyethyl)sulfone	TMS derivative of bis(2-hydroxyethyl)sulfone, degradation product of bis(2-hydroxyethyl)sulfide (thiodiglycol) 2.B.13
24-4-0032r 08-2-0124	Bis(2-trimethylsilyloxyethyl)sulfoxide	TMS derivative of bis(2-hydroxyethyl)sulfoxide, degradation product of bis(2-hydroxyethyl)sulfide (thiodiglycol) 2.B.13
24-4-0038r	Bis(2-trimethylsilyloxyethylsulfanyl)methane	TMS derivative of bis(2-hydroxyethylsulfanyl)methane, degradation product of bis(2-chloroethylthio)methane 1.A.04
24-4-0046r	Bis(2-trimethylsilyloxyethylsulfynyl)methyl)ether	TMS derivative of bis(2-hydroxyethylsulfynyl)methyl)ether, degradation product of bis(2-chloroethylthio)ether 1.A.04
24-4-0039r 24-2-0058	Bis(2-trimethylsilyloxyethylsulfonyl)methane	TMS derivative of bis(2-hydroxyethylsulfonyl)methane, degradation product of bis(2-chloroethylthio)methane 1.A.04
24-4-0047r	Bis(2-trimethylsilyloxyethylsulfonylmethyl)ether	TMS derivative of bis(2-hydroxyethylsulfonylmethyl)ether, degradation product of bis(2-chloroethylthio)ether 1.A.04
24-4-0027r	Bis(2-trimethylsilyloxyethylthio)methane	TMS derivative of bis(2-hydroxyethylthio)methane, hydrolysis product of bis(2-chloroethylthio)methane 1.A.04
24-4-0026r 25-2-0021	Bis(2-trimethylsilyloxyethylthio)ether	TMS derivative of bis(2-hydroxyethylthio)ether, hydrolysis product of bis(2-chloroethylthio)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
24-4-0030r	1,5-Bis(2-trimethylsilyloxyethylthio)pentane	TMS derivative of 1,5-bis(2-hydroxyethylthio)pentane, hydrolysis product of 1,5-bis(2-chloroethylthio)pentane 1.A.04
24-4-0042r	1,4-Bis(2-trimethylsilyloxyethylsulfanyl)butane	TMS derivative of 1,4-bis(2-hydroxyethylsulfanyl)butane, degradation product of 1,4-bis(2-chloroethylthio)butane 1.A.04
24-4-0043r 08-4-0158	1,4-Bis(2-trimethylsilyloxyethylsulfonyl)butane	TMS derivative of 1,4-bis(2-hydroxyethylsulfonyl)butane, degradation product of 1,4-bis(2-chloroethylthio)butane 1.A.04

OPCW Code(s)	Chemical Name	Justification
24-4-0044r	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
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 NON-SCHEDULED DEGRADATION PRODUCTS AND/OR KNOWN SYNTHESIS IMPURITIES OR BY-PRODUCTS RELATED TO SCHEDULE 1.A.05**

OPCW Code(s)	Chemical Name	Justification
17-2-0111	2-(2-Chlorovinyl)-1,3,6,2-dioxathiansocane	Reaction product of Iewisite 1 with thiodiglycol

**Table 5: LIST OF VALIDATED DATA OF RIOT CONTROL AGENTS**

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

**Table 6: 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 7: 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