

**NOTE BY THE DIRECTOR-GENERAL****LISTS OF NEW VALIDATED DATA OF 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 thirty-sixth time on 6 and 7 September 2012, and submitted lists of validated analytical data 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 Seventy-First 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 new validated analytical data proposed for inclusion in the OPCW Central Analytical Database (OCAD).
3. The Verification Division will, upon request, make available to States Parties copies of the new validated mass spectrometry (MS), gas chromatography (retention index) (GC(RI)), and infrared spectroscopy (IR) 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 Seventy-First Session of the Council.

Annex (English only):            Lists of New Validated Data of Scheduled Chemicals



## Annex

## LISTS OF NEW VALIDATED DATA OF SCHEDULED CHEMICALS

TABLE 1: LIST OF APPROVED MS DATA OF SCHEDULED CHEMICALS

| OPCW Code  | Chemical Name  | Schedule |
|------------|--|----------|
| 07-2-3193  | Methyl 2-dimethylaminoethyl methylphosphonate        | 2.B.04   |
| 07-2-3194  | Methyl 2-diethylaminoethyl methylphosphonate         | 2.B.04   |
| 07-2-3195  | Methyl 2-dipropylaminoethyl methylphosphonate        | 2.B.04   |
| 07-2-3196  | Methyl 2-diisopropylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3197  | Ethyl 2-dimethylaminoethyl methylphosphonate         | 2.B.04   |
| 07-2-3198  | Ethyl 2-diethylaminoethyl methylphosphonate          | 2.B.04   |
| 07-2-3199  | Ethyl 2-dipropylaminoethyl methylphosphonate         | 2.B.04   |
| 07-2-3200  | Ethyl 2-diisopropylaminoethyl methylphosphonate      | 2.B.04   |
| 07-2-3201  | Propyl 2-dimethylaminoethyl methylphosphonate        | 2.B.04   |
| 07-2-3202  | Propyl 2-diethylaminoethyl methylphosphonate         | 2.B.04   |
| 07-2-3203  | Propyl 2-dipropylaminoethyl methylphosphonate        | 2.B.04   |
| 07-2-3204  | Propyl 2-diisopropylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3205  | Isopropyl 2-dimethylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3206  | Isopropyl 2-diethylaminoethyl methylphosphonate      | 2.B.04   |
| 07-2-3207  | Isopropyl 2-dipropylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3208  | Isopropyl 2-diisopropylaminoethyl methylphosphonate  | 2.B.04   |
| 07-2-3209  | Butyl 2-dimethylaminoethyl methylphosphonate         | 2.B.04   |
| 07-2-3210  | Butyl 2-diethylaminoethyl methylphosphonate          | 2.B.04   |
| 07-2-3211  | Butyl 2-dipropylaminoethyl methylphosphonate         | 2.B.04   |
| 07-2-3212  | Butyl 2-diisopropylaminoethyl methylphosphonate      | 2.B.04   |
| 07-2-3213a | sec-Butyl 2-dimethylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3213b | sec-Butyl 2-dimethylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3214a | sec-Butyl 2-diethylaminoethyl methylphosphonate      | 2.B.04   |
| 07-2-3214b | sec-Butyl 2-diethylaminoethyl methylphosphonate      | 2.B.04   |
| 07-2-3215a | sec-Butyl 2-dipropylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3215b | sec-Butyl 2-dipropylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3216a | sec-Butyl 2-diisopropylaminoethyl methylphosphonate  | 2.B.04   |
| 07-2-3216b | sec-Butyl 2-diisopropylaminoethyl methylphosphonate  | 2.B.04   |
| 07-2-3217  | Isobutyl 2-dimethylaminoethyl methylphosphonate      | 2.B.04   |
| 07-2-3218  | Isobutyl 2-diethylaminoethyl methylphosphonate       | 2.B.04   |
| 07-2-3219  | Isobutyl 2-dipropylaminoethyl methylphosphonate      | 2.B.04   |
| 07-2-3220  | Isobutyl 2-diisopropylaminoethyl methylphosphonate   | 2.B.04   |
| 07-2-3221  | Cyclohexyl 2-dimethylaminoethyl methylphosphonate    | 2.B.04   |
| 07-2-3222  | Cyclohexyl 2-diethylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3223  | Cyclohexyl 2-dipropylaminoethyl methylphosphonate    | 2.B.04   |
| 07-2-3224  | Cyclohexyl 2-diisopropylaminoethyl methylphosphonate | 2.B.04   |
| 07-2-3225a | Pinacolyl 2-dimethylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3225b | Pinacolyl 2-dimethylaminoethyl methylphosphonate     | 2.B.04   |
| 07-2-3226a | Pinacolyl 2-diethylaminoethyl methylphosphonate      | 2.B.04   |
| 07-2-3226b | Pinacolyl 2-diethylaminoethyl methylphosphonate      | 2.B.04   |

| <b>OPCW Code</b> | <b>Chemical Name</b>                                | <b>Schedule</b> |
|------------------|---|-----------------|
| 07-2-3227a       | Pinacolyl 2-dipropylaminoethyl methylphosphonate    | 2.B.04          |
| 07-2-3227b       | Pinacolyl 2-dipropylaminoethyl methylphosphonate    | 2.B.04          |
| 07-2-3228a       | Pinacolyl 2-diisopropylaminoethyl methylphosphonate | 2.B.04          |
| 07-2-3228b       | Pinacolyl 2-diisopropylaminoethyl methylphosphonate | 2.B.04          |
| 07-2-3229        | Methyl 2-dimethylaminoethyl ethylphosphonate        | 2.B.04          |
| 07-2-3230        | Methyl 2-diethylaminoethyl ethylphosphonate         | 2.B.04          |
| 07-2-3231        | Methyl 2-dipropylaminoethyl ethylphosphonate        | 2.B.04          |
| 07-2-3232        | Methyl 2-diisopropylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3233        | Ethyl 2-dimethylaminoethyl ethylphosphonate         | 2.B.04          |
| 07-2-3234        | Ethyl 2-diethylaminoethyl ethylphosphonate          | 2.B.04          |
| 07-2-3235        | Ethyl 2-dipropylaminoethyl ethylphosphonate         | 2.B.04          |
| 07-2-3236        | Ethyl 2-diisopropylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3237        | Propyl 2-dimethylaminoethyl ethylphosphonate        | 2.B.04          |
| 07-2-3238        | Propyl 2-diethylaminoethyl ethylphosphonate         | 2.B.04          |
| 07-2-3239        | Propyl 2-dipropylaminoethyl ethylphosphonate        | 2.B.04          |
| 07-2-3240        | Propyl 2-diisopropylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3241        | Isopropyl 2-dimethylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3242        | Isopropyl 2-diethylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3243        | Isopropyl 2-dipropylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3244        | Isopropyl 2-diisopropylaminoethyl ethylphosphonate  | 2.B.04          |
| 07-2-3245        | Butyl 2-dimethylaminoethyl ethylphosphonate         | 2.B.04          |
| 07-2-3246        | Butyl 2-diethylaminoethyl ethylphosphonate          | 2.B.04          |
| 07-2-3247        | Butyl 2-dipropylaminoethyl ethylphosphonate         | 2.B.04          |
| 07-2-3248        | Butyl 2-diisopropylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3249b       | sec-Butyl 2-dimethylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3250a       | sec-Butyl 2-diethylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3250b       | sec-Butyl 2-diethylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3251a       | sec-Butyl 2-dipropylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3251b       | sec-Butyl 2-dipropylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3252a       | sec-Butyl 2-diisopropylaminoethyl ethylphosphonate  | 2.B.04          |
| 07-2-3252b       | sec-Butyl 2-diisopropylaminoethyl ethylphosphonate  | 2.B.04          |
| 07-2-3253        | Isobutyl 2-dimethylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3254        | Isobutyl 2-diethylaminoethyl ethylphosphonate       | 2.B.04          |
| 07-2-3255        | Isobutyl 2-dipropylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3256        | Isobutyl 2-diisopropylaminoethyl ethylphosphonate   | 2.B.04          |
| 07-2-3257        | Cyclohexyl 2-dimethylaminoethyl ethylphosphonate    | 2.B.04          |
| 07-2-3258        | Cyclohexyl 2-diethylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3259        | Cyclohexyl 2-dipropylaminoethyl ethylphosphonate    | 2.B.04          |
| 07-2-3260        | Cyclohexyl 2-diisopropylaminoethyl ethylphosphonate | 2.B.04          |
| 07-2-3261a       | Pinacolyl 2-dimethylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3261b       | Pinacolyl 2-dimethylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3262a       | Pinacolyl 2-diethylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3262b       | Pinacolyl 2-diethylaminoethyl ethylphosphonate      | 2.B.04          |
| 07-2-3263a       | Pinacolyl 2-dipropylaminoethyl ethylphosphonate     | 2.B.04          |
| 07-2-3263b       | Pinacolyl 2-dipropylaminoethyl ethylphosphonate     | 2.B.04          |

| OPCW Code   | Chemical Name  | Schedule |
|-------------|--|----------|
| 07-2-3264a  | Pinacolyl 2-diisopropylaminoethyl ethylphosphonate     | 2.B.04   |
| 07-2-3264b  | Pinacolyl 2-diisopropylaminoethyl ethylphosphonate     | 2.B.04   |
| 16-2-0175   | Bis(1-methyl-2-methoxyethyl) methylphosphonate         | 2.B.04   |
| 16-2-0178a  | Isopropyl 1-methyl-2-methoxyethyl methylphosphonate    | 2.B.04   |
| 16-2-0180   | 1-Methyl-2-methoxyethyl propyl ethylphosphonate        | 2.B.04   |
| 16-2-0182a  | Butyl 1-methyl-2-methoxyethyl methylphosphonate        | 2.B.04   |
| 16-2-0182b  | Butyl 1-methyl-2-methoxyethyl methylphosphonate        | 2.B.04   |
| 16-2-0183a  | Butyl 1-methyl-2-methoxyethyl ethylphosphonate         | 2.B.04   |
| 16-2-0183b  | Butyl 1-methyl-2-methoxyethyl ethylphosphonate         | 2.B.04   |
| 16-2-0185   | Butyl 1-methyl-2-methoxyethyl propylphosphonate        | 2.B.04   |
| 16-2-0186   | Bis(1-methyl-2-methoxyethyl) propylphosphonate         | 2.B.04   |
| 16-2-0187b  | 1,2-Dimethylpropyl 2-methoxyethyl propylphosphonate    | 2.B.04   |
| 16-2-0188a  | Cyclopentyl 1-methyl-2-methoxyethyl ethylphosphonate   | 2.B.04   |
| 16-2-0188b  | Cyclopentyl 1-methyl-2-methoxyethyl ethylphosphonate   | 2.B.04   |
| 16-2-0190   | 2-Isopropoxyethyl methyl methylphosphonate             | 2.B.04   |
| 16-2-0191   | Bis(2-isopropoxyethyl) methylphosphonate               | 2.B.04   |
| 16-2-0193   | Bis(2-isopropoxyethyl) ethylphosphonate                | 2.B.04   |
| 16-2-0195   | Bis(2-isopropoxyethyl) propylphosphonate               | 2.B.04   |
| 16-2-0200   | 2-Isopropoxyethyl isopropyl ethylphosphonate           | 2.B.04   |
| 16-2-0201   | 2-Isopropoxyethyl isopropyl propylphosphonate          | 2.B.04   |
| 17-2-0379   | Ethyldiethanolamine                                    | 3.B.15   |
| 17-2-0381   | Trimethyl phosphite                                    | 3.B.08   |
| 28-2-0013ar | 2,4-Dimethyl-1,3,2-dioxaphospholane-2-oxide            | 2.B.04   |
| 28-2-0013br | 2,4-Dimethyl-1,3,2-dioxaphospholane-2-oxide            | 2.B.04   |
| 28-2-0017ar | 2-Ethyl-4-methyl-1,3,2-dioxaphospholane-2-oxide        | 2.B.04   |
| 28-2-0017br | 2-Ethyl-4-methyl-1,3,2-dioxaphospholane-2-oxide        | 2.B.04   |
| 28-2-0018ar | 2,4-Diethyl-1,3,2-dioxaphospholane-2-oxide             | 2.B.04   |
| 28-2-0018br | 2,4-Diethyl-1,3,2-dioxaphospholane-2-oxide             | 2.B.04   |
| 28-2-0021ar | 4-Methyl-2-propyl-1,3,2-dioxaphospholane-2-oxide       | 2.B.04   |
| 28-2-0021br | 4-Methyl-2-propyl-1,3,2-dioxaphospholane-2-oxide       | 2.B.04   |
| 28-2-0022ar | 4-Ethyl-2-propyl-1,3,2-dioxaphospholane-2-oxide        | 2.B.04   |
| 28-2-0022br | 4-Ethyl-2-propyl-1,3,2-dioxaphospholane-2-oxide        | 2.B.04   |
| 28-2-0024cr | 5-Ethyl-2,4-dipropyl-1,3,2-dioxaphosphinane-2-oxide    | 2.B.04   |
| 28-2-0025ar | 2,4-Dimethyl-1,3,2-dioxaphospholane-2-sulfide          | 2.B.04   |
| 28-2-0025br | 2,4-Dimethyl-1,3,2-dioxaphospholane-2-sulfide          | 2.B.04   |
| 28-2-0026ar | 4-Ethyl-2-methyl-1,3,2-dioxaphospholane-2-sulfide      | 2.B.04   |
| 28-2-0026br | 4-Ethyl-2-methyl-1,3,2-dioxaphospholane-2-sulfide      | 2.B.04   |
| 28-2-0030ar | 2,4-Diethyl-1,3,2-dioxaphospholane-2-sulfide           | 2.B.04   |
| 28-2-0030br | 2,4-Diethyl-1,3,2-dioxaphospholane-2-sulfide           | 2.B.04   |
| 28-2-0032r  | 2,5-Diethyl-4-propyl-1,3,2-dioxaphosphinane-2-sulfide  | 2.B.04   |
| 28-2-0033ar | 4-Methyl-2-propyl-1,3,2-dioxaphospholane-2-sulfide     | 2.B.04   |
| 28-2-0034ar | 4-Ethyl-2-propyl-1,3,2-dioxaphospholane-2-sulfide      | 2.B.04   |
| 28-2-0034br | 4-Ethyl-2-propyl-1,3,2-dioxaphospholane-2-sulfide      | 2.B.04   |
| 28-2-0035cr | 4,5-Dimethyl-2-propyl-1,3,2-dioxaphospholane-2-sulfide | 2.B.04   |
| 28-2-0036r  | 5-Ethyl-2,4-dipropyl-1,3,2-dioxaphosphinane-2-sulfide  | 2.B.04   |

| <b>OPCW Code</b> | <b>Chemical Name</b>                             | <b>Schedule</b> |
|------------------|--|-----------------|
| 29-2-0001        | 2-Methyl-1,3,2-dithiaphosphinane-2-sulfide       | 2.B.04          |
| 29-2-0002a       | 2,4-Dimethyl-1,3,2-dithiaphospholane-2-sulfide   | 2.B.04          |
| 29-2-0002b       | 2,4-Dimethyl-1,3,2-dithiaphospholane-2-sulfide   | 2.B.04          |
| 29-2-0003a       | Methyl 1-methylbut-3-enyl methylphosphonate      | 2.B.04          |
| 29-2-0003b       | Methyl 1-methylbut-3-enyl methylphosphonate      | 2.B.04          |
| 29-2-0004        | Methyl 3-methylbut-3-enyl methylphosphonate      | 2.B.04          |
| 29-2-0005        | Methyl pent-4-enyl methylphosphonate             | 2.B.04          |
| 29-2-0006        | Methyl 3-methylbut-2-enyl methylphosphonate      | 2.B.04          |
| 29-2-0007a       | Methyl 1-methylbut-2-enyl methylphosphonate      | 2.B.04          |
| 29-2-0008a       | 1-Ethylprop-2-enyl methyl methylphosphonate      | 2.B.04          |
| 29-2-0008b       | 1-Ethylprop-2-enyl methyl methylphosphonate      | 2.B.04          |
| 29-2-0009        | Methyl pent-2-enyl methylphosphonate             | 2.B.04          |
| 29-2-0010        | 1,2-Dimethylprop-2-enyl methyl methylphosphonate | 2.B.04          |

**TABLE 2: LIST OF APPROVED GC(RI) DATA OF SCHEDULED CHEMICALS**

Note: A “1” under the “Column” heading means an HP5 or an SE54 column; a “2” under the “Column” heading means a DB5 column.

| OPCW Code | Chemical Name                                       | Schedule | Column | RI(a) | RI(b) |
|-----------|---|----------|--------|-------|-------|
| 07-4-2956 | Methyl 2-dimethylaminoethyl methylphosphonate       | 2.B.04   | 2      | 1210  |       |
| 07-4-2957 | Methyl 2-diethylaminoethyl methylphosphonate        | 2.B.04   | 2      | 1368  |       |
| 07-4-2958 | Methyl 2-dipropylaminoethyl methylphosphonate       | 2.B.04   | 2      | 1521  |       |
| 07-4-2959 | Methyl 2-diisopropylaminoethyl methylphosphonate    | 2.B.04   | 2      | 1497  |       |
| 07-4-2960 | Ethyl 2-dimethylaminoethyl methylphosphonate        | 2.B.04   | 2      | 1270  |       |
| 07-4-2961 | Ethyl 2-diethylaminoethyl methylphosphonate         | 2.B.04   | 2      | 1424  |       |
| 07-4-2962 | Ethyl 2-dipropylaminoethyl methylphosphonate        | 2.B.04   | 2      | 1574  |       |
| 07-4-2963 | Ethyl 2-diisopropylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1552  |       |
| 07-4-2964 | Propyl 2-dimethylaminoethyl methylphosphonate       | 2.B.04   | 2      | 1360  |       |
| 07-4-2965 | Propyl 2-diethylaminoethyl methylphosphonate        | 2.B.04   | 2      | 1513  |       |
| 07-4-2966 | Propyl 2-dipropylaminoethyl methylphosphonate       | 2.B.04   | 2      | 1663  |       |
| 07-4-2967 | Propyl 2-diisopropylaminoethyl methylphosphonate    | 2.B.04   | 2      | 1640  |       |
| 07-4-2968 | Isopropyl 2-dimethylaminoethyl methylphosphonate    | 2.B.04   | 2      | 1292  |       |
| 07-4-2969 | Isopropyl 2-diethylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1446  |       |
| 07-4-2970 | Isopropyl 2-dipropylaminoethyl methylphosphonate    | 2.B.04   | 2      | 1595  |       |
| 07-4-2971 | Isopropyl 2-diisopropylaminoethyl methylphosphonate | 2.B.04   | 2      | 1572  |       |
| 07-4-2972 | Butyl 2-dimethylaminoethyl methylphosphonate        | 2.B.04   | 2      | 1454  |       |
| 07-4-2973 | Butyl 2-diethylaminoethyl methylphosphonate         | 2.B.04   | 2      | 1605  |       |
| 07-4-2974 | Butyl 2-dipropylaminoethyl methylphosphonate        | 2.B.04   | 2      | 1754  |       |
| 07-4-2975 | Butyl 2-diisopropylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1731  |       |
| 07-4-2976 | sec-Butyl 2-dimethylaminoethyl methylphosphonate    | 2.B.04   | 2      | 1384  | 1390  |
| 07-4-2977 | sec-Butyl 2-diethylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1537  | 1544  |
| 07-4-2978 | sec-Butyl 2-dipropylaminoethyl methylphosphonate    | 2.B.04   | 2      | 1685  | 1692  |
| 07-4-2979 | sec-Butyl 2-diisopropylaminoethyl methylphosphonate | 2.B.04   | 2      | 1661  | 1669  |
| 07-4-2980 | Isobutyl 2-dimethylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1409  |       |
| 07-4-2981 | Isobutyl 2-diethylaminoethyl methylphosphonate      | 2.B.04   | 2      | 1562  |       |
| 07-4-2982 | Isobutyl 2-dipropylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1709  |       |
| 07-4-2983 | Isobutyl 2-diisopropylaminoethyl methylphosphonate  | 2.B.04   | 2      | 1686  |       |

| OPCW Code | Chemical Name  | Schedule | Column | RI(a) | RI(b) |
|-----------|--|----------|--------|-------|-------|
| 07-4-2984 | Cyclohexyl 2-dimethylaminoethyl methylphosphonate    | 2.B.04   | 2      | 1695  |       |
| 07-4-2985 | Cyclohexyl 2-diethylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1852  |       |
| 07-4-2986 | Cyclohexyl 2-dipropylaminoethyl methylphosphonate    | 2.B.04   | 2      | 2002  |       |
| 07-4-2987 | Cyclohexyl 2-diisopropylaminoethyl methylphosphonate | 2.B.04   | 2      | 1980  |       |
| 07-4-2988 | Pinacolyl 2-dimethylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1497  | 1513  |
| 07-4-2989 | Pinacolyl 2-diethylaminoethyl methylphosphonate      | 2.B.04   | 2      | 1653  | 1667  |
| 07-4-2990 | Pinacolyl 2-dipropylaminoethyl methylphosphonate     | 2.B.04   | 2      | 1800  | 1815  |
| 07-4-2991 | Pinacolyl 2-diisopropylaminoethyl methylphosphonate  | 2.B.04   | 2      | 1775  | 1792  |
| 07-4-2992 | Methyl 2-dimethylaminoethyl ethylphosphonate         | 2.B.04   | 2      | 1292  |       |
| 07-4-2993 | Methyl 2-diethylaminoethyl ethylphosphonate          | 2.B.04   | 2      | 1447  |       |
| 07-4-2994 | Methyl 2-dipropylaminoethyl ethylphosphonate         | 2.B.04   | 2      | 1599  |       |
| 07-4-2995 | Methyl 2-diisopropylaminoethyl ethylphosphonate      | 2.B.04   | 2      | 1575  |       |
| 07-4-2996 | Ethyl 2-dimethylaminoethyl ethylphosphonate          | 2.B.04   | 2      | 1347  |       |
| 07-4-2997 | Ethyl 2-diethylaminoethyl ethylphosphonate           | 2.B.04   | 2      | 1498  |       |
| 07-4-2998 | Ethyl 2-dipropylaminoethyl ethylphosphonate          | 2.B.04   | 2      | 1648  |       |
| 07-4-2999 | Ethyl 2-diisopropylaminoethyl ethylphosphonate       | 2.B.04   | 2      | 1624  |       |
| 07-4-3000 | Propyl 2-dimethylaminoethyl ethylphosphonate         | 2.B.04   | 2      | 1435  |       |
| 07-4-3001 | Propyl 2-diethylaminoethyl ethylphosphonate          | 2.B.04   | 2      | 1586  |       |
| 07-4-3002 | Propyl 2-dipropylaminoethyl ethylphosphonate         | 2.B.04   | 2      | 1734  |       |
| 07-4-3003 | Propyl 2-diisopropylaminoethyl ethylphosphonate      | 2.B.04   | 2      | 1710  |       |
| 07-4-3004 | Isopropyl 2-dimethylaminoethyl ethylphosphonate      | 2.B.04   | 2      | 1367  |       |
| 07-4-3005 | Isopropyl 2-diethylaminoethyl ethylphosphonate       | 2.B.04   | 2      | 1519  |       |
| 07-4-3006 | Isopropyl 2-dipropylaminoethyl ethylphosphonate      | 2.B.04   | 2      | 1666  |       |
| 07-4-3007 | Isopropyl 2-diisopropylaminoethyl ethylphosphonate   | 2.B.04   | 2      | 1642  |       |
| 07-4-3008 | Butyl 2-dimethylaminoethyl ethylphosphonate          | 2.B.04   | 2      | 1527  |       |
| 07-4-3009 | Butyl 2-diethylaminoethyl ethylphosphonate           | 2.B.04   | 2      | 1676  |       |
| 07-4-3010 | Butyl 2-dipropylaminoethyl ethylphosphonate          | 2.B.04   | 2      | 1821  |       |
| 07-4-3011 | Butyl 2-diisopropylaminoethyl ethylphosphonate       | 2.B.04   | 2      | 1798  |       |
| 07-4-3012 | sec-Butyl 2-dimethylaminoethyl ethylphosphonate      | 2.B.04   | 2      | 1457  | 1464  |
| 07-4-3013 | sec-Butyl 2-diethylaminoethyl ethylphosphonate       | 2.B.04   | 2      | 1608  | 1615  |
| 07-4-3014 | sec-Butyl 2-dipropylaminoethyl ethylphosphonate      | 2.B.04   | 2      | 1755  | 1762  |

| OPCW Code | Chemical Name   | Schedule | Column | RI(a) | RI(b) |
|-----------|---|----------|--------|-------|-------|
| 07-4-3015 | sec-Butyl 2-diisopropylaminoethyl ethylphosphonate    | 2.B.04   | 2      | 1730  | 1738  |
| 07-4-3016 | Isobutyl 2-dimethylaminoethyl ethylphosphonate        | 2.B.04   | 2      | 1483  |       |
| 07-4-3017 | Isobutyl 2-diethylaminoethyl ethylphosphonate         | 2.B.04   | 2      | 1633  |       |
| 07-4-3018 | Isobutyl 2-dipropylaminoethyl ethylphosphonate        | 2.B.04   | 2      | 1778  |       |
| 07-4-3019 | Isobutyl 2-diisopropylaminoethyl ethylphosphonate     | 2.B.04   | 2      | 1754  |       |
| 07-4-3020 | Cyclohexyl 2-dimethylaminoethyl ethylphosphonate      | 2.B.04   | 2      | 1769  |       |
| 07-4-3021 | Cyclohexyl 2-diethylaminoethyl ethylphosphonate       | 2.B.04   | 2      | 1921  |       |
| 07-4-3022 | Cyclohexyl 2-dipropylaminoethyl ethylphosphonate      | 2.B.04   | 2      | 2070  |       |
| 07-4-3023 | Cyclohexyl 2-diisopropylaminoethyl ethylphosphonate   | 2.B.04   | 2      | 2047  |       |
| 07-4-3024 | Pinacolyl 2-dimethylaminoethyl ethylphosphonate       | 2.B.04   | 2      | 1571  | 1588  |
| 07-4-3025 | Pinacolyl 2-diethylaminoethyl ethylphosphonate        | 2.B.04   | 2      | 1721  | 1737  |
| 07-4-3026 | Pinacolyl 2-dipropylaminoethyl ethylphosphonate       | 2.B.04   | 2      | 1867  | 1883  |
| 07-4-3027 | Pinacolyl 2-diisopropylaminoethyl ethylphosphonate    | 2.B.04   | 2      | 1840  | 1858  |
| 16-4-0208 | Ethyl 1-methyl-2-methoxyethyl methylphosphonate       | 2.B.04   | 1      | 1236  |       |
| 16-4-0209 | Bis(1-methyl-2-methoxyethyl) methylphosphonate        | 2.B.04   | 1      | 1435  |       |
| 16-4-0210 | Ethyl 1-methyl-2-methoxyethyl ethylphosphonate        | 2.B.04   | 1      | 1307  |       |
| 16-4-0211 | Ethyl 1-methyl-2-methoxyethyl propylphosphonate       | 2.B.04   | 1      | 1385  |       |
| 16-4-0212 | Isopropyl 1-methyl-2-methoxyethyl methylphosphonate   | 2.B.04   | 1      | 1257  | 1263  |
| 16-4-0213 | Isopropyl 1-methyl-2-methoxyethyl ethylphosphonate    | 2.B.04   | 1      | 1326  | 1329  |
| 16-4-0214 | 1-Methyl-2-methoxyethyl propyl ethylphosphonate       | 2.B.04   | 1      | 1404  |       |
| 16-4-0215 | 1-Methyl-2-methoxyethyl propyl propylphosphonate      | 2.B.04   | 1      | 1472  |       |
| 16-4-0216 | Butyl 1-methyl-2-methoxyethyl methylphosphonate       | 2.B.04   | 1      | 1412  | 1420  |
| 16-4-0217 | Butyl 1-methyl-2-methoxyethyl ethylphosphonate        | 2.B.04   | 1      | 1483  | 1488  |
| 16-4-0218 | Bis(1-methyl-2-methoxyethyl) ethylphosphonate         | 2.B.04   | 1      | 1507  |       |
| 16-4-0219 | Butyl 1-methyl-2-methoxyethyl propylphosphonate       | 2.B.04   | 1      | 1566  |       |
| 16-4-0220 | Bis(1-methyl-2-methoxyethyl) propylphosphonate        | 2.B.04   | 1      | 1581  |       |
| 16-4-0221 | 1,2-Dimethylpropyl 2-methoxyethyl propylphosphonate   | 2.B.04   | 1      | 1549  | 1560  |
| 16-4-0222 | Cyclopentyl 1-methyl-2-methoxyethyl ethylphosphonate  | 2.B.04   | 1      | 1614  | 1621  |
| 16-4-0223 | Cyclopentyl 1-methyl-2-methoxyethyl propylphosphonate | 2.B.04   | 1      | 1692  | 1697  |
| 16-4-0224 | 2-Isopropoxyethyl methyl ethylphosphonate             | 2.B.04   | 1      | 1280  |       |
| 16-4-0225 | Bis(2-isopropoxyethyl) methylphosphonate              | 2.B.04   | 1      | 1642  |       |



| OPCW Code | Chemical Name                                    | Schedule | Column | RI(a) | RI(b) |
|-----------|--|----------|--------|-------|-------|
| 16-4-0226 | 2-Isopropoxyethyl methyl ethylphosphonate        | 2.B.04   | 1      | 1361  |       |
| 16-4-0227 | Bis(2-isopropoxyethyl) ethylphosphonate          | 2.B.04   | 1      | 1710  |       |
| 16-4-0228 | 2-Isopropoxyethyl methyl propylphosphonate       | 2.B.04   | 1      | 1438  |       |
| 16-4-0229 | Bis(2-isopropoxyethyl) propylphosphonate         | 2.B.04   | 1      | 1778  |       |
| 16-4-0230 | Ethyl 2-isopropoxyethyl methylphosphonate        | 2.B.04   | 1      | 1345  |       |
| 16-4-0231 | Ethyl 2-isopropoxyethyl ethylphosphonate         | 2.B.04   | 1      | 1424  |       |
| 16-4-0232 | Ethyl 2-isopropoxyethyl propylphosphonate        | 2.B.04   | 1      | 1485  |       |
| 16-4-0233 | 2-Isopropoxyethyl isopropyl methylphosphonate    | 2.B.04   | 1      | 1367  |       |
| 16-4-0234 | 2-Isopropoxyethyl isopropyl ethylphosphonate     | 2.B.04   | 1      | 1429  |       |
| 16-4-0235 | 2-Isopropoxyethyl isopropyl propylphosphonate    | 2.B.04   | 1      | 1506  |       |
| 16-4-0236 | 2-Isopropoxyethyl propyl methylphosphonate       | 2.B.04   | 1      | 1430  |       |
| 16-4-0237 | 2-Isopropoxyethyl propyl ethylphosphonate        | 2.B.04   | 1      | 1501  |       |
| 16-4-0238 | 2-Isopropoxyethyl propyl propylphosphonate       | 2.B.04   | 1      | 1576  |       |
| 17-4-0475 | Ethyl diethanolamine                             | 3.B.15   | 1      | 1149  |       |
| 17-4-0477 | Trimethyl phosphite                              | 3.B.08   | 1      | 740   |       |
| 17-4-0478 | Dimethyl phosphite                               | 3.B.10   | 1      | 811   |       |
| 19-4-0022 | Quinuclidin-3-ol                                 | 2.B.09   | 1      | 1193  |       |
| 19-4-0023 | Bis(2-hydroxyethyl)sulfide                       | 2.B.13   | 1      | 1186  |       |
| 19-4-0024 | Diethyl phosphite                                | 3.B.11   | 1      | 953   |       |
| 29-4-0001 | 2-Methyl-1,3,2-dithiaphosphinane-2-sulfide       | 2.B.04   | 1      | 1697  |       |
| 29-4-0002 | 2,4-Dimethyl-1,3,2-dithiaphospholane-2-sulfide   | 2.B.04   | 1      | 1628  | 1637  |
| 29-4-0003 | Methyl 1-methylbut-3-enyl methylphosphonate      | 2.B.04   | 1      | 1152  | 1154  |
| 29-4-0004 | Methyl 3-methylbut-3-enyl methylphosphonate      | 2.B.04   | 1      | 1207  |       |
| 29-4-0005 | Methyl pent-4-enyl methylphosphonate             | 2.B.04   | 1      | 1225  |       |
| 29-4-0006 | Methyl 3-methylbut-2-enyl methylphosphonate      | 2.B.04   | 1      | 1235  |       |
| 29-4-0007 | Methyl 1-methylbut-2-enyl methylphosphonate      | 2.B.04   | 1      | 1164  | 1167  |
| 29-4-0008 | 1-Ethylprop-2-enyl methylphosphonate             | 2.B.04   | 1      | 1146  | 1151  |
| 29-4-0009 | Methyl pent-2-enyl methylphosphonate             | 2.B.04   | 1      | 1229  |       |
| 29-4-0010 | 1,2-Dimethylprop-2-enyl methyl methylphosphonate | 2.B.04   | 1      | 1103  |       |

**TABLE 3: LIST OF APPROVED IR DATA OF SCHEDULED CHEMICALS**

| <b>OPCW Code</b> | <b>Chemical Name</b>                              | <b>Schedule</b> |
|------------------|---|-----------------|
| 19-1-0032x       | Ethylphosphonic dichloride                        | 2.B.04          |
| 19-1-0033x       | Propylphosphonic dichloride                       | 2.B.04          |
| 19-1-0034x       | 3-Quinuclidinol                                   | 2.B.09          |
| 19-1-0035x       | 2-(N,N-Dimethylamino)ethyl chloride hydrochloride | 2.B.10          |
| 19-1-0036x       | 2-(N,N-dimethylamino)ethanethiol hydrochloride    | 2.B.12          |
| 19-1-0037x       | Bis(2-hydroxyethyl)sulfide                        | 2.B.13          |
| 19-1-0038x       | Diethyl phosphite                                 | 3.B.11          |
| 19-1-0039x       | Ethyldiethanolamine                               | 3.B.15          |

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