Laboratory	**Centre for Analysis of Chemical Toxins, CSIR-Indian Institute of Chemical Technology, Uppal Road, Tarnaka, Hyderabad, Telangana**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Chemical Testing**	**Issue Date**	**02.11.2014**
Certificate Number	**T-0990**	**Valid Until**	**01.11.2016**
Last Amended on	**19.11.2014**	**Page**	**1 of 3**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**WARFARE CHEMICALS**			
1	**Soil/solid materials, Water/aqueous samples, Organic liquids, Polymers**	Qualitative analysis for chemicals listed below:	ROP for analysis in the verification of chemical disarmament, 2011 Edition, University of Helsinki, Helsinki	Qualitative

Schedule- 1

A. Toxic Chemicals

1. O-Alkyl ($\leq C_{10}$ including cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates
2. O-Alkyl ($\leq C_{10}$ including cycloalkyl)N,N-dialkyl (Me, Et, n-Pr or i-Pr)-phosphoramidocyanidates
3. O-Alkyl (H or$\leq C_{10}$ including cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i-Pr)- aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding alkylated or protonated salts
4. Sulfur mustards
   - i) 2-Choroethylchloromethylsulfide
   - ii) Bis(2-chloroethyl)sulfide
   - iii) Bis(2-chloroethylthio)methane
   - iv) 1,2-Bis(2-chloroethylthio)ethane
   - v) 1,3-Bis(2-chloroethylthio)-n-propane
   - vi) 1,4-Bis(2-chloroethylthio)-n-butane
   - vii) 1,5-Bis(2-chloroethylthio)-n-pentane
   - viii) Bis(2-chloroethylthiomethyl)ether
   - ix) Bis(2-chloroethylthioethyl)ether
5. Lewisites
   - i) 2-Chlorovinyldichloroarsine
   - ii) Bis(2-chlorovinyl)chloroarsine
   - iii) Tris(2-chlorovinyl)arsine
6. Nitrogen mustards
   - i) Bis(2-chloroethyl)ethylamine
   - ii) Bis(2-chloroethyl)methylamine
   - iii) Tris(2-chloroethyl)amine
7. Saxitoxin
8. Ricin

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection

B. Precursors

9. Alkyl (Me, Et, n-Pr, i-Pr) phosphonyldifluorides
10. O-Alkyl (H or or $\leq C_{10}$ including cycloalkyl) O-2-dialkyl (Me, Et, n-Pr, i-Pr)-aminoethyl alkyl (Me, Et, n-Pr, i-Pr) phosphonites and corresponding alkylated or protonated salts
11. Chlorosarin (O-isopropyl methyl phosphonochloridate)
12. Chlorosoman (O-pinacolyl methyl phosphonochloridate)

Schedule- 2

A. Toxic Chemicals

1. Amiton: O,O-Diethyl S-[2-(diethylamino)ethyl]phosphorothiolate and corresponding alkylated or protonated salts
2. PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene
3. 3-Quinuclidinyl benzilate (BZ)

B. Precursors

4. Chemicals, except for those listed in Schedule 1, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group but not further carbon atoms
   e.g. Methylphosphonyl dichloride
   Dimethyl methylphosphonate
   Exemption: Fonofos: O-Ethyl S-phenyl ethylphosphonothiolothionate
5. N,N-dialkyl (Me, Et, n-Pr, i-Pr) phosphoramidic dihalides
6. Dialkyl (Me, Et, n-Pr, i-Pr) N,N-dialkyl (Me, Et, n-Pr, i-Pr)- phosphoramidates
7. Arsenic trichloride
8. 2,2-Diphenyl-2-hydroxyacetic acid.
9. Quinuclidin-3-ol
10. N,N-dialkyl (Me, Et, n-Pr, i-Pr) aminoethyl-2-chlorides and corresponding protonated salts
11. N,N,-dialkyl (Me, Et, n-Pr, i-Pr) aminoethane-2-ols and corresponding protonated salts
    Exemptions:
    N,N-Dimethylaminoethanol and corresponding protonated salts
    N,N-Diethylaminoethanol and corresponding protonated salts
12. N,N-dialkyl (Me, Et, n-Pr, i-Pr) aminoethane-2-thiols and corresponding protonated salts
13. Thiodiglycol: Bis(2-hydroxyethyl)sulfide
14. Pinacolyl alcohol: 3,3-Dimethylbutan-2-ol

Laboratory	**Centre for Analysis of Chemical Toxins, CSIR-Indian Institute of Chemical Technology, Uppal Road, Tarnaka, Hyderabad, Telangana**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Chemical Testing**	**Issue Date**	**02.11.2014**
Certificate Number	**T-0990**	**Valid Until**	**01.11.2016**
Last Amended on	**19.11.2014**	**Page**	**3 of 3**

S.No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection

Schedule 3

A. Toxic Chemicals

1. Phosgene: Carbonyl dichloride
2. Cyanogen chloride
3. Hydrogen cyanide
4. Chloropicrin: Trichloronitromethane

B. Precursors

5. Phosphorus oxychloride
6. Phosphorus trichloride
7. Phosphorus pentachloride
8. Trimethyl phosphite
9. Triethyl phosphite
10. Dimethyl phosphite
11. Diethyl phosphite
12. Sulfur monochloride
13. Sulfur dichloride
14. Thionyl chloride
15. Ethyldiethanolamine
16. Methyldiethanolamine

-X-X-X-X-X-X-X-X-X-X-X-X-X-X-

Anuja Anand
Convenor

N. Venkateswaran
Program Manager