

**Scheduled Chemicals Under
Chemical Weapons (Convention)**

The following are chemicals included in Schedules 1, 2 and 3 of Annex on Chemicals to the Chemical Weapons Convention.

Schedule 1

A. <u>Toxic chemicals</u> :	(CAS registry number)
(1) O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates e.g. Sarin : O-Isopropyl methylphosphonofluoridate Soman : O-Pinacolyl methylphosphonofluoridate	(107-44-8) (96-64-0)
(2) O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates e.g. Tabun : O-Ethyl N,N-dimethyl phosphoramidocyanidate	(77-81-6)
(3) O-Alkyl (H or $\leq C_{10}$, incl. 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 e.g. VX : O-Ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate	(50782-69-9)
(4) Sulfur mustards : 2-Chloroethylchloromethylsulfide Mustard gas : Bis(2-chloroethyl)sulfide Bis(2-chloroethylthio)methane Sesquimustard : (3563-36-8) 1,3-Bis(2-chloroethylthio)-n-propane 1,4-Bis(2-chloroethylthio)-n-butane 1,5-Bis(2-chloroethylthio)-n-pentane Bis(2-chloroethylthiomethyl)ether O-Mustard : Bis(2-chloroethylthioethyl)ether	(2625-76-5) (505-60-2) (63869-13-6) 1,2-Bis(2-chloroethylthio)ethane (63905-10-2) (142868-93-7) (142868-94-8) (63918-90-1) (63918-89-8)
(5) Lewisites : Lewisite 1 : 2-Chlorovinylchloroarsine Lewisite 2 : Bis(2-chlorovinyl)chloroarsine Lewisite 3 : Tris(2-chlorovinyl)arsine	(541-25-3) (40334-69-8) (40334-70-1)
(6) Nitrogen mustards : HN1 : Bis(2-chloroethyl)ethylamine HN2 : Bis(2-chloroethyl)methylamine HN3 : Tris(2-chloroethyl)amine	(538-07-8) (51-75-2) (555-77-1)
(7) Saxitoxin	(35523-89-8)
(8) Ricin	(9009-86-3)
(#) P-alkyl (H or $\leq C_{10}$, incl. cycloalkyl) N-(1-(dialkyl($\leq C_{10}$ incl. cycloalkyl)amino)) alkylidene(H or $\leq C_{10}$, incl. cycloalkyl) phosphonamidic fluorides and corresponding alkylated or protonated salts e.g. N-(1-(di-n-decylamino)-n-decylidene)-P-decylphosphonamidic fluoride Methyl-(1-(diethylamino)ethylidene)phosphonamidofluoridate	(2387495-99-8) (2387496-12-8)
(#) O-alkyl (H or $\leq C_{10}$, incl. cycloalkyl) N-(1-(dialkyl($\leq C_{10}$, incl. cycloalkyl)amino)) alkylidene(H or $\leq C_{10}$, incl. cycloalkyl) phosphoramidofluoridates and corresponding alkylated or protonated salts e.g. O-n-Decyl N-(1-(di-n-decylamino)-n-decylidene)phosphoramidofluoridate (2387496-00-4) Methyl (1-(diethylamino)ethylidene)phosphoramidofluoridate Ethyl (1-(diethylamino)ethylidene)phosphoramidofluoridate	(2387496-04-8) (2387496-06-0)
(#) Methyl-(bis(diethylamino)methylene)phosphonamidofluoridate	(2387496-14-0)
(#) Carbamates (quaternaries and bisquaternaries of dimethylcarbamoxyloxypyridines)	

Quaternaries of dimethylcarbamoyloxypyridines:

1-[N,N-dialkyl(\leq C10)-N-(n-(hydroxyl, cyano, acetoxy)alkyl(\leq C10)) ammonio]-n-[N-(3-dimethylcarbamoyloxy- α -picolonyl)-N,N-dialkyl(\leq C10) ammonio]decane dibromide (n=1-8)

e.g. 1-[N,N-dimethyl-N-(2-hydroxy)ethylammonio]-10-[N-(3-dimethylcarbamoyloxy- α -picolonyl)-N,N-dimethylammonio]decane dibromide (77104-62-2)

Bisquaternaries of dimethylcarbamoyloxypyridines:

1,n-Bis[N-(3-dimethylcarbamoyloxy- α -picolonyl)-N,N-dialkyl(\leq C10) ammonio]-alkane-(2,(n-1)-dione) dibromide (n=2-12)

e.g. 1,10-Bis[N-(3-dimethylcarbamoyloxy- α -picolonyl)-N-ethyl-N-methylammonio]decane-2,9-dione dibromide (77104-00-8)

Note: The Twenty-Fourth Session of the Conference of States Parties to the Chemical Weapons Convention approved certain changes to Schedule 1 of the Annex on Chemicals to the Convention. The changes, which are marked with "#" above, have entered into force **since 7 June 2020** (for details, please see <https://www.opcw.org/sites/default/files/documents/2019/12/s-1820-2019%28e%29.pdf>).

Operators of facilities should fill in the reply slip in accordance with the amended Schedule 1 (i.e., including the chemicals marked with "#" above).

Besides, operators / importers / exporters are advised to consult the Department **at least 45 days** before **importing or exporting** any Schedule 1 chemicals (including the chemicals marked with "#" above).

B. Precursors :

- (9) Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluorides
e.g. DF : Methylphosphonyldifluoride (676-99-3)
- (10) O-Alkyl (H or \leq C₁₀, incl. cycloalkyl) O-2-dialkyl
(Me, Et, n-Pr or i-Pr)-aminoethyl alkyl
(Me, Et, n-Pr or i-Pr) phosphonites and
corresponding alkylated or protonated salts
e.g. QL : O-Ethyl O-2-diisopropylaminoethyl
methylphosphonite (57856-11-8)
- (11) Chlorosarin : O-Isopropyl methylphosphonochloridate (1445-76-7)
- (12) Chlorosoman : O-Pinacolyl methylphosphonochloridate (7040-57-5)

Schedule 2

A. Toxic chemicals:

- (1) Amiton : O,O-Diethyl S-[2-(diethylamino)ethyl]
phosphorothiolate (78-53-5)
and corresponding alkylated or protonated salts
- (2) PFIB : 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382-21-8)
- (3) BZ : 3-Quinuclidinyl benzilate (*) (6581-06-2)

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 (676-97-1)
Dimethyl methylphosphonate (756-79-6)
Exemption : Fonofos : O-Ethyl S-phenyl
ethylphosphonothiolothionate (944-22-9)
- (5) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides
- (6) Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl
(Me, Et, n-Pr or i-Pr)-phosphoramidates
- (7) Arsenic trichloride (7784-34-1)
- (8) 2,2-Diphenyl-2-hydroxyacetic acid (76-93-7)
- (9) Quinuclidin-3-ol (1619-34-7)
- (10) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chlorides
and corresponding protonated salts
- (11) N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols

	and corresponding protonated salts	
	Exemptions : N,N-Dimethylaminoethanol	(108-01-0)
	and corresponding protonated salts	
	N,N-Diethylaminoethanol	(100-37-8)
	and corresponding protonated salts	
(12)	N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols	
	and corresponding protonated salts	
(13)	Thiodiglycol: Bis(2-hydroxyethyl)sulfide	(111-48-8)
(14)	Pinacolyl alcohol: 3,3-Dimethylbutan-2-ol	(464-07-3)

Schedule 3

A. Toxic chemicals :

(1)	Phosgene : Carbonyl dichloride	(75-44-5)
(2)	Cyanogen chloride	(506-77-4)
(3)	Hydrogen cyanide	(74-90-8)
(4)	Chloropicrin : Trichloronitromethane	(76-06-2)

B. Precursors :

(5)	Phosphorus oxychloride	(10025-87-3)
(6)	Phosphorus trichloride	(7719-12-2)
(7)	Phosphorus pentachloride	(10026-13-8)
(8)	Trimethyl phosphite	(121-45-9)
(9)	Triethyl phosphite	(122-52-1)
(10)	Dimethyl phosphite	(868-85-9)
(11)	Diethyl phosphite	(762-04-9)
(12)	Sulfur monochloride	(10025-67-9)
(13)	Sulfur dichloride	(10545-99-0)
(14)	Thionyl chloride	(7719-09-7)
(15)	Ethyldiethanolamine	(139-87-7)
(16)	Methyldiethanolamine	(105-59-9)
(17)	Triethanolamine	(102-71-6)