

## Chemical Weapons Convention Schedule 1 Chemicals

A.	Toxic Chemicals:	
(1)	O-Alkyl (<C10, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)-phosphonofluoridates	(CAS registry number)
e.g.	Sarin: O-Isopropyl methylphosphonofluoridate	(107-44-8)
	Soman: O-Pinacolyl methylphosphonofluoridate	(96-64-0)
(2)	O-Alkyl (<C10, 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 <C10, 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:	
e.g.	2-Chloroethylchloromethylsulfide	(2625-76-5)
	Mustard gas: Bis(2-chloroethyl)sulfide	(505-60-2)
	Bis(2-chloroethylthio)methane	(63869-13-6)
	Sesquimustard: 1,2-Bis(2-chloroethylthio)ethane	(3563-36-8)
	1,3-Bis(2-chloroethylthio)-n-propane	(63905-10-2)
	1,4-Bis(2-chloroethylthio)-n-butane	(142868-93-7)
	1,5-Bis(2-chloroethylthio)-n-pentane	(142868-94-8)
	Bis(2-chloroethylthiomethyl)ether	(63918-90-1)
	O-Mustard: Bis(2-chloroethylthioethyl)ether	(63918-89-8)
(5)	Lewisites:	
e.g.	Lewisite 1: 2-Chlorovinylchloroarsine	(541-25-3)
	Lewisite 2: Bis(2-chlorovinyl)chloroarsine	(40334-69-8)
	Lewisite 3: Tris(2-chlorovinyl)arsine	(40334-70-1)
(6)	Nitrogen mustards:	
e.g.	HN1: Bis(2-chloroethyl)ethylamine	(538-07-8)
	HN2: Bis(2-chloroethyl)methylamine	(51-75-2)
	HN3: Tris(2-chloroethyl)amine	(555-77-1)
(7)	Saxitoxin	(35523-89-8)
(8)	Ricin	(9009-86-3)
(13)	P-alkyl (H or ≤C10, incl. cycloalkyl) N-(1-(dialkyl(≤C10, incl. cycloalkyl)amino))alkylidene(H or ≤C10, incl. cycloalkyl)	

	phosphonamidic fluorides and corresponding alkylated or protonated salts	
e.g.	N-(1-(di-n-decylamino)-n-decylidene)-P-decylphosphonamidic fluoride	(2387495-99-8)
	Methyl-(1-(diethylamino)ethylidene)phosphonamidofluoride	(2387496-12-8)
(14)	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) phosphoramidofluorides and corresponding alkylated or protonated salts	
e.g.	O-n-Decyl N-(1-(di-n-decylamino)-n-decylidene)phosphoramidofluoride	(2387496-00-4)
	Methyl (1-(diethylamino)ethylidene)phosphoramidofluoride	(2387496-04-8)
	Ethyl (1-(diethylamino)ethylidene)phosphoramidofluoride	(2387496-06-0)
(15)	Methyl-(bis(diethylamino)methylene)phosphonamidofluoride	(2387496-14-0)
(16)	Carbamates (quaternaries and bisquaternaries of dimethylcarbamoyloxypyridines)	
	Quaternaries of dimethylcarbamoyloxypyridines:	
	1-[N,N-dialkyl( $\leq C_{10}$ )-N-(n-(hydroxyl, cyano, acetoxy)alkyl( $\leq C_{10}$ )) ammonio]-n-[N-(3-dimethylcarbamoxy- $\alpha$ -picoliny)-N,N-dialkyl( $\leq C_{10}$ ) ammonio]decane dibromide (n=1-8)	
e.g.	1-[N,N-dimethyl-N-(2-hydroxy)ethylammonio]-10-[N-(3-dimethylcarbamoxy- $\alpha$ -picoliny)-N,N-dimethylammonio]decane dibromide	(77104-62-2)
	Bisquaternaries of dimethylcarbamoyloxypyridines:	
	1,n-Bis[N-(3-dimethylcarbamoxy- $\alpha$ -picolyl)-N,N-dialkyl( $\leq C_{10}$ ) ammonio]-alkane-(2,(n-1)-dione) dibromide (n=2-12)	
e.g.	1,10-Bis[N-(3-dimethylcarbamoxy- $\alpha$ -picolyl)-N-ethyl-N-methylammonio]decane-2,9-dione dibromide	(77104-00-8)
B.	Precursors:	
(9)	Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluorides	
e.g.	DF: Methylphosphonyldifluoride	(676-99-3)
(10)	O-Alkyl (H or $< C_{10}$ , 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)