

Initial Isolation and Protective Action Distances (UN 2032-2810)

ID No.	NAME OF MATERIAL	<u>SMALL SPILLS</u>						<u>LARGE SPILLS</u>					
		(From a small package or small leak from a large package)						(From a large package or from many small packages)					
		First ISOLATE in all Directions		Then PROTECT persons Downwind during-				First ISOLATE in all Directions		Then PROTECT persons Downwind during-			
		m	(ft)	<u>DAY</u>		<u>NIGHT</u>		m	(ft)	<u>DAY</u>		<u>NIGHT</u>	
		km	(mi)	km	(mi)	km	(ft)	km	(mi)	km	(mi)		
2032	Nitric acid, fuming	95	(300)	0.3	(0.2)	0.5	(0.3)	400	(1300)	1.3	(0.8)	3.5	(2.2)
2032	Nitric acid, red fuming	95	(300)	0.3	(0.2)	0.5	(0.3)	400	(1300)	1.3	(0.8)	3.5	(2.2)
2186	Hydrogen chloride, refrigerated liquid	30	(100)	0.2	(0.1)	0.6	(0.4)	185	(600)	1.6	(1.0)	4.3	(2.7)
2188	Arsine	60	(200)	0.5	(0.3)	2.1	(1.3)	335	(1100)	3.2	(2.0)	6.6	(4.1)
2188	SA (when used as a weapon)	60	(200)	0.8	(0.5)	2.4	(1.5)	400	(1300)	4.0	(2.5)	8.0	(5.0)
2189	Dichlorosilane	30	(100)	0.3	(0.2)	1.0	(0.6)	245	(800)	2.4	(1.5)	6.3	(3.9)
2190	Oxygen difluoride	430	(1400)	4.2	(2.6)	8.4	(5.2)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2190	Oxygen difluoride, compressed	430	(1400)	4.2	(2.6)	8.4	(5.2)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2191	Sulfuryl fluoride	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	0.8	(0.5)	2.3	(1.4)
2191	Sulphuryl fluoride	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	0.8	(0.5)	2.3	(1.4)
2192	Germane	30	(100)	0.2	(0.1)	0.8	(0.5)	275	(900)	2.7	(1.7)	6.6	(4.1)
2194	Selenium hexafluoride	30	(100)	0.3	(0.2)	1.3	(0.8)	245	(800)	2.3	(1.4)	6.0	(3.7)
2195	Tellurium hexafluoride	60	(200)	0.6	(0.4)	2.3	(1.4)	365	(1200)	3.5	(2.2)	7.6	(4.7)
2196	Tungsten hexafluoride	30	(100)	0.3	(0.2)	1.3	(0.8)	155	(500)	1.3	(0.8)	3.7	(2.3)
2197	Hydrogen iodide, anhydrous	30	(100)	0.2	(0.1)	0.5	(0.3)	95	(300)	0.8	(0.5)	2.6	(1.6)
2198	Phosphorus pentafluoride	30	(100)	0.3	(0.2)	1.1	(0.7)	125	(400)	1.1	(0.7)	3.5	(2.2)
2198	Phosphorus pentafluoride, compressed	30	(100)	0.3	(0.2)	1.1	(0.7)	125	(400)	1.1	(0.7)	3.5	(2.2)
2199	Phosphine	95	(300)	0.3	(0.2)	1.3	(0.8)	490	(1600)	1.8	(1.1)	5.5	(3.4)
2202	Hydrogen selenide, anhydrous	185	(600)	1.8	(1.1)	5.6	(3.5)	915	(3000)	10.8	(6.7)	11.0+	(7.0+)
2204	Carbonyl sulfide	30	(100)	0.2	(0.1)	0.6	(0.4)	215	(700)	1.9	(1.2)	5.6	(3.5)
2204	Carbonyl sulphide	30	(100)	0.2	(0.1)	0.6	(0.4)	215	(700)	1.9	(1.2)	5.6	(3.5)
2232	2-Chloroethanal	30	(100)	0.2	(0.1)	0.5	(0.3)	60	(200)	0.6	(0.4)	1.6	(1.0)
2232	Chloroacetaldehyde	30	(100)	0.2	(0.1)	0.5	(0.3)	60	(200)	0.6	(0.4)	1.6	(1.0)
2334	Allylamine	30	(100)	0.2	(0.1)	0.5	(0.3)	95	(300)	1.0	(0.6)	2.4	(1.5)
2337	Phenyl mercaptan	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.3	(0.2)	0.6	(0.4)
2382	1,2-Dimethylhydrazine	30	(100)	0.2	(0.1)	0.3	(0.2)	60	(200)	0.5	(0.3)	1.1	(0.7)
2382	Dimethylhydrazine, symmetrical	30	(100)	0.2	(0.1)	0.3	(0.2)	60	(200)	0.5	(0.3)	1.1	(0.7)
2407	Isopropyl chloroformate	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	0.8	(0.5)	1.9	(1.2)
2417	Carbonyl fluoride	30	(100)	0.2	(0.1)	1.1	(0.7)	125	(400)	1.0	(0.6)	3.1	(1.9)
2417	Carbonyl fluoride, compressed	30	(100)	0.2	(0.1)	1.1	(0.7)	125	(400)	1.0	(0.6)	3.1	(1.9)
2418	Sulfur tetrafluoride	60	(200)	0.5	(0.3)	1.9	(1.2)	305	(1000)	2.9	(1.8)	6.9	(4.3)
2418	Sulphur tetrafluoride	60	(200)	0.5	(0.3)	1.9	(1.2)	305	(1000)	2.9	(1.8)	6.9	(4.3)
2420	Hexafluoroacetone	30	(100)	0.3	(0.2)	1.4	(0.9)	365	(1200)	3.7	(2.3)	8.5	(5.3)
2421	Nitrogen trioxide	30	(100)	0.2	(0.1)	0.2	(0.1)	155	(500)	0.6	(0.4)	2.1	(1.3)
2438	Trimethylacetyl chloride	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.3	(0.2)	0.8	(0.5)
2442	Trichloroacetyl chloride (when spilled in water)	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.3	(0.2)	1.3	(0.8)
2442	Trichloroacetyl chloride (when spilled on land)	30	(100)	0.2	(0.1)	0.3	(0.2)	60	(200)	0.6	(0.4)	1.4	(0.9)
2474	Thiophosgene	60	(200)	0.6	(0.4)	1.8	(1.1)	275	(900)	2.6	(1.6)	5.0	(3.1)
2477	Methyl isothiocyanate	30	(100)	0.2	(0.1)	0.3	(0.2)	60	(200)	0.5	(0.3)	1.1	(0.7)
2480	Methyl isocyanate	95	(300)	0.8	(0.5)	2.7	(1.7)	490	(1600)	4.8	(3.0)	9.8	(6.1)
2481	Ethyl isocyanate	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2482	n-Propyl isocyanate	125	(400)	1.1	(0.7)	2.4	(1.5)	765	(2500)	6.3	(3.9)	10.6	(6.6)
2483	Isopropyl isocyanate	185	(600)	1.8	(1.1)	3.9	(2.4)	430	(1400)	4.2	(2.6)	7.4	(4.6)
2484	tert-Butyl isocyanate	125	(400)	1.0	(0.6)	2.4	(1.5)	550	(1800)	5.3	(3.3)	10.3	(6.4)
2485	n-Butyl isocyanate	95	(300)	0.8	(0.5)	1.6	(1.0)	335	(1100)	3.1	(1.9)	6.3	(3.9)
2486	Isobutyl isocyanate	60	(200)	0.6	(0.4)	1.4	(0.9)	155	(500)	1.6	(1.0)	3.2	(2.0)
2487	Phenyl isocyanate	30	(100)	0.3	(0.2)	0.8	(0.5)	155	(500)	1.3	(0.8)	2.6	(1.6)

2488 Cyclohexyl isocyanate	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	0.8	(0.5)	1.4	(0.9)
2495 Iodine pentafluoride (when spilled in water)	30	(100)	0.2	(0.1)	0.5	(0.3)	125	(400)	1.1	(0.7)	3.1	(1.9)
2521 Diketene, inhibited	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.3	(0.2)	0.5	(0.3)
2534 Methylchlorosilane	30	(100)	0.2	(0.1)	1.0	(0.6)	215	(700)	2.1	(1.3)	5.6	(3.5)
2548 Chlorine pentafluoride	30	(100)	0.3	(0.2)	1.0	(0.6)	365	(1200)	3.7	(2.3)	8.7	(5.4)
2576 Phosphorus oxybromide, molten (when spilled in water)	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	0.6	(0.4)	1.9	(1.2)
2600 Carbon monoxide and Hydrogen mixture	30	(100)	0.2	(0.1)	0.2	(0.1)	125	(400)	0.6	(0.4)	1.8	(1.1)
2600 Carbon monoxide and Hydrogen mixture, compressed	30	(100)	0.2	(0.1)	0.2	(0.1)	125	(400)	0.6	(0.4)	1.8	(1.1)
2600 Hydrogen and Carbon monoxide mixture	30	(100)	0.2	(0.1)	0.2	(0.1)	125	(400)	0.6	(0.4)	1.8	(1.1)
2600 Hydrogen and Carbon monoxide mixture, compressed	30	(100)	0.2	(0.1)	0.2	(0.1)	125	(400)	0.6	(0.4)	1.8	(1.1)
2605 Methoxymethyl isocyanate	60	(200)	0.3	(0.2)	0.8	(0.5)	125	(400)	1.3	(0.8)	2.6	(1.6)
2606 Methyl orthosilicate	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.3	(0.2)	0.6	(0.4)
2644 Methyl iodide	30	(100)	0.2	(0.1)	0.3	(0.2)	60	(200)	0.3	(0.2)	1.0	(0.6)
2646 Hexachlorocyclopentadiene	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.3	(0.2)
2668 Chloroacetonitrile	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.3	(0.2)	0.5	(0.3)
2676 Stibine	30	(100)	0.3	(0.2)	1.6	(1.0)	245	(800)	2.3	(1.4)	6.0	(3.7)
2691 Phosphorus pentabromide (when spilled in water)	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	0.8	(0.5)	2.4	(1.5)
2692 Boron tribromide (when spilled in water)	30	(100)	0.2	(0.1)	0.2	(0.1)	60	(200)	0.5	(0.3)	1.6	(1.0)
2692 Boron tribromide (when spilled on land)	30	(100)	0.2	(0.1)	0.3	(0.2)	60	(200)	0.6	(0.4)	1.4	(0.9)
2740 n-Propyl chloroformate	30	(100)	0.2	(0.1)	0.3	(0.2)	60	(200)	0.5	(0.3)	1.4	(0.9)
2742 Isobutyl chloroformate	30	(100)	0.2	(0.1)	0.2	(0.1)	60	(200)	0.3	(0.2)	0.8	(0.5)
2742 sec-Butyl chloroformate	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.3	(0.2)	0.6	(0.4)
2743 n-Butyl chloroformate	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.3	(0.2)	0.5	(0.3)
2806 Lithium nitride (when spilled in water)	30	(100)	0.2	(0.1)	0.2	(0.1)	95	(300)	0.8	(0.5)	2.1	(1.3)
2810 BZ (when used as a weapon)	30	(100)	0.2	(0.1)	0.5	(0.3)	60	(200)	0.5	(0.3)	1.9	(1.2)
2810 Bis-(2-chloroethyl) ethylamine	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.3	(0.2)
2810 Bis-(2-chloroethyl) methylamine	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.3	(0.2)
2810 Bis-(2-chloroethyl) sulfide	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.3	(0.2)
2810 Bis-(2-chloroethyl) sulphide	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.3	(0.2)
2810 Buzz (when used as a weapon)	30	(100)	0.2	(0.1)	0.5	(0.3)	60	(200)	0.5	(0.3)	1.9	(1.2)
2810 CS (when used as a weapon)	60	(200)	0.3	(0.2)	1.1	(0.7)	245	(800)	2.6	(1.6)	5.6	(3.5)
2810 DC (when used as a weapon)	30	(100)	0.2	(0.1)	0.8	(0.5)	245	(800)	2.3	(1.4)	5.3	(3.3)
2810 Ethyl N,N-dimethylphosphoramidocyanidate	30	(100)	0.2	(0.1)	0.2	(0.1)	60	(200)	0.5	(0.3)	1.0	(0.6)
2810 GA (when used as a weapon)	30	(100)	0.3	(0.2)	0.6	(0.4)	155	(500)	1.6	(1.0)	3.1	(1.9)
2810 GB (when used as a weapon)	155	(500)	1.6	(1.0)	3.4	(2.1)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810 GD (when used as a weapon)	95	(300)	0.8	(0.5)	1.8	(1.1)	765	(2500)	6.8	(4.2)	10.5	(6.5)
2810 GF (when used as a weapon)	30	(100)	0.3	(0.2)	0.6	(0.4)	245	(800)	2.3	(1.4)	5.1	(3.2)
2810 H (when used as a weapon)	30	(100)	0.2	(0.1)	0.2	(0.1)	60	(200)	0.6	(0.4)	1.1	(0.7)
2810 HD (when used as a weapon)	30	(100)	0.2	(0.1)	0.2	(0.1)	60	(200)	0.6	(0.4)	1.1	(0.7)
2810 HL (when used as a weapon)	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	1.0	(0.6)	1.8	(1.1)
2810 HN-1 (nitrogen mustard) (when used as a weapon)	30	(100)	0.2	(0.1)	0.2	(0.1)	60	(200)	0.6	(0.4)	1.3	(0.8)
2810 HN-2 (when used as a weapon)	30	(100)	0.2	(0.1)	0.2	(0.1)	60	(200)	0.5	(0.3)	1.1	(0.7)
2810 HN-3 (when used as a weapon)	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.3	(0.2)
2810 Isopropyl methylphosphonofluoridate	125	(400)	1.3	(0.8)	2.3	(1.4)	550	(1800)	5.3	(3.3)	8.7	(5.4)
2810 L (Lewisite) (when used as a weapon)	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	1.0	(0.6)	1.8	(1.1)
2810 Lewisite (when used as a weapon)	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	1.0	(0.6)	1.8	(1.1)
2810 Mustard (when used as a weapon)	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.3	(0.2)
2810 Mustard Lewisite (when used as a weapon)	30	(100)	0.2	(0.1)	0.3	(0.2)	95	(300)	1.0	(0.6)	1.8	(1.1)
2810 O-Ethyl S-(2-diisopropylaminoethyl) methylphosphonothiolate	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.2	(0.1)
2810 Pinacolyl methylphosphonofluoridate	60	(200)	0.5	(0.3)	0.8	(0.5)	215	(700)	2.1	(1.3)	3.1	(1.9)
2810 Poisonous liquid, n.o.s. (Inhalation Hazard Zone A)	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810 Poisonous liquid, n.o.s. (Inhalation Hazard Zone B)	60	(200)	0.5	(0.3)	1.3	(0.8)	245	(800)	2.3	(1.4)	5.0	(3.1)
2810 Poisonous liquid, n.o.s. (when «Inhalation Hazard» is on a package or shipping paper)	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810 Poisonous liquid, organic, n.o.s. (Inhalation Hazard Zone A)	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)

2810	Poisonous liquid, organic, n.o.s. (Inhalation Hazard Zone B)	60	(200)	0.3	(0.2)	1.1	(0.7)	185	(600)	1.6	(1.0)	4.0	(2.5)
2810	Poisonous liquid, organic, n.o.s. (when «Inhalation Hazard» is on a package or shipping paper)	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810	Sarin (when used as a weapon)	155	(500)	1.6	(1.0)	3.4	(2.1)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810	Soman (when used as a weapon)	95	(300)	0.8	(0.5)	1.8	(1.1)	765	(2500)	6.8	(4.2)	10.5	(6.5)
2810	Tabun (when used as a weapon)	30	(100)	0.3	(0.2)	0.6	(0.4)	155	(500)	1.6	(1.0)	3.1	(1.9)
2810	Thickened GD (when used as a weapon)	95	(300)	0.8	(0.5)	1.8	(1.1)	765	(2500)	6.8	(4.2)	10.5	(6.5)
2810	Toxic liquid, n.o.s. (Inhalation Hazard Zone A)	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810	Toxic liquid, n.o.s. (Inhalation Hazard Zone B)	60	(200)	0.5	(0.3)	1.3	(0.8)	245	(800)	2.3	(1.4)	5.0	(3.1)
2810	Toxic liquid, n.o.s. (when «Inhalation Hazard» is on a package or shipping paper)	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810	Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone A)	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810	Toxic liquid, organic, n.o.s. (Inhalation Hazard Zone B)	60	(200)	0.3	(0.2)	1.1	(0.7)	185	(600)	1.6	(1.0)	4.0	(2.5)
2810	Toxic liquid, organic, n.o.s. (when «Inhalation Hazard» is on a package or shipping paper)	215	(700)	1.9	(1.2)	4.3	(2.7)	915	(3000)	11.0+	(7.0+)	11.0+	(7.0+)
2810	Tris-(2-chloroethyl) amine	30	(100)	0.2	(0.1)	0.2	(0.1)	30	(100)	0.2	(0.1)	0.2	(0.1)
2810	VX (when used as a weapon)	30	(100)	0.2	(0.1)	0.2	(0.1)	60	(200)	0.6	(0.4)	1.0	(0.6)