Exhibit C-2
List of Extremely Hazardous Substances and Data for Hazards Analysis
(CAS # Order)

CAS #	Chemical Name	Physical State	Molecular Weight	Boiling Point (oC)	Vapor Pressure @ 25 C (mm Hg)	Level of Concern (gm/m3)	Liquid Factor Ambient LFA	Liquid Factor Boiling LFB	Liquid Factor Molten LFM
107-11-9	Allylamine	Liquid	57	55	500.0	0.0032	0.02	0.02	
107-12-0	Propionitrile	Liquid	55	97.2	40	0.0037	0.001	0.02	
107-13-1	Acrylonitrile	Liquid	54	77.3	115.0	0.11	0.004	0.02	
107-15-3	Ethylenediamine	Liquid	60	116	15	0.49	0.0005	0.02	
107-16-4	Formaldehyde Cyanohydrin	Liquid	57	183	1.8	0.006	0.00006	0.02	
107-18-6	Allyl Alcohol	Liquid	58	97	23.8	0.036	0.0008	0.02	
*107-20-0	Chloroacetaldehyde	Liquid	78.5	85	100	0.069	0.004	0.03	
107-30-2	Chloromethyl Methyl Ether	Liquid	81	59	224	0.0018	0.009	0.03	
107-44-8	Sarin	Liquid	140	147	2.9	0.00005	0.0002	0.03	
107-49-3	TEPP	Liquid	290	310	0.00047	0.001	0.00000005	0.04	
108-05-4	Vinyl Acetate Monomer	Liquid	86	72	124	0.054	0.005	0.03	
108-23-6	Isopropyl Chloroformate	Liquid	123	104.6	50	0.1	0.003	0.03	
*108-67-8	Mesitylene	Liquid	120	165	1.8	0.24	0.0001	0.03	
108-91-8	Cyclohexylamine	Liquid	99	134.5	10	0.16	0.0005	0.03	
108-95-2	Phenol	Solid	94	181.75	0.35	0.039			0.00008
108-98-5	Thiophenol	Liquid	110	168.3	1	0.0014	0.00005	0.03	
*109-19-3	Butyl Isovalerate	Liquid	158	175.5	0.45	8.2	0.00003	0.03	
109-61-5	Propyl Chloroformate	Liquid	123	114	24	0.01	0.001	0.03	
109-77-3	Malononitrile	Solid	66	218	0.08	0.019			0.000005
110-00-9	Furan	Liquid	68	32	700	0.0012	0.03	0.03	
110-57-6	Trans-1,4-Dichlorobutene	Liquid	125	155.5	6	0.0044	0.0003	0.03	
110-89-4	Piperidine	Liquid	85	106	40	0.022	0.002	0.03	
*111-34-2	Butyl Vinyl Ether	Liquid	100	94	50	0.62	0.002	0.03	
111-44-4	Dichloroethyl Ether	Liquid	143	178	0.7	0.15	0.00004	0.03	
111-69-3	Adiponitrile	Liquid	108	295	0.001	0.017	0.00000005	0.02	
115-21-9	Trichloroethylsilane	Liquid	164	97.9	0.6	0.003	0.00004	0.04	
115-26-4	Dimefox	Liquid	154	210	0.36	0.001	0.00002	0.03	
115-29-7	Endosulfan	Solid	407		0.00001	0.0008			
115-90-2	Fensulfothion	Liquid	308	440	0.00000001	0.002	0.000000000001	0.03	
116-06-3	Aldicarb	Solid	190	287	0.50	0.0003			0.00004
*117-52-2	Coumafuryl	Solid	298		0.00001	4			
119-38-0	Isopropylmethylpyrazolyl Dimethylcarbamate	Liquid	211	295	0.001	0.0056	0.00000008	0.03	
122-14-5	Fenitrothion	Liquid	277	370	0.000006	0.0038	0 0000000006	0.03	
123-31-9	Hydroquinone	Solid	110	285	0.001	0.02			0.0008
123-73-9	Crotonaldehyde, (E)-	Liquid	70	104	36	0.04	0.001	0.02	
124-65-2	Sodium Cacodylate	Solid	160	D	0.00001	0.004			
124-87-8	Picrotoxin	Solid	603		0.00001	0.015			
126-98-7	Methacrylonitrile	Liquid	67	90.3	90	0.003 a	0.003	0.02	
*128-56-3	Sodium Anthraquinone-1-Sulfonate	Solid	310		0.00001	14			
129-00-0	Pyrene	Solid	202	404	0.00001	0.0017			0.00001
129-06-6	Warfarin Sodium	Solid	330		0.00001	0.009			
131-52-2	Sodium Pentachlorophenate	Solid	288		0.00001	0.0024			
140-29-4	Benzyl Cyanide	Liquid	117	233.5	1.0	0.0043	0.00005	0.02	
140-76-1	Pyridine, 2-Methyl-5-Vinyl-	Liquid	119	181	1.7	0.0019	0.00009	0.03	
141-66-2	Dicrotophos	Liquid	237	400	0.00001	0.0009	0.0000000008	0.03	
143-33-9	Sodium Cyanide (Na(CN))	Solid	49	1496	0.00001	0.005			0.0000000000001
144-49-0	Fluoroacetic Acid	Solid	78	165	2	0.00047			0.0001
149-74-6	Dichloromethylphenylsilane	Liquid	191	205	0.4	0.02	0.00003	0.03	
151-38-2	Methoxyethylmercuric Acetate	Solid	319		0.00001	0.025			
151-50-8	Potassium Cyanide	Solid	65		0.00001	0.005			
151-56-4	Ethyleneimine	Liquid	43	55	207	0.004	0.006	0.02	

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152-16-9	Diphosphoramide, Octamethyl-	Liquid	286	330	0.001	0.0008	0.0000001	0.04	
*287-92-3	Cyclopentane	Liquid	70	49	317	11	0.01	0.03	
297-78-9	Isobenzan	Solid	412		0.00001	0.001			
297-97-2	Thionazin	Liquid	248	360	0.003	0.0035	0.0000003	0.03	
298-00-0	Parathion-Methyl	Solid	263	D	0.0000097	0.00034			
298-02-2	Phorate	Liquid	260	290	0.00084	0.0001	0.00000008	0.04	
298-04-4	Disulfoton	Liquid	274	400	0.00018	0.002	0.00000002	0.03	
300-62-9	Amphetamine	Liquid	135	200	0.90	0.02	0.00005	0.03	
302-01-2	Hydrazine	Liquid	32	113.5	14.4	0.01	0.0003	0.01	
309-00-2	Aldrin	Solid	365	145	0.000006	0.01			0.02
315-18-4	Mexacarbate	Solid	222		0.000002	0.014			0.00000003
316-42-7	Emetine, Dihydrochloride	Solid	554		0.00001	0.00001			
327-98-0	Trichloronate	Liquid	334	360	20	0.01	0.002	0.04	
353-42-4	Boron Trifluoride Compound with Methyl Ether (1:1)	Liquid	114	126	20.0	0.023	0.001	0.03	
359-06-8	Fluoroacetyl Chloride	Liquid	96	73	80	0.01	0.004	0.03	
371-62-0	Ethylene Fluorohydrin	Liquid	64	103.5	50	0.00007	0.002	0.02	
379-79-3	Ergotamine Tartrate	Solid	1314		0.00001	0.01			
465-73-6	Isodrin	Solid	365	344	0.00001	0.007			0.004
470-90-6	Chlorfenvinfos	Liquid	360	390	0.000004	0.01	0.0000000004	0.04	
502-39-6	Methylmercuric Dicyanamide	Solid	299		0.00003	0.02			0.0001
504-24-5	Pyridine, 4-Amino-	Solid	94	273.5	0.002	0.02			0.0007
505-60-2	Mustard Gas	Liquid	159	215	0.09	0.001	0.000006	0.03	
506-61-6	Potassium Silver Cyanide	Solid	199		0.00001	0.02			
506-68-3	Cyanogen Bromide	Solid	106	61.4	92	0.044			0.02
506-78-5	Cyanogen Iodide	Solid	153	45 S	1	0.18			0.02
509-14-8	Tetranitromethane	Liquid	196	126	13	0.008 a	0.001	0.04	
514-73-8	Dithiazanine Iodide	Solid	520		0.00001	0.02			
534-07-6	Bis(Chloromethyl) Ketone	Solid	127	173	1.0	0.00027			0.0002
534-52-1	Dinitrocresol	Solid	198	312	0.00005	0.0005			0.000007
535-89-7	Crimidine	Solid	172	300	0.00001	0.0012			0.00001
538-07-8	Ethylbis(2-Chloroethyl)Amine	Liquid	170	200	0.24	0.0075	0.00002	0.03	
541-25-3	Lewisite	Liquid	207	190	0.395	0.0047	0.00003	0.04	
541-53-7	Dithiobiuret	Solid	135		0.00001	0.005			
542-76-7	Propionitrile, 3-Chloro-	Liquid	90	175	2.5	0.009	0.0001	0.02	
542-88-1	Chloromethyl Ether	Liquid	115	106	30.0	0.00025	0.002	0.03	
542-90-5	Ethylthiocyanate	Liquid	87	146	4	0.1	0.0002	0.02	
555-77-1	Tris(2-Chloroethyl)Amine	Liquid	205	256	0.011	0.0008	0.0000008	0.03	
556-61-6	Methyl Isothiocyanate	Solid	73	119	15	0.033			0.0009
556-64-9	Methyl Thiocyanate	Liquid	73	130	20	0.085	0.0008	0.02	
558-25-8	Methanesulfonyl Fluoride	Liquid	98	124	10	0.014	0.0005	0.03	
563-12-2	Ethion	Liquid	384	150 D	0.0000015	0.013	0.0000000002	0.09	
563-41-7	Semicarbazide Hydrochloride	Solid	112		0.00001	0.1			
584-84-9	Toluene 2,4-Diisocyanate	Liquid	174	251	1	0.007	0.00007	0.03	
594-42-3	Perchloromethylmercaptan	Liquid	186	147	10	0.0076	0.0007	0.04	
597-64-8	Tetraethyltin	Liquid	235	181	2	0.007	0.0002	0.04	
614-78-8	Thiourea, (2-Methylphenyl)-	Solid	166		0.000002	0.05			
624-83-9	Methyl Isocyanate	Liquid	57	39	348	0.0047	0.01	0.02	
624-92-0	Methyl Disulfide	Liquid	94	109.7	28.6	0.0001	0.001	0.03	
625-55-8	Isopropyl Formate	Liquid	88	68.2	100	0.0014	0.004	0.03	
627-11-2	Chloroethyl Chloroformate	Liquid	143	155.7	9.0	0.02	0.0005	0.03	
630-60-4	Ouabain	Solid	585		0.00001	0.0083			

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*633-03-4	C. I. Basic Green 1	Solid	483		0.00001	0.25			
639-58-7	Triphenyltin Chloride	Solid	385	400	0.000001	0.02			0.0000001
*640-15-3	Thiometon	Liquid	246	340	0.0003	0.06	0.00000003	0.03	
640-19-7	Fluoroacetamide	Solid	77	250	0.001	0.0058			0.0002
644-64-4	Dimetilan	Solid	240	350	0.0001	0.025			0.00000004
*646-06-0	Dioxolane	Liquid	74	74	70	0.21	0.003	0.02	
675-14-9	Cyanuric fluoride	Liquid	135	73	120	0.00017	0.007	0.04	
676-97-1	Methyl Phosphonic Dichloride	Solid	133	163	1	0.0014			0.0002
696-28-6	Phenyl Dichloroarsine	Liquid	223	254.4	0.033	0.004	0.000003	0.03	
732-11-6	Phosmet	Solid	317	D	0.0008	0.00054			0.000008
760-93-0	Methacrylic Anhydride	Liquid	154	240	0.01	0.0045	0.0000006	0.03	
786-19-6	Carbophenothion	Liquid	343	350	0.0000003	0.0068	0.00000000003	0.04	
814-49-3	Diethyl Chlorophosphate	Liquid	173	210	0.2	0.008	0.00001	0.03	
814-68-6	Acrylyl Chloride	Liquid	91	75	300.0	0.0009	0.01	0.03	
824-11-3	Trimethylolpropane Phosphite	Solid	162	200	0.2	0.0025			0.0001
900-95-8	Stannane, Acetoxytriphenyl-	Solid	409			0.02			
919-86-8	Demeton-S-Methyl	Liquid	230	305	0.0001	0.005	0.000000008	0.03	
920-46-7	Methacryloyl Chloride	Liquid	105	96	40	0.0006	0.002	0.03	
944-22-9	Fonofos	Liquid	246	380	0.00021	0.0013	0.00000002	0.03	
947-02-4	Phosfolan	Solid	255	410	0.00001	0.009			0.000000000002
950-10-7	Mephosfolan	Liquid	269	410	1.0000000E-10	0.009	0.000000000000009	0.03	
950-37-8	Methidathion	Solid	302		0.000001	0.02			0.0000000003
991-42-4	Norbormide	Solid	512		0.00001	0.0038			
998-30-1	Triethoxysilane	Liquid	164	132	23	0.005	0.002	0.04	
999-81-5	Chlormequat Chloride	Solid	158		0.00001	0.007			
1031-47-6	Triamiphos	Solid	294	400	0.0000001	0.01			0.000000003
1066-45-1	Trimethyltin Chloride	Solid	199	154	3	0.02			0.0004
1122-60-7	Nitrocyclohexane	Liquid	129	205.5	0.35	0.0015	0.00002	0.03	
1124-33-0	Pyridine, 4-Nitro-, 1-Oxide	Solid	140	390	0.00001	0.08			0.00002
1129-41-5	Metolcarb	Solid	165	360	0.00001	0.0048			0.00000003
1303-28-2	Arsenic Pentoxide	Solid	230		0.00001	0.008			
1306-19-0	Cadmium Oxide	Solid	128	1559 S	0.00001	0.004			0.000004
*1314-32-5	Thallic Oxide	Solid	457	875	0.00001	0.002			0.003
1314-56-3	Phosphorus Pentoxide	Solid	142		0.00001	0.0006			
1314-62-1	Vanadium Pentoxide	Solid	182	1750	0.0000001	0.007			0.0000000000002
1314-84-7	Zinc Phosphide	Solid	258	1100	0.0000001	0.012			0.0000000002
1327-53-3	Arsenous Oxide	Solid	198	465	0.0000001	0.0014			0.001
*1331-17-5	Propylene Glycol, Allyl Ether	Liquid	116	160	2	0.51	0.0001	0.03	
*1335-87-1	Hexachloronaphthalene	Solid	335	270	0.003	0.0002			
1397-94-0	Antimycin A	Solid	549		0.00001	0.0018			
1420-07-1	Dinoterb	Solid	240	350	0.00001	0.025			
1464-53-5	Diepoxybutane	Liquid	86	138	16	0.0035	0.0007	0.02	
1558-25-4	Trichloro(Chloromethyl)Silane	Liquid	184	118	30	0.0003	0.002	0.04	
1563-66-2	Carbofuran	Solid	221	360	0.00001	0.00043			0.00005
1600-27-7	Mercuric Acetate	Solid	319		0.00001	0.024			
1622-32-8	Ethanesulfonyl Chloride, 2-Chloro-	Liquid	163	200	0.6	0.0025	0.00004	0.03	
1642-54-2	Diethylcarbamazine Citrate	Solid	391		0.00001	0.003			
1752-30-3	Acetone Thiosemicarbazide	Solid	131		0.00001	0.1			
1910-42-5	Paraquat	Solid	257		0.0000001	0.00015			
1982-47-4	Chloroxuron	Solid	291		0.0000001	0.01			
2001-95-8	Valinomycin	Solid	1112		0.00001	0.0025			
2032-65-7	Methiocarb	Solid	225	325	0.0001	0.015			0.00003

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2074-50-2	Paraquat Methosulfate	Solid	408		0.0000001	0.00015			
2097-19-0	Phenylsilatrane	Solid	251	350	0.00001	0.001			0.0008
2104-64-5	EPN	Solid	323	380	0.000002	0.005			0.000000000007
2223-93-0	Cadmium Stearate	Solid	681		0.00001	0.0013			
2231-57-4	Thiocarbazide	Solid	106		0.00001	0.1			
*2235-25-8	Ethylmercuric Phosphate	Solid	327		0.00001	0.001			
2238-07-5	Diglycidyl Ether	Liquid	130	260	0.09	0.045	0.000005	0.02	
*2244-16-8	Carvone	Liquid	150	230	0.04	0.0037	0.000002	0.03	
2275-18-5	Prothoate	Solid	285	330	0.0001	0.0017			0.000000001
2497-07-6	Oxydisulfoton	Liquid	274	330	0.00006	0.0035	0.000000006	0.03	
2524-03-0	Dimethyl Phosphorochloridothioate	Liquid	161	180	1	0.0032	0.00006	0.03	
2540-82-1	Formothion	Liquid	257	250	0.0000085	0.00027	0.0000000008	0.04	
2570-26-5	Pentadecylamine	Solid	227	307.6	0.0003	0.002			0.00000001
2587-90-8	Phosphorothioic Acid, O,O-Dimethyl-S-(2-Methylthio) Ethyl Ester	Liquid	216	230		0.02		0.04	
2631-37-0	Promecarb	Solid	207	345	0.00003	0.016			0.0000003
2636-26-2	Cyanophos	Liquid	243	350	0.0008	0.025	0.00000007	0.03	
2642-71-9	Azinphos-Ethyl	Solid	345	400	0.0000002	0.0039			0.000000000003
2665-30-7	Phosphonothioic Acid, Methyl-,O-(4-Nitrophenyl) O-Phenyl Ester	Liquid	309	400	0.00001	0.008	0.000000001	0.03	
2703-13-1	Phosphonothioic Acid, Methyl-, O-Ethyl O-(4-(Methylthio)Phenyl) Ester	Liquid	262	298	0.0001	0.01	0.000000009	0.04	
2757-18-8	Thallous Malonate	Solid	511	300	0.00001	0.002			
2763-96-4	Muscimol	Solid	114		0.00001	0.017			
2778-04-3	Endothion	Solid	280		0.00001	0.917			
3037-72-7	Silane, (4-Aminobutyl)Diethoxymethyl-	Liquid	205	220	0.06	0.045	0.000005	0.03	
'3048-64-4	Vinylnorbornene	Liquid	120	141	5	4.37	0.0003	0.03	
3254-63-5	Phosphoric Acid, Dimethyl 4-(Methylthio) Phenyl Ester	Liquid	248	300	0.001	0.007	0.00000009	0.03	
3569-57-1	Sulfoxide, 3-Chloropropyl Octyl	Liquid	239	338	0.0002	0.008	0.00000002	0.03	
3615-21-2	Benzimidazole, 4,5-Dichloro-2-(Trifluoromethyl)-	Solid	255			0.013			
3689-24-5	Sulfotep	Liquid	322	310	0.00017	0.0035	0.00000002	0.04	
3691-35-8	Chlorophacinone	Solid	375		0.00001	0.001			
3734-97-2	Amiton Oxalate	Solid	359		0.00001	0.003			
3735-23-7	Methyl Phenkapton	Liquid	349	400	0.0000035	0.011	0.0000000004	0.04	
3878-19-1	Fuberidazole	Solid	184		0.00001	0.0033			
4044-65-9	Bitoscanate	Solid	192	290	0.0001	0.02			0.0002
4098-71-9	Isophorone Diisocyanate	Solid	222	360	0.00001	0.00123			0.000000006
4104-14-7	Phosacetim	Solid	375	400	0.00001	0.0037			0.00000009
4170-30-3	Crotonaldehyde	Liquid	70	104	36	0.04	0.001	0.02	
4301-50-2	Fluenetil	Solid	258		0.0000025	0.006			0.0000007
4418-66-0	Phenol,2,2'-Thiobis(4-Chloro-6-Methyl)-	Solid	315	443	0.0000001	0.0013			0.00001
4835-11-4	Hexamethylenediamine, N,N'-Dibutyl-	Liquid	228	205	0.0004	0.0022	0.00000003	0.04	
5281-13-0	Piprotal	Solid	457	463	0.0000001	0.0044			0.0000004
5344-82-1	Thiourea, (2-Chlorophenyl)-	Solid	187	323	0.000002	0.0046			0.0001
5836-29-3	Coumatetralyl	Solid	292		0.00001	0.0165			
6533-73-9	Thallous Carbonate	Solid	469		0.00001	0.002			
6923-22-4	Monocrotophos	Solid	223	430	0.000007	0.00063			0.000000000002
*7440-02-0	Nickel	Solid	59	2732	0.00001	0.05			0.0000001
*7440-48-4	Cobalt	Solid	59	2870	0.00001	0.002			0.000000001
7446-09-5	Sulfur Dioxide	Gas	64	-10		0.026			

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7446-11-9	Sulfur Trioxide	Solid	80	45	433	0.003			0.01
7446-18-6	Thallous Sulfate	Solid	505		0.0000001	0.002			
7487-94-7	Mercuric Chloride	Solid	272	302	0.0004	0.03			0.02
7550-45-0	Titanium Tetrachloride	Liquid	190	136.4	10	0.001	0.0007	0.04	
7580-67-8	Lithium Hydride	Solid	8		0.00001	0.005			
7631-89-2	Sodium Arsenate	Solid	326		0.00001	0.13			
7637-07-2	Boron Trifluoride	Gas	68	-127		0.028			
7647-01-0	Hydrogen Chloride (Gas Only)	Gas	36	-85		0.015			
7664-39-3	Hydrogen Fluoride	Gas	20	19.4		0.0016			
7664-41-7	Ammonia	Gas	17	-33.4		0.035			
7664-93-9	Sulfuric Acid	Liquid	98	290	0.000001	0.008	0.00000000005	0.02	
7697-37-2	Nitric Acid	Liquid	63	83	47.8	0.026	0.002	0.02	
7719-12-2	Phosphorus Trichloride	Liquid	137	76	135	0.028	0.008	0.04	
7722-84-1	Hydrogen Peroxide (Conc > 52%)	Liquid	34	152	5	0.01	0.0001	0.01	
7723-14-0	Phosphorus	Solid	31	280	0.05	0.003			0.00000005
7726-95-6	Bromine	Liquid	160	60	172.0	0.0065	0.01	0.04	
7778-44-1	Calcium Arsenate	Solid	398		0.00001	0.01			
7782-41-4	Fluorine	Gas	38	-188		0.039			
7782-50-5	Chlorine	Gas	71	-34.6		0.0073			
7783-00-8	Selenious Acid	Solid	129		4	0.25			0.002
7783-06-4	Hydrogen Sulfide	Gas	34	-60		0.042			
7783-07-5	Hydrogen Selenide	Gas	81	-41		0.00066			
7783-60-0	Sulfur Tetrafluoride	Gas	108	-40		0.0092			
7783-70-2	Antimony Pentafluoride	Liquid	217	141	7.0	0.0027	0.0006	0.04	
7783-80-4	Tellurium Hexafluoride	Gas	242	-39 S		0.001			
7784-34-1	Arsenous Trichloride	Liquid	181	130.21	10.0	0.01	0.0007	0.04	
7784-42-1	Arsine	Gas	78	-62		0.0019			
7784-46-5	Sodium Arsenite	Solid	130		0.00001	0.01			
7786-34-7	Mevinphos	Liquid	224	280	0.0029	0.004	0.0000002	0.03	
7791-12-0	Thallous Chloride	Solid	240	720	0.0000001	0.002			0.00007
7791-23-3	Selenium Oxychloride	Liquid	166	180	2.9	0.01	0.0002	0.03	
7803-51-2	Phosphine	Gas	34	-88		0.028			
8001-35-2	Camphechlor	Solid	414	D	0.4	0.02			0.003
*8023-53-8	Dichlorobenzalkonium Chloride	Solid	423		0.00001	0.32			
8065-48-3	Demeton	Liquid	258	300	0.00026	0.002	0.00000002	0.03	
*10025-65-7	Platinous Chloride	Solid	266		0.00001	0.013			
10025-73-7	Chromic Chloride	Solid	158	1300 S	0.00001	0.00005			0.003
10025-87-3	Phosphorus Oxychloride	Liquid	153	106	40	0.003	0.003	0.04	
*10025-97-5	Iridium Tetrachloride	Solid	334		0.00001	0.0047			
10026-13-8	Phosphorus Pentachloride	Solid	208	160	1	0.02			0.006
10028-15-6	Ozone	Gas	48	-111		0.002			
10031-59-1	Thallium Sulfate	Solid	1527	D	0.00001	0.002			
*10049-07-7	Rhodium Trichloride	Solid	209	800	0.00001	0.0062			0.00002
10102-18-8	Sodium Selenite	Solid	173		0.00001	0.0023			
10102-20-2	Sodium Tellurite	Solid	222		0.00001	0.02			
10102-43-9	Nitric Oxide	Gas	30	-151		0.03 a			
10102-44-0	Nitrogen Dioxide	Gas	46	21.15		0.0094			
10124-50-2	Potassium Arsenite	Solid	254		0.00001	0.014			
10140-87-1	Ethanol, 1,2-Dichloro-, Acetate	Liquid	157	280	0.001	0.011	0.00000006	0.03	
10210-68-1	Cobalt Carbonyl	Solid	342	52 D	0.1	0.00027			0.07
10265-92-6	Methamidophos	Solid	141	D	0.0003	0.0075			0.00000006
10294-34-5	Boron Trichloride	Gas	117	13		0.01			

Exhibit C-2
List of Extremely Hazardous Substances and Data for Hazards Analysis
(CAS # Order)

CAS #	Chemical Name	Physical State	Molecular Weight	Boiling Point (oC)	Vapor Pressure @ 25 C (mm Hg)	Level of Concern (gm/m3)	Liquid Factor Ambient LFA	Liquid Factor Boiling LFB	Liquid Factor Molten LFM
10311-84-9	Dialifor	Solid	394	300	0.0005	0.005			0.000001
10476-95-6	Methacrolein Diacetate	Liquid	172	191	0.35	0.044	0.00002	0.03	
12002-03-8	Paris Green	Solid	1014		0.00001	0.022			
12108-13-3	Manganese, Tricarbonyl Methylcyclopetadienyl	Liquid	218	232	0.1	0.0006	0.000008	0.04	
13071-79-9	Terbufos	Liquid	288	315	0.0003	0.001	0.00000003	0.04	
13171-21-6	Phosphamidon	Liquid	300	350	0.000025	0.0003	0.000000002	0.04	
13194-48-4	Ethoprophos	Liquid	242	300	0.00035	0.026	0.00000003	0.03	
13410-01-0	Sodium Selenate	Solid	189		0.00001	0.0016			
13450-90-3	Gallium Trichloride	Solid	176	201.3	0.2	0.032			0.0004
*13454-96-1	Platinum Tetrachloride	Solid	337		0.00001	0.002			
13463-39-3	Nickel Carbonyl	Liquid	171	43	400	0.00035 a	0.03	0.05	
13463-40-6	Iron, Pentacarbonyl-	Liquid	196	103	40	0.0008 a	0.003	0.04	
13494-80-9	Tellurium	Solid	128	989.9	0.00001	0.02			0.00000002
14167-18-1	Salcomine	Solid	325		0.00001	0.039			
15271-41-7	Bicyclo[2.2.1]Heptane-2-Carbonitrile, 5-Chloro-6-((((Methylamino)Carbonyl) Oxy)Imino)-, (1S-(1-alpha,2-beta, 4-alpha,5-alpha,6E))-	Solid	242		0.00001	0.019			
16752-77-5	Methomyl	Solid	162	335	0.00005	0.01			0.0000002
*16919-58-7	Ammonium Chloroplatinate	Solid	444		0.00001	0.00044			
17702-41-9	Decaborane(14)	Solid	122	213	0.1	0.01			0.0006
17702-57-7	Formparanate	Solid	235	385	0.0000025	0.0072			0.0000003
19287-45-7	Diborane	Gas	28	-92		0.005			
19624-22-7	Pentaborane	Liquid	63	60	170	0.0008	0.006	0.02	
*20816-12-0	Osmium Tetroxide	Solid	254	130	11	0.0001			0.002
20830-75-5	Digoxin	Solid	781		0.00001	0.0002			
20859-73-8	Aluminum Phosphide	Solid	58	320	0.00001	0.02			
21548-32-3	Fosthietan	Liquid	241	250	0.0000065	0.0047	0.0000000006	0.04	
*21564-17-0	Thiocyanic Acid, 2-(Benzothiazolylthio)	Liquid	238	350	0.00001	1.6	0.0000000008	0.03	
21609-90-5	Leptophos	Solid	412	380	0.000002	0.03			0.000000009
21908-53-2	Mercuric Oxide	Solid	217		0.00001	0.016			
21923-23-9	Chlorthiophos	Liquid	361	400	0.0004	0.0078	0.00000004	0.04	
22224-92-6	Fenamiphos	Solid	303	450	0.0000001	0.0009			0.0000000000001
23135-22-0	Oxamyl	Solid	219	310	0.00023	0.0017			0.00002
23422-53-9	Formetanate Hydrochloride	Solid	258	440	0.0000001	0.018			0.00003
23505-41-1	Pirimifos-Ethyl	Liquid	333	130 D	0.00029	0.025	0.00000003	0.09	
24017-47-8	Triazofos	Liquid	313	350	0.00001	0.0028	0.000000001	0.04	
24934-91-6	Chlormephos	Liquid	235	295	0.0056	0.007	0.0000005	0.03	
26419-73-8	Carbamic Acid, Methyl-, O-(((2,4-Dimethyl-1,3-Dithiolan-2-Yl) Methylene)Amino)-	Solid	234	400	0.0000006	0.001			0.000004
26628-22-8	Sodium Azide (Na(N3))	Solid	65		0.00001	0.02			
27137-85-5	Trichloro(Dichlorophenyl)Silane	Liquid	280	260	70	0.008	0.007	0.04	
28347-13-9	Xylylene Dichloride	Solid	175	239	0.02	0.002			0.0003
28772-56-7	Bromadiolone	Solid	527		0.00001	0.001			
30674-80-7	Methacryloyloxyethyl Isocyanate	Liquid	155	74	80	0.00027	0.005	0.04	
39196-18-4	Thiofanox	Solid	218	315	0.00017	0.0085			0.00000009
50782-69-9	Phosphonothioic Acid, Methyl-, S-(2-(Bis(1-Methylethyl)Amino)Ethyl) O-Ethyl Ester	Liquid	267	298	0.0007	0.0009	0.00000006	0.04	
53558-25-1	Pyriminil	Solid	272		0.00001	0.0062			

Exhibit C-2
List of Extremely Hazardous Substances and Data for Hazards Analysis
(CAS # Order)

CAS #	Chemical Name	Physical State	Molecular Weight	Boiling Point (oC)	Vapor Pressure @ 25 C (mm Hg)	Level of Concern (gm/m3)	Liquid Factor Ambient LFA	Liquid Factor Boiling LFB	Liquid Factor Molten LFM
58270-08-9	Zinc, Dichloro(4,4-Dimethyl-5 ((((Methylamino)Carbonyl)Oxy)Imino) Pentanenitrile)-, (T-4)-	Solid	334		0.00001	0.009			
62207-76-5	Cobalt,((2,2'-(1,2-Ethanediylbis (Nitrilomethylidene))Bis(6-Fluoro Phenolato))(2-)-N,N',O,O')-	Solid	361		0.00001	0.003			

a: ACGIH TLV values were used for these chemicals.

* Chemicals proposed for deletion.

D: Decomposes

S: Sublimes

APPENDIX D

ADDITIONAL INFORMATION ON LEVELS OF CONCERN

D.1 INTRODUCTION

Levels of concern (LOCs), for purposes of this document, are defined as the concentrations of an extremely hazardous substance (EHS) in air above which there may be serious irreversible health effects or death as a result of a single exposure for a relatively short period of time.

There is at present no precise measure of LOCs for the chemicals listed as EHSs. Various organizations have been developing for the past several years acute exposure guidelines for a limited number of hazardous chemicals; the methodology, however, is still in the developmental stages. Certain of the guidelines under development and the progress to date are described in detail below. Until more precise measures are developed, surrogate or estimated measures of LOCs have been identified for the listed EHSs. Local officials may choose values for LOCs different from those estimated in this guidance, depending upon their requirements and the specific characteristics of the planning district or site and the level of protection deemed appropriate.

For the purposes of this guidance, the LOC has been estimated by using one-tenth of the "Immediately Dangerous to Life and Health" (IDLH) level published by the National Institute for Occupational Safety and Health (NIOSH) or an approximation of the IDLH from animal toxicity data (See Appendix B). Other exposure guidelines that may be used to estimate LOC include the "Threshold Limit Values" (TLVs[1]), published by the American Conference of Governmental Industrial Hygienists (ACGIH), guidelines developed by the National Research Council (NRC) of the National Academy of Sciences, (NAS), and Emergency Response Planning Guidelines (ERPGs) under development by a consortium of chemical companies. Descriptions of the development and uses of these exposure guidelines will be given in the following sections

LOCs may be given in units of parts per million (ppm), milligrams per cubic meter (mg/m3), milligrams per liter (mg/L), or grams per liter (g/L).

The equations for determining LOC in this guidance use the units grams per cubic meter, (g/m3), so any other units, such as ppm, must be converted to g/m3. Levels given in parts per million can be converted to grams per cubic meter (g/m3) as follows:

$$\text{LOC (in g/m3)} = \frac{\text{LOC (in ppm)}}{1000} \times \frac{MW}{24.5}$$

where MW is the substance's molecular weight. For example, chlorine has an LOC (0.1 IDLH) of 2.5 ppm and a molecular weight of about 71 g/mole. Thus, the LOC in grams per cubic meter is:

$$\text{LOC (in g/m3)} = \frac{2.5 \text{ ppm}}{1000} \times \frac{71}{24.5}$$

LOC given in milligrams per cubic meter (mg/m3) can be converted to g/m3 as follows:

$$\text{LOC (in g/m3)} = \text{LOC (in mg/m3)}/1000$$

LOC given in grams per liter (g/L) can be converted to g/m3 as follows.

$$\text{LOC (in g/m3)} = \text{LOC (in g/L)} \times 1000$$

LOC given in milligrams per liter (mg/L) is equivalent to LOC in g/m3:

$$\text{LOC (in g/m3)} = \text{LOC (in mg/L)}$$

D.2 LEVEL OF CONCERN BASED ON ONE-TENTH IDLH OR ONE-TENTH THE ESTIMATED IDLH

About ten years ago, NIOSH developed IDLH levels for approximately 390 chemicals from the Occupational Safety and Health Administration (OSHA) Z-1 and Z-2 lists. These are lists of toxic and hazardous substances to which

[1] TLVs is a registered trademark.

employee exposure must be limited as required by the Code of Federal Regulations 29, Chapter 17,Part 1910. IDLHs were developed exclusively for respirator selection in the workplace. The definition of IDLH provided in 30 CFR 11.3 (the Occupational Safety and Health Act of 1970, PL 91-596) is: "Immediately dangerous to life or health means conditions that pose an immediate threat to life or health or conditions that pose an immediate threat of severe exposure to contaminants, such as radioactive materials, which are likely to have an adverse cumulative or delayed effect on health." The IDLH concentration represents the maximum concentration of a substance in air from which healthy male workers can escape without loss of life or irreversible health effects under conditions of a maximum 30-minute exposure time. Practically, IDLH's are concentrations above which a highly reliable breathing apparatus is required with provisions for escape.

The methodology in developing IDLHs takes into account immediate reactions that could prevent escape without injury, such as severe eye irritation or lung edema. The procedure used to derive IDLH's from data from mammalian toxicity studies is outlined below:

1. Where acute exposure data are available (30 minute to 4 hour exposures), the lowest exposure concentration causing death or irreversible health effects in any species is used as the IDLH concentration. These data are often reported as letnal concentration, low (LCLO).
2. Chronic exposure data are generally not considered in developing IDLH levels for the following reason: "Chronic exposure data may have no relevance to the acute effects and should be used in determining the IDLH concentration only upon competent toxicological judgment." (NIOSH 1978[2]).
3. Where there are no toxicity data to derive an IDLH concentration, 500 times the Permissible Exposure Limit (PEL) shall be used as the IDLH level.

EPA recognizes that the IDLH was not designed as a measure of the exposure level required to protect general populations. First, the IDLH is based upon the response of a healthy, male worker population and does not take into account exposure of more sensitive individuals such as the elderly, children, or people with various health problems. Second, the IDLH is based upon a maximum 30-minute exposure period, which may not be realistic for accidental airborne releases. IDLH values have been developed for about one-fourth of the EHSs on the list. The IDLH may not indicate the concentration that could result in serious but reversible injury. Based on these conditions, one-tenth the IDLH level or an estimation of this value for substances that do not have a published IDLH, has been selected as one approximation of an LOC available for planning purposes. These IDLH values have been developed with human acute toxicity as the principal consideration and represent exposure concentrations that are one to two orders of magnitude below the median lethal concentration (LC50) or the median lethal dose (LD50) levels reported for mammalian species under experimental conditions. IDLHs were estimated from acute animal toxicity test data for substances without IDLH values. In these instances, the concentration used is determined from LC50, LCLO, LD50, or LDLO data. Inhalation data were used, if available, in preference to other data, and median lethality data were preferred to other types. The following equations show how these data are converted to air concentrations comparable to the IDLH level:

(1) estimated IDLH = LC50 x 0.1;
(2) estimated IDLH = LCLO
(3) estimated IDLH = LD50 x 0.01
(4) estimated IDLH = LDLO x 0.1

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[2] See Section D.7 for all references in Appendix D.

D.3 LEVELS OF CONCERN BASED ON THRESHOLD LIMIT VALUES (TLVs[3])

ACGIH publishes an annual list of three types of workplace exposure limits for several hundred compounds. ACGIH has published three TLVs as guidelines since 1941: Threshold limit value - Time-weighted average (TLV-TWA), TLV-Short term exposure limit (TLV-STEL), and TLV-Ceiling (TLV-C).

1. The TLV-TWA is defined as the time weighted average concentration limit for a normal eight hour workday and 40 hours per week, to which nearly all workers may be repeatedly exposed, day after day, without adverse effect.

2. The TLV-STEL is a 15-minute time-weighted average concentration for a normal eight-hour workday and forty-hour workweek. All workers should be able to withstand up to four exposures per day of concentrations as high as the TLV-STEL with no ill effects if the TLV-TWA is not also exceeded. TLV-STELs are applied to supplement the TLV-TWA when there are recognized acute effects from a substance whose toxic effects are primarily of a chronic nature.

3. The TLV-C is the airborne concentration that should not be exceeded in the workplace under any circumstances. Ceiling limits may supplement other limits or stand alone. In many cases, ACGIH could not find sufficient toxicological data to derive TLV-STELs or TLV-Cs for chemicals which had already been assigned a TLV-TWA. In these instances, the ACGIH recommends that five times the TLV-TWA be used in place of the TLV-C and that short-term exposures not exceed 3 times the TLV-TWA for more than a total of 30 minutes during the day.

TLVs are based primarily on acute toxicity data (LC50s and LD50s) and irritation data (irritation of the cornea and respiratory tract). Irritation effects that are considered range from barely detectable to irreversible, in laboratory animals and human subjects documented in industrialexposures. Only some TLVs consider neurotoxic and mutagenic effects. Although TLVs are derived for the protection of healthy male workers, they occasionally consider special impacts on workers with chronic respiratory problems. TLVs do not consider reproductive effects (ACGIH 1986). ACGIH advises against using or applying the TLV levels outside the workplace.

[3] TLVs is a registered trademark.

D.4 LEVELS OF CONCERN BASED ON NATIONAL ACADEMY OF SCIENCES SHORT-TERM EXPOSURE LEVELS

For the last forty years, the NRC's Committee on Toxicology has submitted emergency exposure guidelines for chemicals of concern to the Department of Defense (DOD) (NRC 1986). These guidelines are used in planning for sudden contamination of air during military and space operations; specifically, they are used to choose protective equipment and response plans after non-routine but predictable occurrences such as line breaks, spills, and fires. These guidelines are for peak levels of exposure considered acceptable for rare situations, but are not to be applied in instances of repeated exposure.

An Emergency Exposure Guidance Level (EEGL) is defined as a concentration of a substance in air (gas, vapor, or aerosol) judged by DOD to be acceptable for the performance of specific tasks by military personnel during emergency conditions lasting 1-24 hours. Exposure to an EEGL is not considered safe, but acceptable during tasks which are necessary to prevent greater risks, such as fire or explosion. Exposures at the EEGLs may produce transient central nervous system effects and eye or respiratory irritation, but nothing serious enough to prevent proper responses to emergency conditions.

Since the 1940's, the NRC has developed EEGLs for 41 chemicals, 15 of which are listed in Section 302 of Title III of SARA as EHSs. Although acute toxicity is the primary basis for selecting EEGLs, long term effects from a single acute exposure are also evaluated for developmental, reproductive (in both sexes), carcinogenic, neurotoxic, respiratory and other organ-related

effects. The effect determined to be the most seriously debilitating, work-limiting, or sensitive is selected as the basis for deriving the EEGL. This concentration is intended to be sufficiently low to protect against other toxic effects that may occur at higher concentrations. Factors such as age of the exposed population, length of exposure, and susceptibility or sensitivity of the exposed population are also considered in determining EEGLs.

Safety factors are used in developing EEGLs to reflect the nature and quality of the data. Safety factors for single exposures may differ from those used in chronic studies. In the absence of better information, a safety factor of 10 is suggested for EEGLs (i.e., the reported toxicity value should be divided by 10) if only animal data are available and extrapolation from animals to humans is necessary for acute, short-term effects (NRC 1986). The safety factor of 10 takes into account the possibility that some individuals might be more sensitive than the animal species tested. A factor of 10 is also suggested if the likely route of human exposure differs from the route reported experimentally (NRC 1986) (e.g., if oral data are reported and inhalation is the most likely exposure route for humans).

As noted by NRC (1986, p. 7), development of an EEGL for different durations of exposure usually begins with the shortest exposure anticipated - i.e., 10-15 minutes - and works up to the longest, such as 24 hours. Under the simplest framework, Haber's law is assumed to operate, with the product of concentration (C) and time (t) as a constant (k) for all the short periods used (Ct=k) (Casarett and Doull 1986). If Ct is 30 and t is 10, then C is 3; if Ct is 30 and t is 30, then C is 1. If detoxification or recovery occurs and data are available on 24-hour exposures, this is taken into account in modifying Ct. In some instances, the Ct concept will be inappropriate, as for materials such as ammonia that can be more toxic with high concentrations over short periods. Each material is considered in relation to the applicability of Haber's law.

Generally, EEGLs have been developed for exposure to single substances, although emergency exposures often involve complex mixtures of substances and, thus, present the possibility of toxic effects resulting from several substances. In the absence of other information, guidance levels for complex mixtures can be developed from EEGLs by assuming as a first approximation that the toxic effects are additive. When the chemical under evaluation for development of an EEGL is an animal or human carcinogen, a separate qualitative risk assessment is undertaken in recognition of the fact that even limited exposure to such an agent can theoretically increase the risk of cancer. The risk assessment is performed with the aim of providing an estimate of the acute exposure that would not lead to an excess risk of cancer greater than 1 in 10,000 exposed persons. The following mathematical approach, taken directly from NRC (1986, pp. 26-27), is applicable for EEGL computations for carcinogens:

1. If there has been computed an exposure level d (usually in ppm in air), which after a lifetime of exposure is estimated to produce some "acceptable" level of excess risk of cancer -- say, $1x10^{-6}$ -- this has been called a "virtually safe dose" (VSD). Computation of the dose d, if not already done by a regulatory agency, will be computed by the Committee on Toxicology in accordance with generally accepted procedures used by the major regulatory agencies, i.e., using the multistage no-threshold model for carcinogenesis and the appropriate body weight/surface area adjustments when extrapolating from an animal species to humans.

2. If carcinogenic effect is assumed to be a linear function of the total (cumulative) dose, then for a single 1-day human exposure an acceptable dose (to yield the same total lifetime exposure) would be d times 25,600 (there being approximately 25,600 days in an average lifetime); the allowable 1-day (24-h) dose rate would be

$$d \times 25{,}600$$

3. Because of uncertainties about which of several stages in the carcinogenic process a material may operate in, and because of the likely low age of military persons, it can be shown from data of Crump and Howe (1984) that the maximal additional risk that

these considerations contribute is a factor of 2.8. As a conservative approach, the acceptable dose is divided by 2 8, i.e.,

$$\frac{d \times 25.600}{2.8}$$

If a lifetime excess risk, R, is established by DOD (for example, at $1x10^{-4}$, as has been suggested by the International Council on Radiation Protection for nuclear power plant workers), then the appropriate extent of risk at the EEGL would be

$$\frac{d \times 25.600}{2.8} \times \frac{R}{\text{level of risk at d}}$$

(In the example given here, the level of risk at d was no more than $1x10^{-6}$) If R is $1x10^{-4}$, then R/risk at d = $10^{-4}/10^{-6}$ = 100 (NRC 1986).

4. If a further element of conservatism is required (for example, where animal data need to be extrapolated to estimate human risk), an additional safety factor can be used as a divisor.

The NRC's Committee on Toxicology has also developed special public exposure guidelines upon request from Department of Defense. The Short-term Public Exposure Guidance Level (SPEGL) is defined as an acceptable ceiling concentration for a single, unpredicted short-term exposure to the public. The exposure period is usually calculated to be one hour or less and never more than 24 hours. SPEGLs are generally set at 0.1 to 0.5 times the EEGL A safety factor of 2 is often used to take into account effects on sensitive subpopulations, such as children, the aged, and people with debilitating diseases. A safety factor of 10 may be used to take into account the effects of an exposure on fetuses and newborns Effects on the reproductive capacity of both men and women are also considered. Five SPEGLs (for hydrazine, dimethylhydrazine, monomethyl hydrazine, nitrogen dioxide, and hydrogen chloride) have been developed by the NRC; all five chemicals are on the list of EHSs.

D.5 LEVELS OF CONCERN BASED ON EMERGENCY RESPONSE PLANNING GUIDELINES

A consortium of twenty-five chemical firms has developed a uniform protocol for community exposure guidelines based upon the NRC/NAS guidelines, EEGLs, and SPEGLs. The American Industrial Hygiene Association (AIHA) is providing technical review. These guidelines are not intended for repeated exposures and their adoption and use by individual companies is intended to be voluntary.

The consortium members have identified 100 chemicals of concern; for fifteen chemicals, draft Emergency Response Planning Guidelines (ERPGs) have been developed. None of these as yet is available for review. Briefly, the recommended procedure for developing ERPGs is as follows:

1) Companies should use a multi-disciplinary team, including members from the toxicological, medical, and industrial hygiene fields, to collect and review data and draft ERPG documentation. The protocol recommends identifying producers and users of the material and requesting unpublished data on human health effects. Literature searches of computer databases are also recommended.

2) Acute toxicity data,as well as possible long-term effects from a single acute exposure, including carcinogenicity, neurotoxicity, and reproductive and developmental effects are considered. Adjustments may be made, based upon informed judgment, for the increased susceptibility of sensitive subgroups in the population. ERPGs for carcinogens may be derived using the carcinogenicity risk assessment methodology for acute exposures employed by the NRC (1986).

3) The protocol specifies that three concentration levels are needed for each chemi-

cal. The ERPG-1 is defined as the "maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour without experiencing other than mild transient adverse health effects or perceiving a clearly defined objectionable odor." The ERPG-2 is the concentration below which it is believed that "nearly all individuals" would come to no permanent harm after a one-hour exposure period. The ERPG-3 is the "maximum concentration below which...nearly all individuals could be exposed for up to one hour without...life threatening health effects." (See Exhibit D-1)

4) After the ERPG Task Force reviews and edits the documentation, the guidelines and their rationales are reviewed by a Toxicology Committee within the AIHA. The committee is comprised of experts from government, industry, and academia.

5) When they are approved, the guidelines and their documentation are filed at the AIHA headquarters in Akron and will be available to the public upon request.

D.6 OSHA PERMISSIBLE EXPOSURE LIMITS AND NIOSH RECOMMENDED EXPOSURE LIMITS

OSHA Permissable Exposure Limits (PELs) are workplace exposure standards listed in 29 CFR 1910, Subpart Z, General Industry Standards for Toxic and Hazardous Chemicals.

Most of the PELs listed in 29 CFR 1910 were based on ACGIH TLVs, about 450 of which OSHA adopted in 1971 as interim standards under section 6(a) of the Occupational Safety and Health Act. Between 1972 and 1984, OSHA promulgated 9 permanent major health standards regulating worker exposure to 21 toxic chemicals or mixtures. These standards, besides establishing PELs for these chemicals or mixtures, also provided guidance on exposure monitoring, regulated areas, methods of compliance, respiratory protection, protective clothing, and hazard communication.

Chemicals and substances listed in Subpart Z were divided into 3 tables. PELs for chemicals on the first table are usually 8-hour time-weighted average (TWA) concentrations, not to be exceeded in an 8-hour workday. For chemicals on the second table, ceiling concentrations and maximum peak concentrations were given in addition to 8-hour TWA concentrations. The maximum peak concentrations have associated with them exposure durations (e.g. five minute maximum peak concentration in any 2 hour period). These concentrations should never exceed the maximum peak, and should fall between the ceiling and the maximum peak concentration for the duration indicated. The third table provided 8-hour TWA concentrations for mineral dusts.

The majority of OSHA PELs were adopted from the ACGIH TLVs available in 1971. PELs are enforceable by law, whereas the ACGIH TLVs are recommendations. It should be noted that there have been no revisions of the PELs since their adoption, although the corresponding ACGIH TLVs may have been revised.

For chemicals which NIOSH has published recommendations, the NIOSH recommended exposure limits (RELs) are found in the Pocket Guide to Chemical Hazards. RELs are 8- or 10- hour TWA concentrations and/or ceiling concentrations.

D.7 GUIDELINES AVAILABLE FOR EXTREMELY HAZARDOUS SUBSTANCES

As local planning committees may consider the use of one tenth of the IDLH inappropriate for their specific situation, Exhibits D-2 and D-3 list the guidelines that have been discussed in this appendix that are available for each chemical on the List of Extremely Hazardous Substances. Planners may wish to use these values, but should do so only after discussion of the potential implications with qualified technical personnel.

D.8 REFERENCES

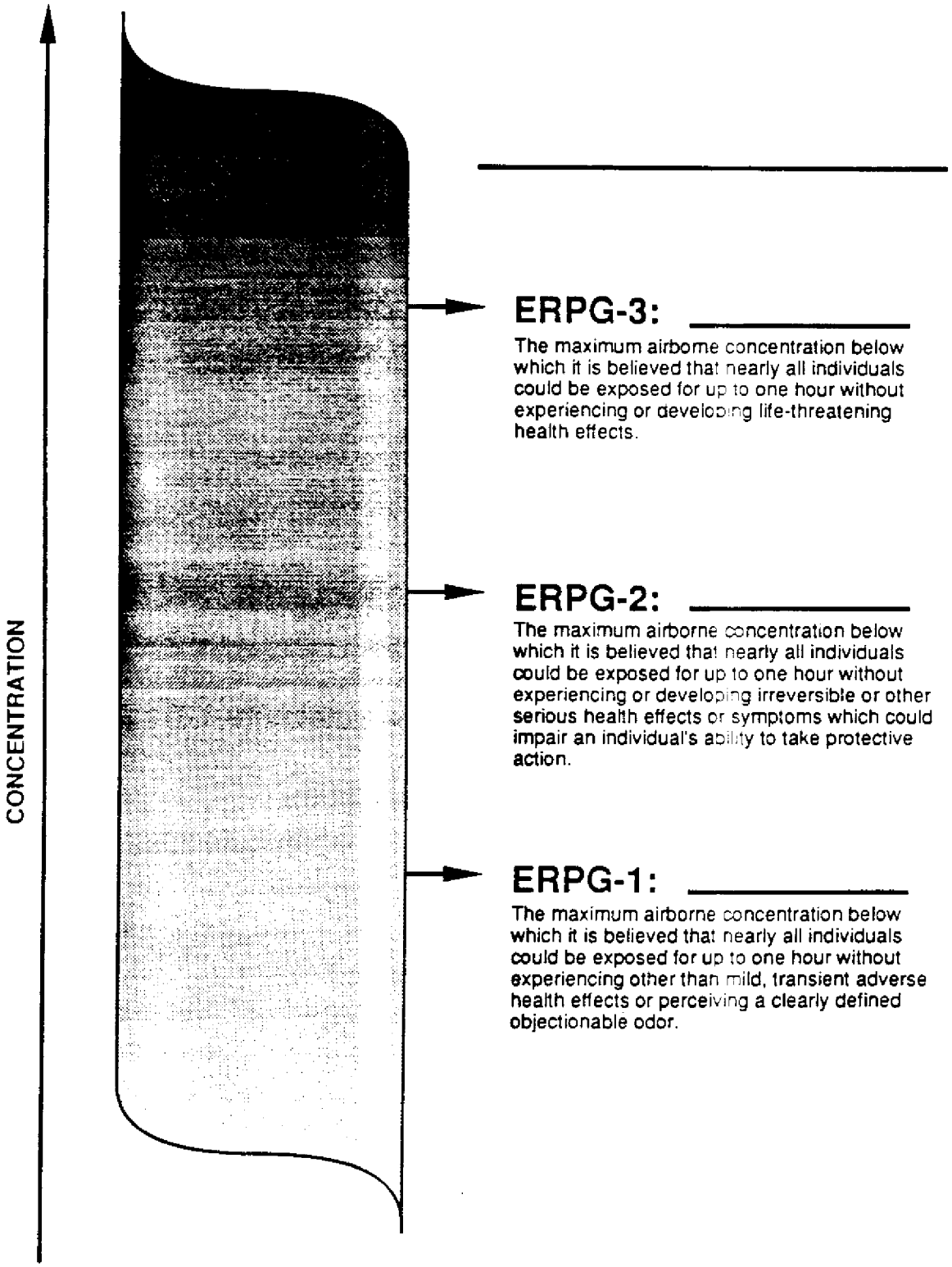
American Conference of Governmental Industrial Hygienists. 1986. Threshold Limit Values and Biological Exposure Indices for 1986-87. Cincinnati, Ohio.

Casarett and Doull. 1986. Toxicology. Edited by C.D. Klassen, M.O. Amdur, and J. Doull. New York, Macmillan Publishing.

Crump, K.S. and R.S. Howe. 1984. The multistage model with a time-dependent dose pattern: applications to carcinogenic risk assessment. Risk Analysis 4: 163-176.

Exhibit D-1

Emergency Response Planning Guidelines



Adapted from Organization Resources Counselors, 1987.

NIOSH. 1978. National Institute for Occupational Safety and Health. The Standards Completion Program Draft Technical Standards Analysis and Decision Logics. NIOSH Library, Cincinnati, Ohio. Copy courtesy of Dr. Howard Ludwig, NIOSH.

NIOSH. 1985. National Institute for Occupational Safety and Health. Pocket Guide to Chemical Hazards. Washington, D.C.: U.S. Government Printing Office, DHEW (NIOSH) Publication No. 78-210.

NRC. 1979. The National Research Council. Criteria for Short-term Exposures to Air Pollutants. November 1979.

NRC. 1986. National Research Council. Committee on Toxicology. Criteria and Methods for Preparing Emergency Exposure Guidance Level (EEGL), Short-Term Public Emergency Guidance Level (SPEGL), and Continuous Exposure Guidance Level (CEGL) Documents. Washington, D.C.: National Academy Press.

Organization Resources Counselors. 1987. Memorandum to ORC Occupational Safety and Health Group from Darrell K. Mattheis and Rebecca L. Daiss, update on Emergency Response Planning Guidelines (ERPG) Task Force. July 20, 1987.

Swank, M.G., Branson, D.R., Rampy, L.W. 1986. The Dow Program to Develop Emergency Exposure Guideline Concentrations (EEGs), February 12, 1986.

EXHIBIT D-2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern

Cas #	Chemical Name	IDLH	TLV-TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	EMEL/SPEGL (ppm)
75865	Acetone Cyanohydrin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1752303	Acetone Thiosemicarbazide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
107028	Acrolein	5 ppm	.1 ppm (.25 mg/m^3)	--	.3 (.8 mg/m^3)	.1 ppm (.25 mg/m^3)	--	.05
79061	Acrylamide	Not Found	.3 mg/m^3	--	.6 mg/m^3	.3 mg/m^3	--	Not Found
107131	Acrylonitrile	500 ppm	2 ppm (4.5 mg/m^3)	--	Not Found	2 ppm	10 ppm/15 min.	Not Found
814686	Acrylyl Chloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
111693	Adiponitrile	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
116063	Aldicarb	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
309002	Aldrin	100 mg/m^3	.25 mg/m^3	--	Not Found	Not Found	--	Not Found
107186	Allyl Alcohol	150 ppm	2 ppm (5 mg/m^3)		4 ppm (10 mg/m^3)	2 ppm (5 mg/m^3)	-	Not Found
107119	Allylamine	Not Found	Not Found		Not Found	Not Found		Not Found
20859738	Aluminum Phosphide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
54626	Aminopterin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
78535	Amiton	Not Found	Not Found	-	Not Found	Not Found	--	Not Found
3734972	Amiton Oxalate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7664417	Ammonia	500 ppm	18 mg/m^3 (25 ppm)	--	27 mg/m^3 (35 ppm)	35 mg/m^3 (35 ppm)	--	100
16919587	Ammonium Chloroplatinate*	Not Found	.002 mg/m^3	--	Not Found	.002 mg/m^3	--	Not Found
300629	Amphetamine	Not Found	Not Found	--	Not Found	1.3 mg/m^3 (1 ppm)	--	Not Found
62533	Aniline	100 ppm (380.8 mg/m^3)	2 ppm (10 mg/m^3)	--	5 ppm (20 mg/m^3)	5 ppm (19 mg/m^3)	--	Not Found
88051	Aniline, 2,4,6-Trimethyl-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7783702	Antimony Pentafluoride	Not Found	.5 mg/m^3	--	Not Found	.5 mg/m^3	--	Not Found
1397940	Antimycin A	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
86884	ANTU	100 mg/m^3	.3 mg/m^3	--	Not Found	.3 mg/m^3	--	Not Found
1303282	Arsenic Pentoxide	Not Found	.2 mg/m^3	--	Not Found	.01 mg/m^3	--	Not Found
1327533	Arsenous Oxide	Not Found	Not Found	--	Not Found	.01 mg/m^3	--	Not Found
7784341	Arsenous Trichloride	Not Found	.2 mg/m^3	--	Not Found	.01 mg/m^3	--	Not Found
7784421	Arsine	6 ppm	.2 mg/m^3 (.05 ppm)	--	Not Found	.2 mg/m^3 (.05 ppm)	--	1
2642719	Azinphos-Ethyl	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
86500	Azinphos-Methyl	5 mg/m^3	.2 mg/m^3	--	Not Found	.2 mg/m^3	--	Not Found
98873	Benzal Chloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
98168	Benzenamine, 3-(Trifluoromethyl)-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
100141	Benzene, 1-(Chloromethyl)-4-Nitro-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
98055	Benzenearsonic Acid	Not Found	.2 mg/m^3	--	Not Found	.01 mg/m^3	--	Not Found
98099	Benzenesulfonyl Chloride*	Not Found	Not Found		Not Found	Not Found		Not Found
3615212	Benzimidazole, 4,5-Dichloro-2-(Trifluoromethyl)	Not Found	Not Found		Not Found	Not Found	-	Not Found
98077	Benzotrichloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
100447	Benzyl Chloride	10 ppm	1 ppm (5 mg/m^3)	--	Not Found	1 ppm (5 mg/m^3)	--	Not Found
140294	Benzyl Cyanide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
15271417	Bicyclo[2.2.1]Heptane-2-Carbonitrile, 5-Chloro-6-(((((Methylamino)Carbonyl)Oxy)Imino)-, (1S-(1-alpha, 2-beta,4-alpha,5-alpha,6E))-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
534076	Bis(Chloromethyl) Ketone	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
4044659	Bitoscanate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10294345	Boron Trichloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7637072	Boron Trifluoride	100 ppm	--	3 mg/m^3 (1 ppm)	Not Found	--	3 mg/m^3 (1 ppm)	Not Found
353424	Boron Trifluoride Compound With Methyl Ether (1:1)	Not Found	Not Found	--	Not Found	Not Found	--	Not Found

EXHIBIT D 2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern (Continued)

Cas #	Chemical Name	IDLH	TLV-TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	EPCL/SPEGL (ppm)
28772567	Bromadiolone	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7726956	Bromine	10 ppm	7 mg/m^3 (1 ppm)	--	2 mg/m^3 (3 ppm)	7 mg/m^3 (1 ppm)	--	Not Found
106990	Butadiene*	20000 ppm	10 ppm (22 mg/m^3)	--	Not Found	1000 ppm (2200 mg/m^3)	--	Not Found
109193	Butyl Isovalerate*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
111342	Butyl Vinyl Ether*	250 ppm**	30 mg/m^3 (5 ppm)	--	60 mg/m^3 (10 ppm)	--	90 mg/m^3 (15 ppm)	Not Found
633034	C. I. Basic Green 1*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1306190	Cadmium Oxide	40 mg/m^3	05 mg/m^3	05 mg/m^3	Not Found	1 mg/m^3	.3 mg/m^3	Not Found
2223930	Cadmium Stearate	Not Found	05 mg/m^3	--	Not Found	Not Found	--	Not Found
7778441	Calcium Arsenate	100 mg/m^3	2 mg/m^3	--	Not Found	01 mg/m^3	--	Not Found
8001352	Camphechlor	200 mg/m^3**	5 mg/m^3	--	1 mg/m^3	5 mg/m^3	--	Not Found
56257	Cantheridin	Not Found	Not Found		Not Found	Not Found		Not Found
51832	Carbachol Chloride	Not Found	Not Found		Not Found	Not Found		Not Found
26419738	Carbamic Acid, Methyl-, O-(((2,4-Dimethyl-1, 3-Dithiolan-2-Yl)Methylene)Amino)-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1563662	Carbofuran	Not Found	1 mg/m^3	--	Not Found	Not Found	--	Not Found
75150	Carbon Disulfide	500 ppm	30 mg/m^3 (10 ppm)	--	Not Found	20 ppm	30 ppm	50
786196	Carbophenothion	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2244168	Carvone*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
57749	Chlordane	500 mg/m^3	5 mg/m^3	--	2 mg/m^3	500 ug/m^3	--	Not Found
470906	Chlorfenvinfos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7782505	Chlorine	30 ppm	3 mg/m^3 (1 ppm)	--	9 mg/m^3 (3 ppm)	--	3 mg/m^3 (1 ppm)	3
24934916	Chlormephos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
999815	Chlormequat Chloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
107200	Chloroacetaldehyde*	250 ppm (3 mg/m^3)	--	1 ppm	Not Found	--	1 ppm (3 mg/m^3)	Not Found
79118	Chloroacetic Acid	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
107073	Chloroethanol	10 ppm**	--	1 ppm (3 mg/m^3)	Not Found	5 ppm (16 mg/m^3)	--	Not Found
627112	Chloroethyl Chloroformate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
67663	Chloroform	1000 ppm (4883 mg/m^3)	10 ppm (50 mg/m^3)	--	50ppm (225 mg/m^3)	--	50 ppm (244 mg/m^3)	100
542881	Chloromethyl Ether	Not Found	.005 mg/m^3 (001 ppm)	--	Not Found	Carc., no per exp lim	--	Not Found
107302	Chloromethyl Methyl Ether	Not Found	2 ppm (2 mg/m^3)	--	Not Found	Not Found	--	Not Found
3691358	Chlorophacinone	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1982474	Chloroxuron	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
21923239	Chlorthiophos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10025737	Chromic Chloride	Not Found	5 mg/m^3	-	Not Found	1 mg/m^3	--	Not Found
7440484	Cobalt*	20 mg/m^3	1 mg/m^3		Not Found	1 mg/m^3		Not Found
10210681	Cobalt Carbonyl	Not Found	.1 mg/m^3	--	Not Found	1 mg/m^3	-	Not Found
62207765	Cobalt, ((2,2'-(1,2 Ethanediylbis (Nitrilomethylidyne))Bis(6-Fluorophenolato)) (2-)-N,N',O,O')-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
64868	Colchicine	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
117522	Coumafuryl*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
56724	Coumaphos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
5836293	Coumatetralyl	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
95487	Cresol, o-	250 ppm (1106 mg/m^3)**	5 ppm (22 mg/m^3)	--	Not Found	5 ppm (22 mg/m^3)	--	Not Found
535897	Crimidine	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
4170303	Crotonaldehyde	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
123739	Crotonaldehyde, (E)-	400 mg/m^3	6 mg/m^3 (2 ppm)	--	Not Found	6 mg/m^3 (2 ppm)	--	Not Found

EXHIBIT D-2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern (Continued)

Cas #	Chemical Name	IDLH	TLV-TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	REGL/SPEGL (ppm)
506683	Cyanogen Bromid	Not Found	5 mg/m^3	--	Not Found	Not Found	--	Not Found
506785	Cyanogen Iodide	Not Found	5 mg/m^3	--	Not Found	Not Found	--	Not Found
2636262	Cyanophos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
675149	Cyanuric Fluoride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
66819	Cycloheximide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
108918	Cyclohexylamine	Not Found	40 mg/m^3 (10 ppm)	--	Not Found	Not Found	--	Not Found
287923	Cyclopentane*	Not Found	1720 mg/m^3 (600 ppm)	--	2580 mg/m^3 (900 ppm)	Not Found	--	Not Found
17702419	Decaborane(14)	20 ppm	.3 mg/m^3 (.05 ppm)	--	.9 mg/m^3 (.15 ppm)	.3 mg/m^3 (.05 ppm)	--	Not Found
8065483	Demeton	20 mg/m^3	.1 mg/m^3 (01 ppm)	--	Not Found	.1 mg/m^3	--	Not Found
919868	Demeton-S Methyl	Not Found	Not Found		Not Found	Not Found	-	Not Found
10311849	Dialifor	Not Found	Not Found		Not Found	Not Found	--	Not Found
19287457	Diborane	40 ppm	.1 mg/m^3 (.1 ppm)	--	Not Found	.1 mg/m^3 (.1 ppm)	--	Not Found
8023538	Dichlorobenzalkonium Chloride*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
111444	Dichloroethyl Ether	250 ppm	Not Found	--	Not Found	Not Found	--	Not Found
149746	Dichloromethylphenylsilane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
62737	Dichlorvos	200 mg/m^3	.1 ppm (1 mg/m^3)	--	.3 ppm (3 mg/m^3)	1 mg/m^3	--	Not Found
141662	Dicrotophos	Not Found	.25 mg/m^3	--	Not Found	Not Found	--	Not Found
1464535	Diepoxybutane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
814493	Diethyl Chlorophosphate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
93050	Diethyl-p-Phenylenediamine*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1642542	Diethylcarbamazine Citrate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
71636	Digitoxin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2238075	Diglycidyl Ether	85 ppm	.5 mg/m^3 (.1 ppm)	--	--	2.8 mg/m^3 (.5 ppm)	--	Not Found
20830755	Digoxin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
115264	Dimefox	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
60515	Dimethoate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2524030	Dimethyl Phosphorochloridothioate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
77781	Dimethyl Sulfate	10 ppm (52 mg/m^3)	.1 ppm (.5 mg/m^3)	--	Not Found	1 ppm (5 mg/m^3)	--	Not Found
75183	Dimethyl Sulfide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
99989	Dimethyl-p-Phenylenediamine	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
75785	Dimethyldichlorosilane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
57147	Dimethylhydrazine	50 ppm	1 mg/m^3 (5 ppm)	--	3 mg/m^3 (1 ppm)	Not Found	--	.24 (Spegl)
644644	Dimetilan	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
534521	Dinitrocresol	5 mg/m^3	.2 mg/m^3		Not Found	.2 mg/m^3		Not Found
88857	Dinoseb	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1420071	Dinoterb	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
78342	Dioxathion	Not Found	.2 mg/m^3	--	Not Found	Not Found	--	Not Found
646060	Dioxolane*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
82666	Diphacinone	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
152169	Diphosphoramide, Octamethyl-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
298044	Disulfoton	Not Found	.1 mg/m^3	--	Not Found	Not Found	--	Not Found
514738	Dithiazanine Iodide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
541537	Dithiobiuret	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
316427	Emetine, Dihydrochloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found

EXHIBIT D-2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern (Continued)

Cas #	Chemical Name	IDLH	TLV-TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	ERPG/SPEGL (ppm)
115297	Endosulfan	Not Found	.1 mg/m^3	--	Not Found	Not Found	--	Not Found
2778043	Endothion	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
72208	Endrin	200 mg/m^3	.1 mg/m^3	--	.3 mg/m^3	.1 mg/m^3	--	Not Found
106898	Epichlorohydrin	100 ppm	2 ppm (10 mg/m^3)	--	5 ppm	5 ppm (19 mg/m^3)	--	Not Found
2104645	EPN	50 mg/m^3	.5 mg/m^3	--	Not Found	.5 mg/m^3	--	Not Found
50146	Ergocalciferol	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
379793	Ergotamine Tartrate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1622328	Ethanesulfonyl Chloride, 2-Chloro-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10140871	Ethanol, 1,2-Dichloro-, Acetate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
563122	Ethion	Not Found	.4 mg/m^3	--	Not Found	Not Found	--	Not Found
13194484	Ethoprophos	Not Found	Not Found		Not Found	Not Found		Not Found
538078	Ethylbis(2-Chloroethyl)Amine	Not Found	Not Found		Not Found	Not Found		Not Found
371620	Ethylene Fluorohydrin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
75218	Ethylene Oxide	800 ppm	2 mg/m^3 (1 ppm)	--	Not Found	1 ppm	--	20
107153	Ethylenediamine	2000 ppm	10 ppm (25 mg/m^3)	--	Not Found	10 ppm (25 mg/m^3)	--	Not Found
151564	Ethyleneimine	Not Found	1 mg/m^3 (.5 ppm)	--	Not Found	Carc.; ng per.exp.lim.	--	Not Found
2235258	Ethylmercuric Phosphate*	Not Found	.01 mg/m^3	--	.03 mg/m^3	.01 mg/m^3	.04 mg/m^3	Not Found
542905	Ethylthiocyanate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
22224926	Fenamiphos	Not Found	.1 mg/m^3	--	Not Found	Not Found	--	Not Found
122145	Fenitrothion	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
115902	Fensulfothion	Not Found	.1 mg/m^3	--	Not Found	Not Found	--	Not Found
4301502	Fluenetil	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7782414	Fluorine	25 ppm	2 mg/m^3 (1 ppm)	--	4 mg/m^3 (2 ppm)	.2 mg/m^3 (.1 ppm)	--	7.5
640197	Fluoroacetamide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
144490	Fluoroacetic Acid	Not Found	.05 mg/m^3	--	.15 mg/m^3	.05 mg/m^3	--	Not Found
359068	Fluoroacetyl Chloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
51218	Fluorouracil	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
944229	Fonofos	Not Found	.1 mg/m^3	--	Not Found	Not Found	--	Not Found
50000	Formaldehyde	100 ppm	1.5 mg/m^3 (1 ppm)	--	3 mg/m^3 (2 ppm)	3 ppm	5 ppm	Not Found
107164	Formaldehyde Cyanohydrin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
23422539	Formetanate Hydrochloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2540821	Formothion	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
17702577	Formparanate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
21548323	Fosthietan	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
3878191	Fuberidazole	Not Found	Not Found		Not Found	Not Found		Not Found
110009	Furan	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
13450903	Gallium Trichloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
77474	Hexachlorocyclopentadiene	Not Found	.1 mg/m^3 (.01 ppm)	--	Not Found	Not Found	--	Not Found
1335871	Hexachloronaphthalene*	2 mg/m^3	.2 mg/m^3	--	Not Found	.2 mg/m^3	--	Not Found
4635114	Hexamethylenediamine, N,N'-Dibutyl-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
302012	Hydrazine	80 ppm	.1 mg/m^3 (.1 ppm)	--	Not Found	.25 mg/m^3	--	.12 (Spegl)
74908	Hydrocyanic Acid	50 ppm**	--	10 mg/m^3	Not Found	11 mg/m^3 (10 ppm)	--	Not Found
7647010	Hydrogen Chloride (Gas Only)	100 ppm	--	7 mg/m^3 (5 ppm)	Not Found	--	7 mg/m^3 (5 ppm)	20 (Eegl), 1 (Spe
7664393	Hydrogen Fluoride	30 ppm	--	2.5 mg/m^3 (3 ppm)	Not Found	3 ppm	--	Not Found
7722841	Hydrogen Peroxide (Conc > 52%)	75 ppm	1.5 mg/m^3 (1 ppm)	--	Not Found	1.4 mg/m^3 (1 ppm)	--	Not Found
7783075	Hydrogen Selenide	2 ppm	.2 mg/m^3 (.05 ppm)	--	Not Found	.2 mg/m^3 (.05 ppm)	--	Not Found

EXHIBIT D-2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern (Continued)

Cas #	Chemical Name	IDLH	TLV-TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	EEGL/SPEGL (ppm)
7783064	Hydrogen Sulfide	300 ppm	14 mg/m^3 (10 ppm)	--	21 mg/m^3 (15 ppm)	--	20 ppm	10 (24 hr)
123319	Hydroquinone	200 mg/m^3	2 mg/m^3	--	Not Found	2 mg/m^3	--	Not Found
53861	Indomethacin*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10025975	Iridium Tetrachloride*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
13463406	Iron, Pentacarbonyl-	Not Found	.8 mg/m^3 (.1 ppm)	--	1.6 mg/m^3 (.2 ppm)	Not Found	--	Not Found
297789	Isobenzan	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
78820	Isobutyronitrile	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
102363	Isocyanic Acid, 3,4-Dichlorophenyl Ester	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
465736	Isodrin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
55914	Isofluorphate	Not Found	Not Found		Not Found	Not Found		Not Found
4098719	Isophorone Diisocyanate	Not Found	.045 mg/m^3 (.005 ppm)		Not Found	Not Found	--	Not Found
108236	Isopropyl Chloroformate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
625558	Isopropyl Formate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
119380	Isopropylmethylpyrazolyl Dimethylcarbamate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
78977	Lactonitrile	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
21609905	Leptophos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
541253	Lewisite	Not Found	Not Found	--	Not Found	.01 mg/m^3	--	Not Found
58899	Lindane	1000 mg/m^3	.5 mg/m^3	--	1.5 mg/m^3	.5 mg/m^3	--	Not Found
7580678	Lithium Hydride	55 mg/m^3	.025 mg/m^3	--	Not Found	.025 mg/m^3	--	Not Found
109773	Malononitrile	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
12108133	Manganese, Tricarbonyl Methylcyclopentadienyl	10000 mg/m^3**	.1 mg/m^3	--	Not Found	--	5 mg/m^3	Not Found
51752	Mechlorethamine	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
950107	Mephosfolan	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1600277	Mercuric Acetate	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
7487947	Mercuric Chloride	Not Found	.1 mg/m^3	--	Not Found	--	.1 mg/m^3	Not Found
21908532	Mercuric Oxide	Not Found	.1 mg/m^3	--	Not Found	--	.1 mg/m^3	Not Found
108678	Mesitylene*	Not Found	25 ppm	--	Not Found	Not Found	--	Not Found
10476956	Methacrolein Diacetate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
760930	Methacrylic Anhydride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
126987	Methacrylonitrile	Not Found	3 mg/m^3 (1 ppm)	--	Not Found	Not Found	--	Not Found
920467	Methacryloyl Chloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
30674807	Methacryloyloxyethyl Isocyanate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10265926	Methamidophos	Not Found	Not Found		Not Found	Not Found		Not Found
558258	Methanesulfonyl Fluoride	Not Found	Not Found		Not Found	Not Found		Not Found
950378	Methidathion	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2032657	Methiocarb	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
16752775	Methomyl	Not Found	2.5 mg/m^3	--	Not Found	Not Found	--	Not Found
151382	Methoxyethylmercuric Acetate	10 mg/m^3**	.01 mg/m^3	--	30 mg/m^3	.01 mg/m^3	40 ug/m^3	Not Found
74839	Methyl Bromide	2000 ppm	20 mg/m^3 (5 ppm)	--	Not Found	--	60 mg/m^3 (20 ppm)	Not Found
80637	Methyl 2-Chloroacrylate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
79221	Methyl Chloroformate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
624920	Methyl Disulfide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
60344	Methyl Hydrazine	5 ppm (9.4 mg/m^3)**	--	.35 mg/m^3	Not Found	--	.35 mg/m^3	.24 (Spegl)
624839	Methyl Isocyanate	20 ppm	.05 mg/m^3 (.02 ppm)	--	Not Found	.05 mg/m^3 (.02 ppm)	--	Not Found
556616	Methyl Isothiocyanate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
74931	Methyl Mercaptan	400 ppm	1 mg/m^3 (.5 ppm)	--	Not Found	--	20mg/m^3 (10ppm/.5min)	Not Found
676971	Methyl Phosphonic Dichloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found

EXHIBIT D-2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern (Continued)

Cas #	Chemical Name	IDLH	TLV TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	EEGL/SPEGL (ppm)
3735237	Methyl Phenkapton	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
556649	Methyl Thiocyanate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
78944	Methyl Vinyl Ketone	Not Found	Not Found	-	Not Found	Not Found	--	Not Found
502396	Methylmercuric Dicyanamide	Not Found	.03 mg/m^3	--	.03 mg/m^3	.01 mg/m^3	.04 mg/m^3	Not Found
75796	Methyltrichlorosilane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1129415	Metolcarb	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7786347	Mevinphos	40 mg/m^3**	.1 mg/m^3 (.01 ppm)	--	.3 mg/m^3 (.03 ppm)	.1 mg/m^3	--	Not Found
315184	Mexacarbate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
50077	Mitomycin C	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
6923224	Monocrotophos	Not Found	.25 mg/m^3	--	Not Found	Not Found	--	Not Found
2763964	Muscimol	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
505602	Mustard Gas	Not Found	Not Found		Not Found	Not Found		Not Found
7440020	Nickel*	Potential carcin.**	1 mg/m^3		Not Found	1 mg/m^3		Not Found
13463393	Nickel Carbonyl	.0001 ppm	.35 mg/m^3 (.05 ppm)	--	Not Found	.007 mg/m^3 (.001 ppm)	--	Not Found
54115	Nicotine	35 mg/m^3	.5 mg/m^3	--	Not Found	.5 mg/m^3	--	Not Found
65305	Nicotine Sulfate	Not Found	.5 mg/m^3	--	1.5 mg/m^3	Not Found	--	Not Found
7697372	Nitric Acid	100 ppm	5 mg/m^3 (2 ppm)	--	10 mg/m^3 (4 ppm)	5 mg/m^3 (2 ppm)	--	Not Found
10102439	Nitric Oxide	100 ppm	30 mg/m^3 (25 ppm)	--	Not Found	30 mg/m^3 (25 ppm)	--	Not Found
98953	Nitrobenzene	200 ppm	1 ppm (5 mg/m^3)	--	Not Found	1 ppm (5 mg/m^3)	--	Not Found
1122607	Nitrocyclohexane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10102440	Nitrogen Dioxide	50 ppm	6 mg/m^3 (3 ppm)	--	10 mg/m^3 (5 ppm)	9 mg/m^3 (5 ppm)	--	1 (Spegl)
62759	Nitrosodimethylamine	Not Found	Carc. potential	--	Carc. potential	Not Found	--	Not Found
991424	Norbormide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
0	Organorhodium Complex (PMN-82-147)	Not Found	1 mg/m^3	--	Not Found	1 mg/m^3	--	Not Found
65863	Orotic Acid*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
20816120	Osmium Tetroxide*	1 mg/m^3	.002 mg/m^3 (.0002 ppm)	--	.006 mg/m^3 (.0006 ppm)	.002 mg/m^3	--	Not Found
630604	Ouabain	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
23135220	Oxamyl	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
78717	Oxetane, 3,3-Bis(Chloromethyl)-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2497076	Oxydisulfoton	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10028156	Ozone	10 ppm	.2 mg/m^3 (1 ppm)	--	.6 mg/m^3 (3 ppm)	.2 mg/m^3 (.1 ppm)	--	1
1910425	Paraquat	1.5 mg/m^3	.1 mg/m^3	--	Not Found	.5 mg/m^3	--	Not Found
2074502	Paraquat Methosulfate	1.5 mg/m^3**	.1 mg/m^3	--	Not Found	.5 mg/m^3	--	Not Found
56382	Parathion	20 mg/m^3	.1 mg/m^3	--	Not Found	Not Found	--	Not Found
298000	Parathion-Methyl	Not Found	.2 mg/m^3		Not Found	Not Found		Not Found
12002038	Paris Green	Not Found	.2 mg/m^3		Not Found	.01 mg/m^3		Not Found
19624227	Pentaborane	3 ppm	.01 mg/m^3 (.005 ppm)	--	.03 mg/m^3 (.015 ppm)	.01 mg/m^3 (.005 ppm)	--	Not Found
76017	Pentachloroethane*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
87865	Pentachlorophenol*	150 mg/m^3	.5 mg/m^3	--	Not Found	.5 mg/m^3	--	Not Found
2570265	Pentadecylamine	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
79210	Peracetic Acid	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
594423	Perchloromethylmercaptan	10 ppm	.8 mg/m^3 (.1 ppm)	--	Not Found	.8 mg/m^3 (.1 ppm)	--	Not Found
108952	Phenol	250 ppm	19 mg/m^3 (5 ppm)	--	38 mg/m^3 (10 ppm)	19 mg/m^3 (5 ppm)	--	Not Found
64006	Phenol, 3-(1-Methylethyl)-, Methylcarbamate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
4418660	Phenol, 2,2'-Thiobis(4-Chloro-6-Methyl)-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
97187	Phenol, 2,2'-Thiobis(4,6-Dichloro)-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found

EXHIBIT D 2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern (Continued)

Cas #	Chemical Name	IDLH	TLV-TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	PEL/STEL (ppm)
58366	Phenoxarsine, 10,10'-Oxydi-	Not Found	.2 mg/m^3	--	--	.01 mg/m^3	--	Not Found
696286	Phenyl Dichloroarsine	Not Found	Not Found	--	Not Found	.01 mg/m^3	--	Not Found
59881	Phenylhydrazine Hydrochloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
62384	Phenylmercury Acetate	Not Found	.1 mg/m^3	--	Not Found	Not Found	--	Not Found
2097190	Phenylsilatrane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
103855	Phenylthiourea	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
298022	Phorate	Not Found	.05 mg/m^3	--	.2 mg/m^3	Not Found	--	Not Found
4104147	Phosacetim	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
947024	Phosfolan	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
75445	Phosgene	2 ppm	.4 mg/m^3 (.1 ppm)		Not Found	.4 mg/m^3 (.1 ppm)		.2
732116	Phosmet	Not Found	Not Found		Not Found	Not Found	--	Not Found
13171216	Phosphamidon	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7803512	Phosphine	200 ppm	.4 mg/m^3 (.3 ppm)	--	1 mg/m^3 (1 ppm)	.4 mg/m^3 (.3 ppm)	--	Not Found
2703131	Phosphonothioic Acid, Methyl-, O-Ethyl O-(4-(Methylthio)Phenly) Ester	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2665307	Phosphonothioic Acid, Methyl-,O-(4-Nitrophenyl) O-Phenyl Ester	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
50782699	Phosphonothioic Acid, Methyl-, S-(2-(Bis (1-Methylethyl)Amino)Ethyl) O-Ethyl Ester	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
3254635	Phosphoric Acid, Dimethyl 4-(Methylthio) Phenyl Ester	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2587908	Phosphorothioic Acid, O,O-Dimethyl-S-(2-Methylthio) Ethyl Ester	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7723140	Phosphorus	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
10025873	Phosphorus Oxychloride	Not Found	.6 mg/m^3 (.1 ppm)	--	3 mg/m^3 (.5 ppm)	Not Found	--	Not Found
10026138	Phosphorus Pentachloride	200 mg/m^3	1 mg/m^3 (1 ppm)	--	Not Found	1 mg/m^3	--	Not Found
1314563	Phosphorus Pentoxide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7719122	Phosphorus Trichloride	50 ppm	1.5 mg/m^3 (.2 ppm)	--	3 mg/m^3 (.5 ppm)	3 mg/m^3 (.5 ppm)	--	Not Found
84800	Phylloquinone*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
57476	Physostigmine	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
57647	Physostigmine, Salicylate (1:1)	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found	Not Found
124878	Picrotoxin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
110894	Piperidine	Not Found	Not Found		Not Found	Not Found		Not Found
5281138	Piprotal	Not Found	Not Found		Not Found	Not Found		Not Found
23505411	Pirimifos-Ethyl	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10025657	Platinous Chloride*	Not Found	.002 mg/m^3	--	Not Found	.002 mg/m^3	--	Not Found
13454961	Platinum Tetrachloride*	Not Found	.002 mg/m^3	--	Not Found	.002 mg/m^3	--	Not Found
10124502	Potassium Arsenite	.002 mg/m^3 15 min.**	.2 mg/m^3	--	Not Found	.01 mg/m^3	--	Not Found
151508	Potassium Cyanide	50 mg/m^3**	5 mg/m^3	--	Not Found	5 mg/m^3	--	Not Found
506616	Potassium Silver Cyanide	Not Found	5 mg/m^3	--	Not Found	Not Found	--	Not Found
2631370	Promecarb	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
106967	Propargyl Bromide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
57578	Propiolactone, Beta-	Potential carcin.**	1.5 mg/m^3 (.5 ppm)	--	3 mg/m^3 (1 ppm)	Not Found	--	Not Found
107120	Propionitrile	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
542767	Propionitrile, 3-Chloro-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
70699	Propiophenone, 4-Amino-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found

EXHIBIT D-2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern (Continued)

Cas #	Chemical Name	IDLH	TLV-TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	ERPG/SPEGL (ppm)
109615	Propyl Chloroformate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1331175	Propylene Glycol, Allyl Ether*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
75569	Propylene Oxide	2000 ppm	50 mg/m^3 (20 ppm)	--	Not Found	240 mg/m^3 (100 ppm)	--	Not Found
75558	Propyleneimine	500 ppm	5 mg/m^3 (2 ppm)	--	Not Found	5 mg/m^3 (2 ppm)	--	Not Found
2275185	Prothoate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
95636	Pseudocumene*	Not Found	25 ppm (125 mg/m^3)	--	Not Found	Not Found	--	Not Found
129000	Pyrene	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
504245	Pyridine, 4-Amino-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
140761	Pyridine, 2-Methyl-5-Vinyl-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1124330	Pyridine, 4-Nitro-, 1-Oxide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
53558251	Pyriminil	Not Found	Not Found		Not Found	Not Found		Not Found
10049077	Rhodium Trichloride*	Not Found	1 mg/m^3		Not Found	.1 mg/m^3		Not Found
14167181	Salcomine	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
107448	Sarin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7783008	Selenious Acid	Not Found	.2 mg/m^3	--	Not Found	.2 mg/m^3	--	Not Found
7791233	Selenium Oxychloride	100 mg/m^3**	.2 mg/m^3	--	Not Found	.2 mg/m^3	--	Not Found
563417	Semicarbazide Hydrochloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
3037727	Silane, (4-Aminobutyl)Diethoxymethyl-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
128563	Sodium Anthraquinone-1-Sulfonate*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7631892	Sodium Arsenate	Not Found	.2 mg/m^3	--	Not Found	.01 mg/m^3	--	Not Found
7784465	Sodium Arsenite	Not Found	.2 mg/m^3	--	Not Found	.01 mg/m^3	--	Not Found
26628228	Sodium Azide (Na(N3))	Not Found	.3 mg/m^3 (.1 ppm)	--	Not Found	Not Found	--	Not Found
124652	Sodium Cacodylate	Not Found	.2 mg/m^3	--	Not Found	.01 mg/m^3	--	Not Found
143339	Sodium Cyanide (Na(CN))	50 mg/m^3**	5 mg/m^3	--	Not Found	5 mg/m^3	--	Not Found
62748	Sodium Fluoroacetate	5 mg/m^3	.05 mg/m^3	--	.15 mg/m^3	.05 mg/m^3	--	Not Found
131522	Sodium Pentachlorophenate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
13410010	Sodium Selenate	100 mg/m^3**	.2 mg/m^3	--	Not Found	.2 mg/m^3	--	Not Found
10102188	Sodium Selenite	Not Found	.2 mg/m^3	--	Not Found	.2 mg/m^3	--	Not Found
10102202	Sodium Tellurite	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
900958	Stannane, Acetoxytriphenyl-	200 mg/m^3**	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
57249	Strychnine	3 mg/m^3	.15 mg/m^3	--	Not Found	.15 mg/m^3	--	Not Found
60413	Strychnine, Sulfate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
3689245	Sulfotep	35 mg/m^3**	.2 mg/m^3	--	Not Found	.2 mg/m^3	--	Not Found
3569571	Sulfoxide, 3 Chloropropyl Octyl	Not Found	Not Found		Not Found	Not Found		Not Found
7446095	Sulfur Dioxide	100 ppm	5 mg/m^3 (2 ppm)		10 mg/m^3 (5 ppm)	13 mg/m^3 (5 ppm)		10
7783600	Sulfur Tetrafluoride	Not Found	--	.4 mg/m^3 (.1 ppm)	Not Found	2.5 mg/m^3	--	Not Found
7446119	Sulfur Trioxide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7664939	Sulfuric Acid	80 mg/m^3	1 mg/m^3	--	Not Found	1 mg/m^3	--	1 mg/m^3
77816	Tabun	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
13494809	Tellurium	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
7783804	Tellurium Hexafluoride	1 ppm	.2 mg/m^3 (.02 ppm)	--	Not Found	.2 mg/m^3 (.02 ppm)	--	Not Found
107493	TEPP	10 mg/m^3	.004 ppm (.05 mg/m^3)	--	Not Found	.05 mg/m^3	--	Not Found
13071799	Terbufos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
78002	Tetraethyllead	40 mg/m^3	.1 mg/m^3	--	Not Found	.075 mg/m^3	--	Not Found
597648	Tetraethyltin	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
75741	Tetramethyllead	40 mg/m^3	.15 mg/m^3	--	Not Found	.075 mg/m^3	--	Not Found

EXHIBIT D-2 (Alphabetical)

Published toxicity guidelines for Extremely Hazardous Substances that could be used for the Level of Concern (Continued)

Cas #	Chemical Name	IDLH	TLV-TWA	TLV-TWA CEIL	TLV-STEL	OSHA PEL	PEL CEIL	PEEL/SPEEL (ppm)
509148	Tetranitromethane	5 ppm	8 mg/m^3 (1 ppm)	--	Not Found	8 mg/m^3 (1 ppm)	--	Not Found
1314325	Thallic Oxide*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
10031591	Thallium Sulfate	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
6533739	Thallous Carbonate	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
7791120	Thallous Chloride	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
2757188	Thallous Malonate	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
7446186	Thallous Sulfate	20 mg/m^3**	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
2231574	Thiocarbazide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
21564170	Thiocyanic Acid, 2 (Benzothiazolylthio) Methyl Ester*	Not Found	Not Found		Not Found	Not Found		Not Found
39196184	Thiofanox	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
640153	Thiometon*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
297972	Thionazin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
108985	Thiophenol	Not Found	2 mg/m^3 (.5 ppm)	--	Not Found	Not Found	--	Not Found
79196	Thiosemicarbazide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
5344821	Thiourea, (2-Chlorophenyl)-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
614780	Thiourea, (2-Methylphenyl)-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
7550450	Titanium Tetrachloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
584849	Toluene 2,4-Diisocyanate	10 ppm	.04 mg/m^3 (.005 ppm)	--	.15 mg/m^3 (.02 ppm)	--	.14 mg/m^3 (.02 ppm)	Not Found
91087	Toluene 2,6-Diisocyanate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
110576	Trans-1,4-Dichlorobutene	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1031476	Trimiphos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
24017478	Triazofos	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
76028	Trichloroacetyl Chloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1558254	Trichloro(Chloromethyl)Silane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
27137855	Trichloro(Dichlorophenyl)Silane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
115219	Trichloroethylsilane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
327980	Trichloronate	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
98135	Trichlorophenylsilane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
52686	Trichlorophon*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
998301	Triethoxysilane	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
75774	Trimethylchlorosilane	Not Found	Not Found		Not Found	Not Found		Not Found
824113	Trimethylolpropane Phosphite	Not Found	Not Found		Not Found	Not Found		Not Found
1066451	Trimethyltin Chloride	Not Found	.1 mg/m^3	--	Not Found	.1 mg/m^3	--	Not Found
639587	Triphenyltin Chloride	Not Found	100 ug/m^3	--	Not Found	.1 mg/m^3	--	Not Found
555771	Tris(2-Chloroethyl)Amine	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
2001958	Valinomycin	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1314621	Vanadium Pentoxide	70 mg/m^3	.05 mg/m^3	--	Not Found	--	.5mg/m^3 dust; .1mg/m^3 fume	Not Found
108054	Vinyl Acetate Monomer	Not Found	30 mg/m^3 (10 ppm)	--	60 mg/m^3 (20 ppm)	Not Found	--	Not Found
3048644	Vinylnorbornene*	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
81812	Warfarin	200 mg/m^3	.1 mg/m^3	--	.3 mg/m^3	.1 mg/m^3	--	Not Found
129066	Warfarin Sodium	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
28347139	Xylylene Dichloride	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
58270089	Zinc, Dichloro(4,4-Dimethyl-5(((Methylamino) Carbonyl)Oxy)Imino)Pentanenitrile)-, (T-4)-	Not Found	Not Found	--	Not Found	Not Found	--	Not Found
1314847	Zinc Phosphide	Not Found	Not Found	--	Not Found	Not Found	--	Not Found

* These chemicals have been proposed for delisting because they do not meet acute toxicity criteria. ** Non-specific chemicals