

### TABLE ABBREVIATIONS

**TWA**  
Time Weighted Average taken as ACGIH 8-hr value wherever available.  
A few of these are AIHA WELLS or NIOSH RELS. C = Ceiling, STEL = Short Term Exposure Limit, MAK = German Maximum Allowable Concentration

**b.p.**  
Boiling Point ( in Celsius)  
**CF**  
Correction Factor

**IE**  
Ionization Energy (values in parentheses are not well established)

Compound Name	Formula	CAS No.	TWA* (ppm)	b.p. (°C)	PID CF 10.6 eV	IE (eV)	NEO	POLI-PID	POLI	UNI Sustainable	UNI Disposable	Compound Name	Formula	CAS No.	TWA* (ppm)	b.p. (°C)	PID CF 10.6 eV	IE (eV)	NEO	POLI-PID	POLI	UNI Sustainable	UNI Disposable		
Acetaldehyde	C <sub>2</sub> H <sub>4</sub> O	75-07-0	C25	21	6	10.23	PID	PID/LEL/C <sub>2</sub> H <sub>4</sub> O	LEL/C <sub>2</sub> H <sub>4</sub> O	C <sub>2</sub> H <sub>4</sub> O		Hydrogen Iodide	HI	10034-85-2	NA	-35	0.6	10.39	PID	PID					
Acetic Acid	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	64-19-7	10	118	22	10.66	PID	PID/LEL	LEL			Hydrogen Sulfide	H <sub>2</sub> S	7783-06-4	1	-60	3.3	10.45	PID	PID/H <sub>2</sub> S	H <sub>2</sub> S	H <sub>2</sub> S	H <sub>2</sub> S		
Acetone	C <sub>3</sub> H <sub>6</sub> O	67-64-1	250	56	1.1	9.71	PID	PID/LEL	LEL			Iodine	I <sub>2</sub>	7553-56-2	0.01	184	0.1	9.40	PID	PID					
Acetylene	C <sub>2</sub> H <sub>2</sub>	74-86-2	NA	-84	NR	11.40		LEL	LEL			Iodomethane	CH <sub>3</sub> I	74-88-4	2	42	0.22	9.54	PID	PID					
Acrolein	C <sub>3</sub> H <sub>4</sub> O	107-02-8	0.1	53	3.9	10.10	PID	PID/LEL	LEL			Isobutane	C <sub>4</sub> H <sub>10</sub>	75-28-5	1000	-12	NR	10.57		LEL	LEL				
Acrylic Acid	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub>	79-10-7	2	141	12	10.60	PID	PID				Isobutanol	C <sub>4</sub> H <sub>10</sub> O	78-83-1	50	108	3.8	10.02	PID	PID/LEL	LEL				
Ammonia	NH <sub>3</sub>	7664-41-7	25	-33	9.7	10.16	PID	PID/LEL/NH <sub>3</sub>	LEL/NH <sub>3</sub>	NH <sub>3</sub>		Isobutylene	C <sub>4</sub> H <sub>8</sub>	115-11-7	250	-7	1	9.24	PID	PID/LEL	LEL				
Aniline	C <sub>6</sub> H <sub>5</sub> N	62-53-3	2	184	0.48	7.72	PID					Isoprene	C <sub>5</sub> H <sub>8</sub>	78-79-5	2	34	0.63	8.85	PID	PID/LEL	LEL				
Arsine	AsH <sub>3</sub>	7784-42-1	0.005	-63	1.9	9.89	PID	PID				Isopropanol	C <sub>3</sub> H <sub>8</sub> O	67-63-0	200	83	6	10.12	PID	PID/LEL	LEL				
Benzene	C <sub>6</sub> H <sub>6</sub>	71-43-2	0.5	80	0.53	9.25	PID	PID/LEL	LEL			Jet fuel JP-4	-----	-----	NA	70-240	1		PID	PID					
Benzyl Alcohol	C <sub>7</sub> H <sub>8</sub> O	100-51-6	10	205	1.1	8.26	PID					Jet fuel JP-5	-----	-----	29	180-270	0.6		PID	PID					
Bromine	Br <sub>2</sub>	7726-95-3	0.1	59	1.3	10.51	PID	PID				Jet fuel JP-8	-----	-----	30	170-270	0.6		PID	PID					
Bromoform	CHBr <sub>3</sub>	75-25-2	0.5	149	2.5	10.48	PID	PID				Limonene,D-	C <sub>10</sub> H <sub>16</sub>	5989-27-5	30	176	0.33	~10.8	PID	PID					
Bromopropane, 1-	C <sub>3</sub> H <sub>7</sub> Br	106-94-5	10	71	1.5	10.18	PID	PID				Mesitylene	C <sub>10</sub> H <sub>12</sub>	108-67-8	25	165	0.35	8.41	PID	PID					
Butadiene	C <sub>4</sub> H <sub>6</sub>	106-99-0	2	-4	0.85	9.07	PID	PID/LEL	LEL			Methane	CH <sub>4</sub>	74-82-8	1000	-162	NR	12.61		LEL	LEL				
Butane, n-	C <sub>4</sub> H <sub>10</sub>	106-97-8	1000	-1	NR	10.53		LEL	LEL			Methanol	CH <sub>3</sub> O	67-56-1	200	65	NR	10.85		LEL	LEL				
Butanol, 1-	C <sub>4</sub> H <sub>10</sub> O	71-36-3	20	118	4.7	9.99	PID	PID/LEL	LEL			Methoxyethoxyethanol,2-	C <sub>4</sub> H <sub>10</sub> O <sub>3</sub>	111-77-3	NA	194	1.2	10.1	PID	PID					
Butanol, t-	C <sub>4</sub> H <sub>10</sub> O	75-65-0	100	82	2.9	9.90	PID	PID/LEL	LEL			Methyl Acetate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	79-20-9	200	57	6.6	10.27	PID	PID/LEL	LEL				
Butoxyethanol, 2-	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	111-76-2	20	171	1.2	<10	PID	PID				Methyl Bromide	CH <sub>3</sub> Br	74-83-9	1	4	1.7	10.54	PID	PID					
Butyl Acetate, n-	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	123-86-4	150	126	2.6	10	PID	PID/LEL	LEL			Methyl Ether	C <sub>2</sub> H <sub>6</sub> O	115-10-6	1000	-24	3.1	10.03	PID	PID/LEL	LEL				
Butyl Acrylate, n-	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	141-32-2	2	145	1.6		PID	PID/LEL	LEL			Methyl Ethyl Ketone	C <sub>5</sub> H <sub>10</sub> O	78-93-3	200	80	0.86	9.51	PID	PID/LEL	LEL				
Butylamine, n-	C <sub>4</sub> H <sub>9</sub> N	109-73-9	C5	78	1.1	8.71	PID	PID				Methyl Isobutyl Ketone	C <sub>7</sub> H <sub>14</sub> O	108-10-1	20	117	0.8	9.30	PID	PID/LEL	LEL				
Carbon Dioxide	CO <sub>2</sub>	124-38-9	5000	-79	NR			CO <sub>2</sub>	CO <sub>2</sub>			Methyl Isocyanate	C <sub>2</sub> H <sub>3</sub> NO	624-83-9	0.02	40	4.6	10.67	PID	PID/LEL	LEL				
Carbon Disulfide	CS <sub>2</sub>	75-15-0	1	46	1.2	10.07	PID	PID				Methyl Isothiocyanate	C <sub>2</sub> H <sub>3</sub> NS	551-61-6	IDLH 3	119	0.45	9.25	PID	PID					
Carbon Monoxide	CO	630-08-0	25	-192	NR			CO	CO	CO	CO	Methyl Mercaptan	CH <sub>3</sub> SH	74-93-1	0.5	6	0.54	9.44	PID/CH <sub>3</sub> SH	CH <sub>3</sub> SH	CH <sub>3</sub> SH	CH <sub>3</sub> SH			
Chlorine	Cl <sub>2</sub>	7782-50-5	0.1	-34	NR	11.48		Cl <sub>2</sub>	Cl <sub>2</sub>	Cl <sub>2</sub>		Methyl Methacrylate	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	80-62-6	50	101	1.5	9.7	PID	PID					
Chlorine Dioxide	ClO <sub>2</sub>	10049-04-4	C0.1	10	NR	10.57		ClO <sub>2</sub>	ClO <sub>2</sub>	ClO <sub>2</sub>		Methyl Sulfide	C <sub>2</sub> H <sub>6</sub> S	75-18-3	10	37	0.44	8.69	PID	PID					
Chlorobenzene	C <sub>6</sub> H <sub>5</sub> Cl	108-90-7	10	131	0.4	9.06	PID	PID				Methyl t-Butyl Ether	C <sub>5</sub> H <sub>12</sub> O	1634-04-4	50	55	0.91		PID	PID/LEL	LEL				
Cresol, m-	C <sub>7</sub> H <sub>8</sub> O	108-39-4	5	202	0.5	8.29	PID					Methyl-2-Pyrrolidinone,N-	C <sub>6</sub> H <sub>10</sub> NO	872-50-4	10	202	0.8		PID	PID					
Cumene	C <sub>9</sub> H <sub>12</sub>	98-82-8	50	152	0.54	8.73	PID	PID				Methylhydrazine	C <sub>2</sub> H <sub>6</sub> N <sub>2</sub>	60-34-4	0.01	87	1.2		PID	PID					
Cyclohexane	C <sub>6</sub> H <sub>12</sub>	110-82-7	100	81	1.4	9.86	PID	PID/LEL	LEL			Mineral spirits	-----	8020-83-5	100	130-200	0.71		PID	PID					
Cyclohexanone	C <sub>6</sub> H <sub>10</sub> O	108-94-1	20	156	0.9	9.14	PID	PID/LEL				Naphthalene	C <sub>10</sub> H <sub>8</sub>	91-20-3	10	218	0.42	8.13	PID	PID					
Decane	C <sub>10</sub> H <sub>22</sub>	124-18-5	NA	174	1.4	9.65	PID	PID				Nitric Oxide	NO	10102-43-9	25	-152	5.2	9.26	PID/NO		NO	NO			
Dibromo-3-chloropropane, 1, 2-	C <sub>3</sub> H <sub>4</sub> Br <sub>2</sub> Cl	96-12-8	0.001	198	1.7		PID					Nitrogen Dioxide	NO <sub>2</sub>	10102-44-0	0.2	21	16	9.75	PID	NO <sub>2</sub>	NO <sub>2</sub>	NO <sub>2</sub>			
Dibromoethane, 1, 2-	C <sub>2</sub> H <sub>4</sub> Br <sub>2</sub>	106-93-4	0.045	131	1.7	10.37	PID	PID				Octane,n-	C <sub>8</sub> H <sub>18</sub>	111-65-9	300	125	1.8	9.82	PID	PID/LEL	LEL				
Dichlorobenzene, o-	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	95-50-1	25	180	0.47	9.08	PID					Oxygen	O <sub>2</sub>	7782-44-7	NA	-186	NR		O <sub>2</sub>	O <sub>2</sub>	O <sub>2</sub>	O <sub>2</sub>			
Dichloroethene, 1, 1-	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	75-35-4	5	32	0.82	9.78	PID	PID				Ozone	O <sub>3</sub>	10028-15-6	0.05	-112	NR					O <sub>3</sub>			
Dichloroethene, t-1, 2-	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	156-60-5	200	49	0.45	9.66	PID	PID				Pentane	C <sub>5</sub> H <sub>12</sub>	109-66-0	1000	36	8.4	10.35	PID	PID/LEL	LEL				
Dicyclopentadiene	C <sub>10</sub> H <sub>12</sub>	77-73-6	5	170	0.48	8.8	PID	PID				Perchloroethene	C <sub>2</sub> Cl <sub>4</sub>	127-18-4	25	121	0.57	9.32	PID	PID					
Diesel Fuel #2	-----	68334-30-5	14	200-350	0.7		PID					PGMEA	C <sub>6</sub> H <sub>10</sub> O <sub>3</sub>	108-65-6	50	146	1		PID	PID					
Dimethylformamide, N, N-	C <sub>3</sub> H <sub>7</sub> NO	68-12-2	5	153	0.7	8.81	PID	PID				Phenol	C <sub>6</sub> H <sub>5</sub> O	108-95-2	5	182	1	8.51	PID	PID					
Dimethylhydrazine, 1, 1-	C <sub>2</sub> H <sub>8</sub> N <sub>2</sub>	57-14-7	0.01	63	0.78	7.28	PID					Phosphine	PH <sub>3</sub>	7803-51-2	0.05	-88	3.9	9.87	PID	PID/PH <sub>3</sub> /LEL	PH <sub>3</sub> /LEL	PH <sub>3</sub>			
Epiclorohydrin	C <sub>3</sub> H <sub>5</sub> ClO	106-89-8	0.5	118	8.5	10.2	PID	PID/LEL	LEL			Pinene,b-	C <sub>10</sub> H <sub>16</sub>	18172-67-3	20	166	0.37	~8	PID	PID					
Ethane	C <sub>2</sub> H <sub>6</sub>	74-84-0	1000	-89	NR	11.52		LEL	LEL			Piperylene, Isomer Mix	C <sub>8</sub> H <sub>14</sub>	504-60-9	NA	43	0.69	8.6	PID	PID					
Ethanol	C <sub>2</sub> H <sub>5</sub> O	64-17-5	1000	78	10	10.47	PID	PID/LEL	LEL			Propane	C <sub>3</sub> H <sub>8</sub>	74-98-6	1000	-42	NR	10.95		LEL	LEL				
Ethylene (Ethene)	C <sub>2</sub> H <sub>4</sub>	74-85-1	200	-128	9	10.51	PID	PID/LEL	LEL			Propene	C <sub>3</sub> H <sub>6</sub>	115-07-1	500	-48	1.4	9.73	PID	PID/LEL	LEL				
Ethyl Acetate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	141-78-6	400	77	4.6	10.01	PID	PID/LEL	LEL			Propylene Oxide	C <sub>3</sub> H <sub>6</sub> O	16088-62-3	2	34	6.6	10.22	PID	PID/LEL	LEL				
Ethyl Acrylate	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	140-88-5	5	99	2.4	<10.3	PID	PID/LEL	LEL			Pyridine	C <sub>5</sub> H <sub>5</sub> N	110-86-1	1	115	0.68	9.25	PID	PID					
Ethyl Ether	C <sub>4</sub> H <sub>10</sub> O	60-29-7	400	35	1.1	9.51	PID	PID/LEL	LEL			Styrene	C <sub>8</sub> H <sub>8</sub>	100-42-5	20	145	0.4	8.43	PID	PID					
Ethyl Mercaptan	C <sub>2</sub> H <sub>5</sub> S	75-08-1	0.5	35	0.56	9.29	PID	PID/CH <sub>3</sub> SH	CH <sub>3</sub> SH	CH <sub>3</sub> SH		Sulfur Dioxide	SO <sub>2</sub>	7446-09-5	STEL 0.25	-10	NR	12.32		SO <sub>2</sub>	SO <sub>2</sub>	SO <sub>2</sub>			
Ethylbenzene	C <sub>8</sub> H <sub>10</sub>	100-41-4	20	136	0.52		PID	PID				Tetrahydrofuran	C <sub>4</sub> H <sub>8</sub> O	109-99-9	50	66	1.7	9.41	PID	PID/LEL	LEL				
Ethylene Glycol	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	107-21-1	MAK 10	197	16		PID					Tetramethyl Orthosilicate	C <sub>4</sub> H <sub>10</sub> O <sub>4</sub> Si	681-84-5	1	121	1.9	~10	PID						
Ethylene Oxide	C <sub>2</sub> H <sub>4</sub> O	75-21-8	1	11	13		PID	PID/LEL/ETO	LEL/ETO	ETO		Therminol VP-1	C <sub>12</sub> H <sub>10</sub> O	101-84-8 & 92-52-4	1	257	0.4		PID						
Gasoline	-----	8006-61-9	300	35-200	1		PID	PID/LEL	LEL			Toluene	C <sub>7</sub> H <sub>8</sub>	108-88-3	20	111	0.5	8.82	PID	PID/LEL	LEL				
Glutaraldehyde	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	111-30-8	C0.05	187	0.8		PID	PID				Toilylene-2,4-Diisocyanate	C <sub>9</sub> H <sub>8</sub> N <sub>2</sub> O <sub>2</sub>	584-84-9	0.001	251	1.4		PID						
Heptane,n-	C <sub>7</sub> H <sub>16</sub>	142-82-5	400	98	2.8	9.92	PID	PID/LEL	LEL			Trichloroethene	C <sub>2</sub> HCl <sub>3</sub>	79-01-6	10	87	0.54	9.47	PID	PID					
Hexane,n-																									