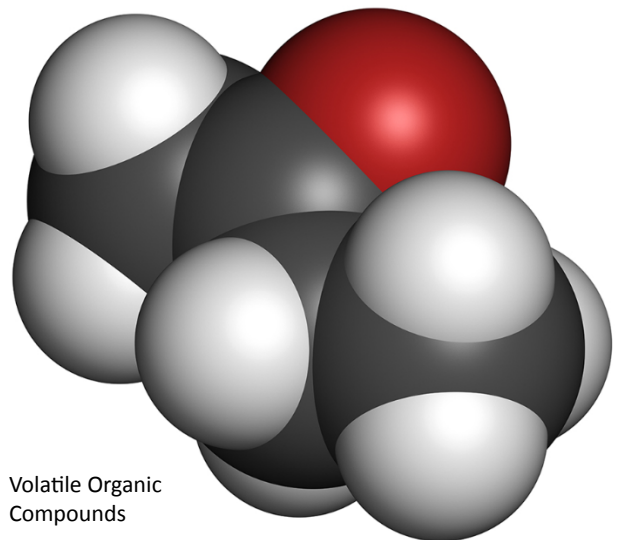


Formaldehyde

Automatikprodukter's BIO range is calibrated using isobutylene, but the detector is a broadband VOC detector, with a sensitivity that differs for each VOC.

If you know what VOC you are measuring, then the table on the following pages will allow you to calculate the concentration of your specific VOC.

You should bear in mind that these are approximate values, so for best accuracy you should calibrate with the relevant VOC.



Volatile Organic  
Compounds

If you can not find the name of your specific VOC, then email us at [ewert@automatikprodukter.com](mailto:ewert@automatikprodukter.com) and we will assist.

#### Accuracy of the Table

This table is for indication only. Table accuracy is 1 to 2 digits only, so when calculating concentration for a specific VOC, specify to 1 or 2 digits only.



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
2-Benzyl-2-(dimethylamino)-4'-morpholin-obutyrophenone Lancure369; 2-benzyl-2-(dimethylamino)- 4'-morpholino-butyrophenone	C23H30N2O2	NV					
Acetaldehyde (Acetic Aldehyde; Ethyl Aldehyde)	75-07-0	C2H4O	4.9	21	25	480	10.23
Acetic Acid (Chlorine Iodide; Chloriodide)	64-19-7	C2H4O2	36.2	3	180	3615	10.66
Acetic Anhydride (AC20; Acetic Anhydride)	108-24-7	C4H6O3	4	25	20	400	10.14
Acetone (Acetone Alcohol; Grams Decolorizer)	67-64-1	C3H6O	0.7	140	5	70	9.71
Acetonitrile (Cyanomethane; Ethanenitrile)	75-05-8	CH3CN	ZR				12.9
Acetophenone (1-Phenylethanone; Acetphenone)	98-86-2	C8H8O	0-7				9.29
Acetylene (Carbon Black; Ethine)	74-86-2	C2H2	ZR				11.4
Acrolein (2-propenal; Acraldehyde)	107-02-8	C3H4O	4	25	20	400	10.1
Acrylic Acid (2-propenoic acid; Acroleic acid)	79-10-7	C3H4O2	2.7	36	15	275	10.6
Acrylonitrile (2-propenenitrile; Acrylic Acid Nitrile)	107-13-1	C3H3N	ZR				10.91
Allyl alcohol (2-propeno-1-ol; Polymer-Bound)	107-18-6	C3H6O	2.1	48	10	200	9.67
Allyl chloride (3-Chloropropylene; 2-propenyl chloride)	107-05-1	C3H5Cl	4.5	22	20	450	9.9
Ammonia (Nitro-Sil; Spirit of Hartshorn)	7664-41-7	H3N	8.5	12	40	850	10.16
Amyl acetate, n- (1-Pentyl Acetate; Pear Oil)	628-63-7	C7H14O2	1.8	56	10	180	<9.9
Amyl alcohol (1-Pentanol; Fusel Oil)	71-41-0	C5H12O	3.2	31	15	320	10
Aniline (Anyvim; Kyanol)	62-53-3	C6H7N	0.5	200	3	50	7.72
Anisole (Methoxy-Benzene; Anizol)	100-66-3	C7H8O	0.5	211	2	50	8.21
Argon			ZR				
Arsine (Arsenic hydride; Hydrogen arsenide)	7784-42-1	AsH3	2.5	40	15	250	9.89
Asphalt, petroleum fumes (Bitumen; Roadtar)	8052-42-4		1	100	5	100	
Benzaldehyde (Benaldehyde; Phenylmethanal)	100-52-7	C7H6O	0.9	117	5	85	9.49
Benzene (Cyclohexatriene; Phenyl Hydride)	71-43-2	C6H6	0.5	200	3	50	9.25
Benzenethiol (Thiofenol; Thiophenol)	108-98-5	C6H5SH	0.7	143	4	70	
Benzonitrile (Benzenenitrile; Fenylkyanid)	100-47-0	C7H5N	0.7	141	4	70	9.62



Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Benzyl alcohol (A-hydroxytoluene; Bentalol)	100-51-6	C7H8O	1.3	80	6	125	8.26
Benzyl chloride (A-chlorotoluene; Benzil)	100-44-7	C7H7Cl	0.6	182	3	55	9.14
Benzyl formate (Benzyl alcohol; Benzylformiat)	104-57-4	C8H8O2	0.8	130	5	77	
Biphenyl (Xenene; Lemonene)	92-52-4	C12H10	0.4	250	2	40	
Bis(2,3..oxypropyl) ether (Diglycidyl ether; Glycidyl ether)	2238-07-5	C6H10O3	3	33	15	300	
Boron trifluoride (Fluoruredebor; Trifluoroboron)	7637-07-2	BF3	ZR				15.5
Bromine (Br2; Brom)	7726-95-6	Br2	20	5	100	2000	10.51
Bromine pentafluoride (BrF5; Bromo fluorids)	7789-30-2	BrF5	ZR				
Bromobenzene (Benzen Bromids; Phsnyl Bromids)	108-86-1	C6H5Br	0.7	143	4	70	8.98
Bromochloromethane (CBM; Fluorocarbon 1011)	74-97-5	CH2ClBr	ZR				
Bromoethane (Bromic Ethsr; Msthyll Bromids)	74-96-4	C2H5Br	5	20	25	500	
Bromoethyl methyl ether, 2- (1-bromo-2-methoxyethane)	6482-24-2	C3H7OBr	2.5	40	15	250	~10
Bromofonn (Tribromids; Tribrommethan)	75-25-2	CHBr3	2.8	36	15	280	10.48
Bromopropane, 1- (n-C3H7Br; n-propyl)	106-94-5	C3H7Br	1.3	77	7	130	10.18
Bromotrifluoromethane (Halon 1301; Freon 13b1)	75-63-8	CF3Br	ZR				
Butadiene (Pyrrolylene; Vinylethylene)	106-99-0	C4H6	0,8	120	4	80	9.07
Butadiene diopoxida, 1,3- (Bioxiran; Dioxybutadiene)	1464-53-5	C4H6O2	4	25	20	400	
Butane, n- (Alkane C4; Freon 600)	106-97-8	C4H10	46.3	2	230	4600	10.53
Butanol, 1- (Alcool butylique; CCS 203)	71-36-3	C4H10O	4	25	20	400	9.99
Buten-3-ol, 1- (Methylvinyl Carbinol; Propenol, 1- methyl)	598-32-3	C4H8O	1.2	87	6	115	
Butene, 1- (alpha-Butene; Ethylethylene)	106-98-9	C4H8	1.3	77	7	130	9.58
Butoxyethanol, 2- (Butyl Glycol; N-Butyl Cellosolve)	111-76-2	C6H14O2	1.1	91	6	110	<10
Butyl acetate, n- (1-Acetoxybutane; Acetic Acid Butyl Ester)	123-86-4	C6H12O2	2.4	41	10	240	10
Butyl acrylate, n- (TBA; T-Butyl Acrylate)	141-32-2	C7H12O2	1.5	67	8	150	
Butylactate (N-Butyl Lacatate)	138-22-7	C7H14O3	2.5	40	15	250	



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Butyl mercaptan (Butylthiol; Mercaptan C4)	109-79-5	C4H10S	0.5	185	3	50	9.14
Butylamine, 2- (Amine C4; (2S)-2-Butanamine)	513-49-5	C4H11N	0.9	111	5	90	
Butylamine, n- (Aminobutane; MNBA)	109-73-9	C4H11N	1	100	5	100	8.71
Camphene (FEMA 2229; AKOS NCG1-0107)	565-00-4	C10H16	0.5	222	2	45	
Carbon dioxide (Dry Ice; Carbonic acid, gas)	124-38-9	CO2	ZR				
Carbon disulfide (Alcohol of sulfur; Carbonsulphide)	75-15-0	CS2	1.4	71	7	140	10.07
Carbon monoxide (Carbon oxide; Exhaust Gas)	630-08-0	co	ZR				
Carbon tetrabromide (Bromid uhlicity; Carbon(IV)bromide)	558-13-4	CBr4	3	33	15	300	
Carbon tetrachloride (2-Propenal; Benzenoform)	56-23-5	CCl4	ZR				11.47
Carbonyl sulphide (Thioformin; Oxycarbon sulfide)	463-58-1	CDS	ZR				11.18
Carvone, R- (FEMA 2249; 6,8-p-menthadien-2-one)	6485-40-1	C10H14O	1	100	5	100	
Chlorine (Berlholite; Chlor)	7782-50-5	Cl2	ZR				11.48
Chlorine dioxide (JUN-CLARE; Chloroperoxy)	10049-04-4	ClO2	1	100	5	100	10.57
Chlorine trifluoride (Chlorine fluoride; Trifluorochlorine(III))	7790-91-2	ClF3	ZR				
Chloro-1,1,1,2-tetrafluoroethane (CFC124; Freon-124)	2837-89-0	C2HClF4	ZR				
Chloro-1,1,1-trifluoroethane, 2- (1. 1. 1-Trifluoro-2-chloroethane; FC- 133A)	75-88-7	C2H2ClF3	ZR				
Chloro-1,1,2,2-tetrafluoroethane (HCFC-124A; Fron-24a)	354-25-6	C2HClF4	ZR				
Chloro-1,1,2-trifluoroethane, 1- (1-chloro-1,1,2-trifluoro-ethane; Freon- 133b)	421-04-5	C2H2ClF3	ZR				
Chloro-1,1-difluoroethane, 1- (F142b; HFA142b)	75-68-3	C2H3ClF2	ZR				12
Chloro-1,1-difluoroethane, 2- (Fron-142; 2-Chlor-1,1-difluorethan)	338-65-8	C2H3ClF2	ZR				
Chloro-1,2,2-trifluoroethane (Freon-133; R-133)	431-07-2	C2H2ClF3	ZR				
Chloro-1,3-butadiene, 2- (Chloroprene; Baypren 110)	126-99-8	C4H5Cl	32	30	16	320	
Chloro-1-fluoroethane, 1- (R-151a; Freon-51)	1615-75-4	C2H4ClF	ZR				
Chloro-2-fluoroethane, 1- (1-chloro-2-fluoro-ethan; Fron-151)	762-50-5	C2H4ClF	ZR				
Chloroacetaldehyde (Acetaldehyde; 2-Chloroacetaldehyde)	107-20-0	C2H3OCl	ZR				
Chlorobenzene (Tetrosinsp; NSC 8433)	108-90-7	C6H5Cl	0.5	220	2	50	9.06



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Chlorodifluoromethane (Freon-22; Arcton 22)	75-45-6	CHClF <sub>2</sub>	ZR				12.2
Chloroethane (Anodynon; Ethyl Chloride)	75-00-3	C <sub>2</sub> H <sub>5</sub> Cl	ZR				10.97
Chloroethanol 2- (Ethylene glycol; Ethylene chlorohydrin)	107-07-3	C <sub>2</sub> H <sub>5</sub> ClO	10	10	50	1000	10.52
Chloroethyl methyl ether, 2- (2-Methoxyethyl chlor; 1-chloro-2-methoxy)	627-42-9	C <sub>3</sub> H <sub>7</sub> ClO	2.6	40	13	250	
Chloroofluoromethane (F31; CFC 31)	593-70-4	CH <sub>2</sub> ClF	ZR				
Chloroform (Methyl trichloride; Freon 20)	67-66-3	CHCl <sub>3</sub>	ZR				11.37
Chloromethane (Artic; Freon 40)	74-87-3	CH <sub>3</sub> Cl	ZR				11.22
Chloropentafluoroethane (Refrigerant R115; Freon 115)	76-15-3	C <sub>2</sub> ClF <sub>5</sub>	ZR				
Chlorotoluene, o- (Toluene, o-chloro-; Halso 99)	95-49-8	C <sub>7</sub> H <sub>7</sub> Cl	0.5	220	2	50	8.83
Chlorotoluene, p- (MCT; 3-Chlorotoluol)	108-41-8	C <sub>7</sub> H <sub>7</sub> Cl	0.5	200	3	50	
Chlorotrifluoroethylene (CTFE; Daiflon)	79-38-9	C <sub>2</sub> ClF <sub>3</sub>	1	100	5	100	9.76
Chlorotrifluoromethane (FKW13; Arcton)	75-72-9	CClF <sub>3</sub>	ZR				
Citral (CITRAL; NERAL)	5392-40-5	C <sub>10</sub> H <sub>16</sub> O	1	100	5	100	
Citronellol (beta-citronellol)	26489-01-0	C <sub>10</sub> H <sub>20</sub> O	1	100	5	100	
Creol, m- (FEMA 3530; 3-Cresol)	108-39-4	C <sub>7</sub> H <sub>8</sub> O	1.1	95	5	105	8.29
Creol, o- (FEMA 3480; 2-Cresol)	95-48-7	C <sub>7</sub> H <sub>8</sub> O	1.1	95	5	105	
Creol, p- (FEMA 2337; P-Cresol)	106-44-5	C <sub>7</sub> H <sub>8</sub> O	1.1	95	5	105	
Crotonaldehyde (Trans-2-butanal; Crotonaldehyd)	4170-30-3	C <sub>4</sub> H <sub>6</sub> O	1	100	5	100	9.73
Cumene (2-Phenylpropane; Isopropylbenzene)	98-82-8	C <sub>9</sub> H <sub>12</sub>	0.6	170	3	60	8.73
Cyanamide (Hydrogen Cyanamide; Cyanoamine)	420-04-2	CH <sub>2</sub> N <sub>2</sub>	ZR				
Cyanogen bromide (Bromcyan; Cyanobromide)	506-68-3	CNBr	ZR				11.84
Cyanogen chloride (Chlorcyan; Chlorine cyanide)	506-77-4	CNCl	ZR				12.34
Cyclohexane (Naphthene; Hexahydrobenzol)	110-82-7	C <sub>6</sub> H <sub>12</sub>	1.3	77	7	130	9.86
Cyclohexanol (Adronal; Naxol)	108-93-0	C <sub>6</sub> H <sub>12</sub> O	2.9	34	15	300	9.75
Cyclohexanone (FEMA 3909; Anon)	108-94-1	C <sub>6</sub> H <sub>10</sub> O	1.1	91	6	110	9.14
Cyclohexene (HX; Tetrahydro-benzen)	110-83-8	C <sub>6</sub> H <sub>10</sub>	0.8	133	5	75	8.95



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Cyclohexylamine (CHA-60; Hexahydro-anilin)	108-91-8	C <sub>6</sub> H <sub>13</sub> N	1	102	5	100	8.62
Cyclopentane (Pentamethylene; Cyclopentan)	287-92-3	C <sub>5</sub> H <sub>10</sub>	4	25	20	400	10.33
Dacane, n- (Alkane C10; n-Decyl hydride)	124-18-5	C <sub>10</sub> H <sub>22</sub>	1	96	5	100	9.65
Dacanol (Alcohol C10; FEMA 2365)	112-30-1	C <sub>10</sub> H <sub>22</sub> O	1.2				
Dauterlum			ZR				
Diacetone alcohol (DAA; Diacetone alcohol)	123-42-2	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	0.8	125	5	80	
Dibenzoyl peroxida (Acetoxy; Benzyl superoxide)	94-36-0	C <sub>14</sub> H <sub>10</sub> O <sub>4</sub>	0.8	125	5	80	
Diborane (Boroethane; Borine)	19287-45-7	B <sub>2</sub> H <sub>6</sub>	ZR				
Dibromochloromethana (Chlorodibromomethane; Chlorobromoform)	124-48-1	CHBr <sub>2</sub> Cl	10	10	50	1000	10.59
Dibromodifluoromethana (Halon 1202; Freon 12-82)	75-61-6	CF <sub>2</sub> Br <sub>2</sub>	ZR				
Dibromoathane 1,2- (Ethylene Dibromide; Glycoldibromide)	106-93-4	C <sub>2</sub> H <sub>4</sub> Br <sub>2</sub>	2	50	10	200	10.37
Dibromotetrafluoroethane, 1,2- (R-11482; Halon 2402)	124-73-2	C <sub>2</sub> F <sub>4</sub> Br <sub>2</sub>	ZR				
Dibutyl hydrogen phosphate (Hydrogen phosphate; Dibutyl Phosphonate)	107-66-4	HC <sub>8</sub> H <sub>18</sub> P <sub>04</sub>	4	25	20	400	
Dichloro-1,1,1-trifluoroethane, 2,2- (Halon 123; Chlorofluorocarbon)	306-83-2	C <sub>2</sub> HCl <sub>2</sub> F <sub>3</sub>	ZR				11.5
Dichloro-1,1-difluoroethane, 1,2- (Freon-132b; Dichlorodifluoroethane)		C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	ZR				
Dichloro-1,2,2-trifluoroethane, 1,2- (Freon-123a; Fron-123c)	354-23-4	C <sub>2</sub> HCl <sub>2</sub> F <sub>3</sub>	ZR				
Dichloro-1,2-difluoroethane, 1,2- (Dexoadrol HCl; D-Dioxadrol hydrochloride)	631-06-1	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	ZR				
Dichloro-1-fluoroathana, 1,1- (Freon 141b; Genetron 141b)	1717-00-6	C <sub>2</sub> H <sub>3</sub> Cl <sub>2</sub> F	ZR				
Dichloro-1-fluoroathane, 1,2- (Freon 141; 1,2-Dichlorofluoroethane)	430-57-9	C <sub>2</sub> H <sub>3</sub> Cl <sub>2</sub> F	ZR				
Dichloro-1-propene, 2,3- (2-Chloroallyl Chloride; nsc60520)	78-88-6	C <sub>3</sub> H <sub>4</sub> Cl <sub>2</sub>	1.4	70	7	140	<10
Dichloro-2,2-difluoroethana, 1,1- (CF <sub>2</sub> =CCl <sub>2</sub> ; Genetron 1112a)	79-35-6	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	ZR				
Dichloroacetylena (Dichloroethyne)	7572-29-4	C <sub>2</sub> Cl <sub>2</sub>	5	20	25	500	
Dichlorobenzene o- (1,2-dichloro-benzen; Benzene,o- dichloro-)	95-50-1	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	0.5	200	3	50	
Dichlorodifluoromethane (CFC-12; Freon-12)	75-71-8	CCl <sub>2</sub> F <sub>2</sub>	ZR				11.75
Dichloroethane 1,2- (Dutch liquid; 1,2-Bichloroethane)	107-06-2	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	ZR				11.04
Dichloroethane, 1,1- (Freon 150a; Ethyldichloride)	75-34-3	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	ZR				



Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Dichloroathene, 1,1- (VDCM; DiofanA565SO)	75-35-4	C2H2Cl2	1	105	5	100	9.79
Dichloroethene, cis-1,2- (Acetylene dichloride, cis-; 2-dichloro-(z)- ethylen)	156-59-2	C2H2Cl2	0.8	125	4	80	9.66
Dichloroathene, trans-1,2- (Dichloroacetylene; Dioform)	540-59-0	C2H2Cl2	0.7	143	4	70	
Dichloroethylene 1,2- (Dichloroacetylene; Dioform)	540-59-0	C2H2Cl2	0.8	133	4	75	
Dichlorofluoromethana (Algofrene Type 5; Arcton 7)	75-43-4	CHFCl2	ZR				
Dichloromethana (Deblocking reagent; Freon 30)	75-09-2	CH2Cl2	39	3	200	3900	11.32
Dichloropropana, 1,2- (Propylene Chloride; 1,2-DCP)	78-87-5	C3H6Cl2	ZR				10.87
Dichlorotetrafluoroethana, 1,1- (1,1,1,2-Tetrafluoro-2,2-dichloroethane; 2,2-Dichloro-1,1,1,2-tetrafluoroethane)	374-07-2	C2Cl2F4	ZR				
Dichlorotetrafluoroethane, 1,2- (Arcton 114; Flon-114)	76-14-2	C2Cl2F4	ZR				
Dicyclopentadiene (1,3-cyclopentadiene dimer; Bicyclopentad iene)	77-73-6	C10H12	0.9	110	5	90	8.8
Diesel Fuel (Roadfuel; Motorfuel)	68334-30-5		0.8	130	4	75	
Diethyl ether (Alcohol-ether; 3-Oxypentane)	60-29-7	C4H10O	0.9	110	4	90	9.51
Diethyl maleate (DEM; Ethyl Maleate)	141-05-9	C8H12O4	2	50	10	200	
Diethyl phthalate (Acid diethyl; Phthalic Acid)	84-66-2	C12H14O4	1	100	5	100	
Diethyl sulphate (Ethylsulphate; Sulphuric acid diethyl ester)	64-67-5	C4H10SO4	3	33	15	300	
Diethyl sulphide (FEMA 3825; Diethylsulfid)	352-93-2	C4H10S	0.6	180	3	50	8.43
Diethylamine (n,n-diethylamine; Ethanamine,n-ethyl)	109-89-7	C4H11N	1	100	5	100	8.01
Diethylaminoethanol,2- (2-(Diethylamino)ethyl alcohol; Beta- Hydrox- ytriethylami ne)	100-37-8	C6H15ON	2.7	40	15	270	
Diethylaminopropylamine, 3- (DEAPA; 3-Aminopropyldiethylami ne)	104-78-9	C7H18N2	1	100	5	100	
Difluoroathane, 1,1- (Dymel152; Fron152a)	75-37-6	C2H4F2	ZR				
Difluoroathana, 1,2- (FC-152; Glycol difluoride)	624-72-6	C2H4F2	ZR				
Difluoromethana (FC-32; Freon 32)	75-10-5	CH2F2	ZR				
Dihydrogan selenide (Selenium Hydride; Selane)	7783 07 5	H2Se	1	100	5	100	



Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Dihydroxybenzena, 1,2 (1,2 Benzenediol;Benzene, o-dihydroxy-)	120-80-9	C6H6O2	1	100	5	100	
Dihydroxybenzena, 1,3 (1,3 Benzenediol;alpha-Resorcinol)	108-46-3	C6H6O2	1	100	5	100	
Diisobutylena (2,4,4-Trimethyl-1 -pentene; Isooctene)	107-39-1	C8H16	0.6	156	3	60	
Diisopropyl ether (2-isopropoxypropane; Bis(isopropyl) ether)	108-20-3	C6H14O	0.7	150	3	70	9.2
Diisopropylami na (Bis(isopropyl)amine; Aurora KA-7634)	108-18-9	C6H15N	0.7	140	4	70	7.73
Diketene (Acety ketene; Ketene dimer)	674-82-8	C4H4O2	2.2	45	11	220	9.6
Dimethoxymathane (Formaldehyde dimethyl; Anesthenyl)	109-87-5	C3H8O2	1.4	71	7	140	
Dimethyl Carbonate (DMC; Methoxyformic acid)	616-38-6	C3H6O3	ZR				~11
Dimethyl cyclohexane, 1,2- (Hexahydro-o-xylene; Cyclohexane, 1,2- di- methyl-)	583-57-3	C6H12	1.1	95	5	105	
Dimethyl disulphide (FEMA 3536; Methyl disulphide)	624-92-0	C2H6S2	0.2	435	1	23	7.4
Dimethyl ether (Methyl oxide; Dymel A)	115-10-6	C2H6O	1.3	80	7	130	10.03
Dimethyl phthalate (Fermine; Avoiln)	131-11-3	C10H10O4	1	100	5	100	
Dimethyl sulphate (Dimethoxysulfone; DMS (Methyl sulfats))	77-78-1	C2H6O4S	ZR				
Dimethyl sulphide (FEMA 2746; Thiopropane)	75-18-3	C2H6S	0.5	200	3	50	8.69
Dimethylacetamide N,N- (1,2 Dichloropropane; Acetyldimeethylamine)	127-19-5	C4H9NO	1.3	75	7	130	8.81
Dimethylamlna (DMA ;N-Methylmethanamin}	124-40-3	C2H7N	1.4	70	7	140	8.23
Dimethylamlnaethanol (2-Hydroxyethyl di methylamine; Denol)	108-01-0	C4H11NO	1.5	70	8	150	
Dimethylamlna, NN- (Acetdimethylamide; Aniline, N,N- dimethyl-)	121-69-7	CSH11N	0.6	167	3	60	
Dimethylbutyl acetat& (sec-Hexyl acetate; Methylisoamyl acetate)	108-84-9	C8H16O2	1.6	60	B	160	
Dimethylethylamlna, NN- (Atofina DMEA; Ethylamine, N,N- dimethyl-)	598-56-1	C4H11N	0.8	125	4	BO	7.74
Dimethylformamlda (DMF; Formic Acid Dimethylamide)	68-12-2	C3H7NO	0.9	110	5	90	9.13
Dimethylheptan-4-one, 2,6- (FEMA 3537;Diisobutyl ketone)	108-83-8	C9H18O	0.8	125	4	80	
Dimethylhydrazina, 1,1- (as-Dimethylhydrazina; Dimazin)	57-14-7	C2H8N2	1	100	5	100	7.28
Dinitrobenzena, m- (1,3-Dinitrobenzol;meta-dinitrobenzena)	99-65-0	C6H4N2O4	3	33	15	300	





Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Dinitrobenzene, o- (1,2-dinitro-benzen; 1,2-DNB)	528-29-0	C6H4N2O4	ZR				
Dinitrobenzene, p- (1,4-Dinitrobenzene; 14DNBZ)	100-25-4	C6H4N2O4	5	20	25	500	
Dinonyl phthalate (DNP; Bisoflex 91)	84-76-4	C26H42O4	1	100	5	100	
Dioxane 1,2-		C4H8O2	1.5	67	B	150	
Dioxane 1,4- (Diethylene Dioxids; P-dioxane)	123-91-1	C4H8O2	1.5	67	B	150	9.19
Dipentena (FEMA 2633; Cinene)	138-86-3	C10H16	0.9	110	5	90	8.6
Diphenyl ether (FEMA 3667; Diphenyl oxide)	101-84-8	C12H10O	0.8	125	4	80	
Dipropylene Glycol Olacrylate Dodecylacrylate,n-; Oxybis(methyl-2, 1-ethanediyl) diacrylate	57472-68-1	C12H18O5	NV				
Disulphur decafluoride (Sulfur pentafluoride; Sulfur decafluoride)	5714-22-7	S2F10	ZR				
Disulphur dichloride (Sulphur monochloride; Chlorosulfane)	10025-67-9	S2Cl2	3	33	15	300	
Di-tert-butyl-p-cresol (Monobutyl-p-cresol; 2-tert-Butyl-4- methyl- phenol)	2409-55-4	C11H16O	1	100	5	100	
Divinylbenzene (DVB; o-Divinylbenzene)	1321-74-0	C10H10	0.4	250	2	40	
Dodacan (n-dodecan; Dihexyl)	112-40-3	C12H26	0.9				
Dodacanol (Dodecyl alcohol; 1-Hydroxydodecane)	112-53-8	C12H26O	0.9	110	5	90	
Dodacanol,athoxylatad Poly(oxyethylene) lauryl ether	9002-92-0	(C2H4O) n12H26O	NV				
Enflurana (Alyrane; Efrane)	13838-16-9	C4H2F5ClO	ZR				
Epichlorohydrin (Alpha-epichlorohydrin; Chloromethyloxirane)	106-89-8	C3H5ClO	8	15	40	800	10.2
Epoxypropyl isopropyl ather, 2,3- (Isopropyl Glycidyl Ether; Glycidyl Isopropyl Ether)	4016-14-2	C6H12O2	1.1	90	5	110	
Ethana (Dimethyl; Bimethyl)	74-84-0	C2H6	ZR				11.52
Ethanol (1-hydroxyethane; Drinking alcohol)	64-17-5	C2H6O	8.7	10	45	870	10.47
Ethanolamine (B-hydroxyethylamine; Glycinol)	141-43-5	C2H7NO	3	33	15	300	8.96
Ethoxy-2-propanol,1- (1-ethoxy-propan-2-ol;Ethoxy propanol)	1569-02-4	C5H10O2	2	50	10	200	
Ethoxyethanol ,2- (2-ethoxy-ethano; Cellosolve)	110-80-5	C4H10O2	29.8	3	150	3000	9.6
Ethoxyethyl acetate, 2- (1-acetoxy-2-ethoxyethane; Acetic acid 2-ethoxyethyl ester)	111-15-9	C6H12O3	3	33	15	300	



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Ethyl (S)-(-)-lactate (Ethyl lactate; FEMA 2440)	97-64-3	C5H10O3	3	33	15	300	
Ethyl acetate (Absolute alcohol; Ethanol}	141-78-6	C4H8O2	3.6	28	20	360	10.01
Ethyl acrylate (FEMA 2418; Ethyl 2-propenoate}	140-88-5	C5H8O2	2	50	10	200	<10.3
Ethyl amine (MEA-70; Amine C2)	75-04-7	C2H7N	1	100	5	100	8.86
Ethyl benzene (Ethyl oxide; Ethoxyethene}	100-41-4	C8H10	0.5	185	3	50	8.77
Ethyl butyrate (FEMA 2427; Butylic Ether)	105-54-4	C6H12O2	1	105	5	100	
Ethyl chlorofonnate (Carbonchloridic acid ethyl ester; Gathyl chloride}	541-41-3	C3H5O2Cl	80	1	400	8300	
Ethyl cyanoacrylate (Cyanoacrylate adhesiva; Super glue}	7085-85-0	C6H7O2N	1.5	67	8	150	
Ethyl dacanoate (Ethyl caprate; FEMA 2432)	110-38-3	C12H24O2	1.8	56	10	180	
Ethyl fonnate (FEMA 2434; Areginal)	109-94-4	C3H6O2	30	3	150	3000	10.61
Ethyl haxanoate (Ethyl caproate; FEMA 2439)	123-66-0	C8H16O2	2.6	38	15	260	
Ethyl haxanol,2-	105-76-7	C8H18O	1.5	67	8	150	
Ethyl hexyl acrylate, 2- (Acrylic acid octyl ester; 1-Hexanol,2- ethyl-, acrylate)	103-11-7	C11H20O2	1	100	5	100	
Ethyl mercaptan (Ethanethiol 1-Mercaptoethane)	75-08-1	C2H6S	0.7	145	3	70	9.29
Ethyl Methyl Carbonate (Methylethylcarbonate; Carbonic acid ethyl methyl)	623-53-0	C4H8O3	ZR				-11
Ethyl octanoata (FEMA 2449; Ethyl octoate)	106-32-1	C10H20O2	2.3	40	12	230	
Ethylana (Acetene; R1150)	74-85-1	C2H4	8	13	40	800	10.51
Ethylene dinitrate (Nitroglycol;Ethylenenitrate)	628-96-6	C2H4O6N2	ZR				
Ethylana glycol (1,2-Ethanediol ;Ethylene Alcohol)	107-21-1	C2H6O2	20	5	100	2000	10.16
Ethylana oxida (Epoxyethane; Oxirane)	75-21-8	C2H4O	15	7	75	1500	10.57
Ferrocana (Bis{Cyclopentadien}Iron: Catane}	102-54-5	C10H10Fe	0.8	125	4	80	
FluorIne (F2)	7782-41-4	F2	ZR				
Fluoroathane	353-33-6	C2H5F	ZR				
Fluoromethane (Freon 41; HFC41)	593-53-3	CH3F	ZR				
Formaldehyde (Methyl aldehyde; Methanone)	50-00-0	CH2O	ZR				10.87
Fonnamide (Formimidic acid; Carbamaldehyde)	75-12-7	CH3ON	2	50	10	200	10.16



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Formic acid (Formaline; Aldehyde C1)	64-18-6	CH2O2	ZR				11.33
Furfural (FEMA 2489; 2-furmyl furan)	98-01-1	C5H4O2	1.4	70	7	140	9.21
Furfuryl alcohol (FEMA 2491;Furfuranol)	98-00-0	C5H6O2	2	50	10	200	<9.5
Gasoline vapors	8006-61-9		1.1	95	5	105	
Gasoline vapors	8006-61-9		0.8	125	4	80	
Gasoline vapors 92 octane	8006-61-9		0.8	125	4	80	
Garaniol (FEMA 2507; 2,6-dimethyl-2,6-octadien- 8-ol)	106-24-1	C10H18O	0.7				9
Gennane (Germanium hydride; Monogermene)	7782-65-2	GeH4	10	10	50	1000	
Glutaraldehyde (Pentanedial;Glutaraldehyde)	111-30-8	C5H8O2	0.9	111	5	90	
Glycerol Propoxy Triacrylate Acrylin; 2-Propenoic acid	52408-84-1	C12H14O6	NV				
Halothane (2-bromo-2-chloro-1,1,1-trifluoroethane; Alotano)	151-67-7	CF3CHBrCl	ZR				11
Helium		He	ZR				
Heptan-2-one (1-Methylhexanal; Amyl-methyl-cetone)	110-43-0	C7H14O	0.7	140	4		
Heptan-3-one (FEMA 2545; N-butyl ethyl ketone)	106-35-4	C7H14O	0.8	133	4	70	
Heptane n-	142-82-5	C7H16	2.1	50	10	75	9.92
Hexachloroethane	67-72-1	C2Cl6	ZR			200	
Hexafluoroethane	76-16-4	C2F6	ZR				
Hexamethyldisilazane, 1,1,1,3,3,3-. (Bis(trimethylsilyl)amine; HMDS)	999-97-3	C6H19NSi2	1	100	5		8.6
Hexamethyldisiloxane. (Bis(trimethylsilyl) ether; Bis(trimethylsilyl) oxide)	107-46-0	C6H18OSi2	0.3	350	1	100	
Hexan-2-one (2-Hexanone; Butyl methyl ketone)	591-78-6	C6H12O	0.8	125	4	30	
Hexanol,1- (Hexanol;FEMA 2567)	111-27-3	C6H14O	2.5			80	9.89
Hexane n- (Dipropyl; Naphtha solvent)	110-54-3	C6H14	4.2	25	20		10.13
Hexene, 1- (Butylethene; Neodene 6)	592-41-6	C6H12	0.9	110	5	420	9.44
Hydrazine (Diamine; Levoxine)	302-01-2	H4N2	3	33	15	90	8.1
Hydrazoic acid (Azoimide; Triazoic acid)	7782-79-8	HN3	ZR				
Hydrogen	1333-74-0	H2	ZR				15.43
Hydrogen bromide (Hydrobromic acid)	10035-10-6	HBr	ZR				
Hydrogen chloride (hydrochloric acid)	7647-01-0	HCl	ZR				



Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Hydrogen cyanid• (Hydrocyanic acid)	74-90-8	HCN	ZR				13.6
Hydrogen fluorida (Hydrofluoric acid)	7664-39-3	HF	ZR				
Hydrogen peroxide (Hioxy; Proxy)	7722-84-1	H2O2	4	25	20	400	10.54
Hydrogen sulfida (Sewer gas)	04/0617783	H2S	4	25	20	400	10.45
Hydroquinone (1,4-benzenediol;Hydrichinone)	123-31-9	C6H6O2	0.8	125	4	80	
Hydroxypropyl acrylate 2- (1,2-propanediol,1-acrylate; 2- hydroxypropyl}	999-61-1	C6H10O3	1.5	67	8	150	
Iminodi(ethylamine) 2,2- (Diethylenetriamine; Bis(2- aminoethyl) amine)	111-40-0	C4H13N3	0.9	110	5	90	
Iminodiethanol 2,2'- (2,2'-dihydroxydiethylamine; Bis(2- hydroxy- ethyl)amine)	111-42-2	C4H11NO2	1.6	60	8	160	
Indene	95-13-6	C9H8	0.5	220	2	50	
Iodine	7553-56-2	I2	0.2	667	1	15	9.4
Iodoform (Carbontriiodide; Jodoform)	75-47-8	CHI3	1.5	67	8	150	
Iodomethane (Methyl iodide; Halon 10001)	74-88-4	CH3I	0.4	250	2	40	9.54
Isoamyl acetate (Banena oil; FEMA 2055)	123-92-2	C7H14O2	1.6	60	8	160	<10
Isobutane (2-methylpropane; i-Butane)	75-28-5	C4H10	8	15	40	800	10.57
Isobutanol (2-Methyl-1-propanol; FEMA 2179)	78-83-1	C4H10O	3.5	30	20	350	10.02
Isobutyl acetate (2-methyl-1-propyl acetate; FEMA 2175)	110-19-0	C6H12O2	2.3	45	10	230	
Isobutyl acrylate (Isobutylacrylat; Acrylic acid isobutyl)	106-63-8	C7H12O2	1.3	80	7	130	
Isobutylene (2-methyl-1-propene; 1,1- dimethylethene)	115-11-7	C4H8	1	100	5	100	9.24
Isobutyraldehyde (2-Formylpropane; iso-Butanal)	78-84-2	C4H8O	1.2	80	6	120	
Isocyanates, all			NV				
Isodecanol (Isodesyl alcohol;8-Methylnonane-1-ol)	25339-17-7	C10H22O	0.9	110	5	90	
Isotrifluorane (Hydrfluoromethylether; 1-Chloro-2,2,2- trif- luoroethyl ether)	26675-46-7	C3H2ClF5O	ZR				~11.7
Isononanol (Isononyl alcohol;3,5,5-Trimethyl-1- hexanol)	3452-97-9	C9H20O	1.5	67	8	150	
Isooctane (iso-octane; 2,2,4-Trimethyl pentane)	540-84-1	C8H18	1.1	90	5	100	
Isooctanol (Isooctyl alcohol; Isooctan-1-ol)	26952-21-6	C8H18O	1.7	60	9	170	



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Isopentane (2-Methylbutane; 2-Methylbutane)	78-78-4	C <sub>5</sub> H <sub>12</sub>	6	20	30	600	
Isophorone (Isoforon; FEMA 3553)	78-59-1	C <sub>9</sub> H <sub>14</sub> O	0.8	133	4	75	9.07
Isoprane (2-methyl-1,3-butadien Buffer acetate)	78-79-5	C <sub>5</sub> H <sub>8</sub>	0.7	140	3	70	8.85
Isopropanol (BETZ 0212; Phenolphalien)	67-63-0	C <sub>3</sub> H <sub>8</sub> O	4.4	20	22	440	10.12
Isopropylidenediphanol Araldite AER 2603 acrylate; Bisphenol A- epichlorohydrin acrylate	55818-57-0	(C <sub>15</sub> H <sub>16</sub> O <sub>2</sub> ) x.(C <sub>3</sub> H <sub>5</sub> ClO) x.x.(C <sub>3</sub> H <sub>4</sub> O <sub>2</sub> )					
Isopropyl acetate (2-acetoxypropane; FEMA 2926)	108-21-4	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	2.2	50	10	220	9.99
Isopropyl chloroformate (2-Methylchloroformate; 1- Propylchloroformate)	108-23-6	C <sub>4</sub> H <sub>7</sub> O <sub>2</sub> Cl	1.6	60	8	160	
Jet Fuel JP-4			0.8	133	4	75	
Jet Fuel JP-5			0.7	150	3	60	
Jet Fuel JP-8			0.7	150	3	60	
Karosene (Jet Fuel-15; Jet Fuel - 18)	8008-20-6		0.8	120	4	90	
Katene (Ethenone; Carbomethene)	463-51-4	C <sub>2</sub> H <sub>2</sub> O	3	33	15	300	
Liquefied petroleum gas (LPG (liquefied petroleum gas); Compressed petroleum gas)	68476-85-7		ZR				
Malaldehyd• (2,5-Furandione; Maleic acid anhydride)	108-31-6	C <sub>4</sub> H <sub>2</sub> O <sub>3</sub>	2	50	10	200	10.8
Mandelic acid (2-hydroxy-2-phenylacetic acid; DL- amygdalic acid)	90-64-2	C <sub>8</sub> H <sub>8</sub> O <sub>3</sub>	0.8				
Mercaptoacetic acid (Thioglycolic acid; 2-mercaptoacetate)	68-11-1	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub> S	1	100	5	100	
Mercury (Blue pill; Blue mass)	7439-97-6	Hg	NV				
Mercury alkyls			NV				
Mesitylana (Benzene,1,3,5-trimethyl-; Trimethylbenzol )	108-67-8	C <sub>9</sub> H <sub>12</sub>	0.3	300	2	30	8.41
Methacrylic acid (2-Methyl-2-propenoic acid; MAA)	79-41-4	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	2.3	40	12	230	
Methacrylonitril (Isobutenenitril; 2-Cyano-1-propene)	126-98-7	C <sub>4</sub> H <sub>5</sub> N	5	20	25	500	
Methane (Marsh gas; Natural gas)	74-82-8	CH <sub>4</sub>	ZR				12.61
Methanol (Acid Red; Methyl Red)	67-56-1	CH <sub>4</sub> O	200	1	1000	20000	10.85
Methoxyethanol ,2- (Amyl alcohol; Acidified cleat water)	109-86-4	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	2.7	40	15	270	10.1
Methoxyethoxyethanol ,2- (Diethylene glycol methyl ether; Diglycol monomethyl ether)	111-77-3	C <sub>5</sub> H <sub>12</sub> O <sub>3</sub>	1.4	70	7	140	<10



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Methoxymethylethoxy-2-propanol (Oipropylene glycol monomethyl athar; Glycol Ethar DPM)	34590-94-8	C7H16O3	1.3	80	7	130	
Methoxypropan-2-ol (1-Methoxy-2-propanol ;Methyl proxitol)	107-98-2	C4H10O2	3	33	15	300	
Methoxypropyl acetate (1-Methoxy-2-propyl acetate; Glycol Ether PMA)	108-65-6	C6H12O3	1.2	80	6	120	
Methyl acetate (FEMA 2676; Devoton)	79-20-9	C3H6O2	5.2	20	25	500	10.27
Methyl acrylate (2-propenoic acid methyl ester; Methacrylate)	96-33-3	C4H6O2	3.4	30	17	340	9.9
Methyl bromide (Bromomethane; Brom-0-gas)	74-83-9	CH3Br	19	50	10	190	10.54
Methyl cyanoacrylate (Coapt; Adhera)	137-05-3	C5H5O2N	5	20	25	500	
Methyl ethyl ketone (2-Butanone; Acetone, methyl-)	78-93-3	C4H8O	0.8	130	4	BO	9.51
Methyl ethyl ketone paroxides (2-Butanone peroxide; Ethyl methyl ketone peroxide)	1338-23-4	C8H18O2	0.8	125	4	BO	
Methyl formate (methyl methanoate; R-611)	107-31-3	C2H4O2	ZR				
Methyl iodide (Iodomethane; Iodmethan)	74-88-4	CH3I					9.54
Methyl isobutyl ketone (4-Methyl-2-pentanone; FEMA 2731)	108-10-1	C6H12O	0.8	125	4	BO	9.3
Methyl isocyanate (Misocyanate)	624-83-9	C2H3NO	ZR				10.67
Methyl isothiocyanate (Methyl Mustard-Oil;MTC)	556-61-6	C2H3NS	0.6	167	3	60	
Methyl mercaptan (FEMA 2716; Methanethiol)	74-93-1	CH4S	0.7	140	4	70	9.44
Methyl methacrylate (2-methylacrylic acid methyl ester; Acrylic acid, 2-methyl-, methyl ester)	80-62-6	C5H8O2	1.6	60	8	160	9.7
Methyl propyl ketone (2-Pentanone; FEMA 2842)	107-87-9	C5H10O	0.8	130	4	80	
Methyl salicylate (Birch-Me; FEMA 2154)	119-36-8	C8H8O3	1.2	80	6	120	~9
Methyl sulphide (Dimethyl sulfide; FEMA 2746)	75-18-3	C2H6S	0.5	200	3	50	
Methyl t-butyl ether (Tert-Butyl methyl ether; MTBE)	1634-04-4	C5H12O	0.8	125	4	80	9.24
Methyl-2-propen-1-ol,2- (2-Methylprop-2-en-1-ol;2-Propen-1-ol, 2-methyl-)	513-42-8	C4H8O	1.1	90	5	100	
Methyl-2-pyrrolidinone, N- (1-Methyl-2-pyrrolidinone; N-methyl-2- ketopyrrolodine)	872-50-4	C5H9NO	0.9	110	5	90	9.17



Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Methyl-4,6-dinitrophenol,2-(2, 4-Dinitro-o-cresol ;Antinonnin(R))	534-52-1	C7H6N2O5	3	33	15	300	
Methyl-5-heptan-2-one, 6-(FEMA 2707; Methyl isohexenyl ketone)	110-93-0	C8H14O	0.8	125	4	80	
Methylamine (Aminomethane; Carbinamine)	74-89-5	CH5N	1.4	70	7	140	8.97
Methylbutan-1-ol,3-(FEMA 2057; 1-Hydroxy-3-methylbutane)	123-51-3	C5H12O	3.4	30	17	340	
Methylcyclohexane (Cyclohexane,methyl-; Toluene hexahydride)	108-87-2	C7H14	1.1	90	6	110	
Methylcyclohexanol,4-(Hexahydro-p-cresol;Cyclohexanol,4-methyl-)	589-91-3	C7H14O	2.4	40	12	240	
Methylcyclohexanone 2- (FEMA 3946; Tetrahydro-o-cresol )	583-60-8	C7H12O	1	100	5	100	
Methylheptan-3-one, 5-(2-methylbutylethylketone; 3-Heptanone,5-methyl-)	541-85-5	C8H16O	0.8	133	4	75	
Methylhexan-2-one, 5- (Isobutylacetone; Methyl Isoamyl Ketone)	110-12-3	C7H14O	0.8	133	4	75	
Nonane, n- (Alkane C9;Nonyhydride)	111-84-2	C9H20	1.3	80	6	130	9.72
Norbomadiene, 2,5-(Dicycloheptadiene; 3,6-Methano-1,4-cyclohexadiene)	121-46-0	C7H8	0.6	167	3	60	
Octachloronaphthalene (Halowax 1051; Octachloro-naphthalen)	2234-13-1	C10Cl8	1	100	5	100	
Octane, n- (Alkane C8)	111-65-9	C8H18	1.6	60	8	160	9.82
Octene, 1- (1-caprylene; alpha-Octene)	111-66-0	C8H16	0.7	140	3	70	9.43
Ocimene (3,7-dimethylocta-1,3,7 triene; EINECS 207-957-5)	502-99-8	C10H16	0.6				8.6
Oxalic acid (Di-carboxylic acid; Ethanedioic acid)	144-62-7	C2H2O4	ZR				
Oxalonnitrile (Cyanogene ;Carbon nitride (C2N2))	460-19-5	C2N2	ZR				
Oxydethanol 2,2-(Diglycol ;Diethanol Ether)	111-46-6	C4H10O3	4	25	20	400	
Oxygen		O2	ZR				
Ozone (Triatomic oxygen)	10028-15-6	O3	ZR				
Paraffin wax, fume (Hydrocarbon wax: Pathoprep 580 (568))	8002-74-2		1	100	5	100	
Paraffins, normal (Kerosene: Normal alkanes)	64771-72-8		1	105	5	100	
Pentacarbonyl iron (Ironpentacarbonyl; Fe(CO)5)	13463-40-6	FeC5O5	1	100	5	100	
Pentachloroethane (Freon 120; Pentalin)	76-01-7	C2HCl5	ZR				



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Pentachlorofluoroethane (Fluoropentachloroethane; ethane,pentachlorofluoro-)	354-56-3	C2Cl5F	ZR				
Pentafluoroethane (Freon 125; Halocarbon 125)	354-33-6	C2HF5	ZR				
Pentafluoropropane-1,1,1,3,3, (HFC-245FA; R-245fa)	460-73-1	C3H3F5	ZR				
Pentan-2-one (FEMA 2842; 2-Pentanone)	107-87-9	C5H10O	0.8	125	4	80	9.38
Pentan-3-one (Diethyl Ketone; 3-Pentanone)	96-22-0	C5H10O	0.8	125	4	80	
Pentandlona, 2,4- (FEMA 2841; Acetylacetone)	123-54-6	C5H8O2	0.8	133	4	75	
Pentana, n- (Alkane C5; Amyl hydride)	109-66-0	C5H12	7.9	15	40	800	10.35
Peracetic acid (Acetic peroxide; Acetyl Hydroperoxide)	79-21-0	C2H4O3	2	50	10	200	
Perchloryl fluoride (Chlorine oxyfluoride; Fluorochlorine(VII) trioxide)	7616-94-6	ClO3F	ZR				
Perfluoropropane (Freon 218; Octafluoropropane)	76-19-7	C3F8	ZR				
Petroleum ether			0.9	110	5	90	
Phenol (Benzenol; FEMA 3223)	108-95-2	C6H6O	1.2	85	6	120	8.51
Phenyl propene, 2- (2-Phenyl-1-propene; Alpha- methylstyrene)	98-83-9	C9H10	0.4	230	2	45	8.18
Phenyl-2,3,4-epoxypropyl ether (Glycidyl phenyl ether; Phenyl glycidyl ether)	122-60-1	C9H10O2	0.8	125	4	80	
Phenylenediamine, p- (1,4-Diaminobenzene; 1,4- Phenylenedi- amine)	106-50-3	C6H8N2	0.6	167	3	60	
Phosgene (Carbonyl chloride; Chloro-formyl)	75-44-5	COCl2	ZR				11.2
Phosphina (Phosphorus trihydride; Red phosphorus)	7803-51-2	PH3	2	50	10	200	9.87
Picoline, 3- (B-Picoline; m-Picoline)	108-99-6	C6H7N	0.9	110	5	90	9.04
Pinene, alpha (Mounting media; FEMA 2902)	80-56-8	C10H16	0.3	315	2	30	
Pinene, beta (Rosmarinal; Pseudopinen)	127-91-3	C10H16	0.3	315	2	30	
Piperidine (Cyclopentimine; FEMA 2908)	110-89-4	C5H11N	0.9	110	5	90	
Piperylene (Trans-1,3-pentadiene; 3-Piperlene)	504-60-9	C5H8	0.7	150	3	67	8.6
Prop-2-yn-1-ol (Propargyl alcohol; Propinol)	107-19-7	C3H4O	1.3	80	7	130	
Propan-1-ol (Alcohol C3; FEMA 2928)	71-23-8	C3H8O	4.8	20	25	480	10.22





# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Propane (Freon 290 Dimethylmethane)	74-98-6	C3H8	ZR				10.95
Propana-1,2-clol,total (Propylene glycol; FEMA 2940)	57-55-6	C3H8O2	1.0	10	50	1000	<10.2
Propene (Propylene; Methylene)	115-07-1	C3H6	1.4	70	7	140	9.73
Propionaldehyde (FEMA 2923; Aldehyde C3}	123-38-6	C3H6O	1.7	60	8	169	9.95
Propionic acid (FEMA 2924; Carboxyethane)	79-09-4	C3H6O2	8	15	40	800	
Propyl acetate, n- (FEMA 2925; Acetic Acid N-Propyl Ester)	109-60-4	C5H10O2	2.5	40	13	250	10.04
Propylana dlntrate (1,2-bis-(nitryloxy)-propane; Propylene dinitrate)	6423-43-4	C3H6N2O6	ZR				
Propylana oxida (1,2-epoxy-propan; (R,S)-2-Methyl- oxirane)	75-56-9	C3H6O	7	15	35	700	10.22
Propylanalmlna (2-Methylaziridine; (R,S)-2-Methyl- aziridine)	75-55-8	C3H7N	1.3	80	7	130	9
Pyridina (Azabenzene; FEMA 2966)	110-86-1	C5H5N	0.8	133	4	75	9.25
Pyridylamine 2- (2-Aminopyridine; Alpha-Aminopyridine)	504-29-0	C5H6N2	0.8	125	4	80	
Silana (Monosilane; Silicon hydride)	7803-62-5	SiH4	ZR				
Sodium fluoroacetate (Acetic acid; 2-fluoro-,sodium salt (1:1))	62-74-8	C2H2O2FNa	ZR				
Soybean oil, acrylate	294-415-6		NV				
Styrene (Ethenylbenzene; FEMA 3233)	100-42-5	C8H8	0.4	230	2	50	8.43
Sulphur dioxide (Sulfurous anhydride)	7446-09-5	SO2	ZR				12.32
Sulphur hexafluoride	2551-62-4	SF6	ZR				15.3
Sulphur tetrafluoride (Sulfur fluorides)	7783-60-0	SF4	ZR				
Sulphuric acid (Acid detergent; Amine-sulfuric acid reagent)	7664-93-9	H2SO4	ZR				
Sulphuryl fluoride (Sulfone)	2699-79-8	SO2F2	ZR				13
Tarphenyls (p-Terphenyl; 1,4-Diphenylbenzene)	92-94-4*	C18H14	0.6	167	3	60	
Terpinolene (1,4(8)-p-Menthadiene; FEMA 3046)	586-62-9	C10H16	0.5	210	2	50	
Tert-butanol (1,1-Dimethylethanol; 2-Methyl-2-Propanol)	75-65-0	C4H10O	2.6	40	15	260	
Tetrabromoethane, 1,1,2,2- (TBE; Muthmans liquid)	79-27-6	C2H2Br4	2	50	10	200	
Tetracarbonylnickel (Nickel Carbonyl; Nickelcarbonyl)	13463-39-3	NiC4O4	1	100	5	100	<8.8



# VOC Gas Specification, Application Note

Feb. 16

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Tetrachloro-1,2-c:lifluoroethane, 1,1,2,2- (1,1,2,2-Difluorotetrachloroethane; FC-112)	76-12-0	C2Cl4F2	ZR				
Tetrachloro-1-ftuoroethane, 1,1,2,2- (1,1,2,2-tetrachloro-1-fluoroethane; 1,1,2,2-tetrachloro-1-fluoro-ethane)	354-14-3	C2HCl4F	ZR				
Tetrachloro-2,2-c:lifluoroethane, 1,1,1,2- (Freon 112a; Refrigerant 112a)	76-11-9	C2Cl4F2	ZR				
Tetrachloro-2-ftuoroethane, 1,1,1,2- (HCFC-121a; Freon 121a)	354-11-0	C2HCl4F	ZR				
Tetrachloroethane, 1,1,1,2- (Freon 130a; ethane, 1,1,1,2-tetrachloro-)	630-20-6	C2H2Cl4	ZR				~11.1
Tetrachloroethane, 1,1,2,2- (Acetylene tetrachloride; s-Tetrachloroethane)	79-34-5	C2H2Cl4	ZR				~11.1
Tetrachloroathylane (Porklone; PCE)	127-18-4	C2Cl4	0.7	140	4	70	9.32
Tetrachloronaphthalenes, all Isomers (1,2,3,4-Tetrachloronaphthalene; TCN)	20020-02-4	C10H4Cl4	1	100	5	100	
Tetraethyl orthosilicate (TEOS; Silester)	78-10-4	C8H20O4Si	2	50	10	200	-9.8
Tetraethyllead (TEL; Tetra(methylethyl)lead)	78-00-2	C8H20Pb	ZR				~111
Tetraethylanapantamine (1,4,7,10,13-Pentaazatridecane; Tetraen)	112-57-2	C8H23N5	06				
Tetrafluoroethane, 1,1,1,2- (Dymel 134a; Forane 134a)	811-97-2	C2H2F4	ZR				
Tetrafluoroethane, 1,1,2,2- (Freon 134; Ethane,1,1,2,2-tetrafluoro-)	359-35-3	C2H2F4	ZR				
Tetrafluoroethylene (Ethene,tetrafluoro-; Fluoroplast 4)	116-14-3	C2F4	1	100	5	100	10.12
Tetrafluoromethane (Carbon tetrafluoride; FC-14)	75-73-0	CF4	ZR				>15.3
Tetrahydrofuran (Poly(1,4-butanediol ); Polytetrahydrofuran)	109-99-9	C4H8O	1.6	65	8	150	9.41
Tetramethyl orthosilicate (Dynasil M; TMOS)	681-84-5	C4H12O4Si	ZR				~10
Tetramethyl succinonitrile (1,1,2,2-tetramethylethane-1,2-dicarbonitrile; 2,2,3,3-tetramethylbutanedinitrile)	3333-52-6	C8H12N2	1	100	5	100	
Thenninol			1	100	5	100	
Thionyl chloride (Sulfur Dichloride Oxide; Thionyl Chloride)	7719-09-7	SOCl2	ZR				
Toluene (Methacide; Phenylmethane)	108-88-3	C7H8	0.5	200	3	50	8.82
Toluene-2,4-diisocyanate (2,4-TDI 1-methyl-1,3-phenylene; diisocyanate)	584-84-9	C9H6N2O2	1.6	60	B	160	
Toluenesulphonyl chloride, p- (Tosyl chloride; 4-toluene sulfochloride)	98-59-9	C7H7SO2Cl	3	33	15	300	



Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Toluolna, o- (1-amino-2-methylbenzene; 2- aminotoluene)	95-53-4	C7H9N	05	200	3	50	
Trlbutyl phosphate (Antifoam T; Butyl Phosphate)	126-73-8	C12H27O4P	5	20	25	500	
Trlbutylamina (N,N-dibutyl-1-butanamine; TNBA)	102-82-9	C12H27N	1	100	5	100	
Trlchloro-1,1-difluoroethana, 1,2,2- (HCFC-122; 1,1-difluoro-1,2,2-trichloro-ethan)	354-21-2	C2HCl3F2	ZR				
Trlchloro-1,2-difluoroethana, 1,1,2- (1,1,2-trichloro-1,2-difluoro-ethane)	354-15-4	C2HCl3F2	ZR				
Trlchloro-2,2-difluoroethana, 1,1,1- (Ethane, 1,1,1-trichloro-2,2-difluoro-; Freon-122b)	354-12-1	C2HCl3F2	ZR				
Trlchloro-2-ftuoroethana, 1,1,2- (Ethane, 1,1,2-trichloro-2-fluoro-; H- FCKW-131)	359-28-4	C2H2Cl3F	ZR				
Trlchlorobenzane 1,2,4- (Trichlorobenzene; Hipochem GM)	120-82-1	C6H3Cl3	0.6	180	3	50	9.04
Trlchloroethana, 1,1,1- (Methylchloroform; 1,1,1-TCE)	71-55-6	C2H3Cl3	ZR				11
Trlchloroethane, 1,1,2- (Vinyl trichloride; Ethane trichloride}	79-00-5	C2H3Cl3	ZR				11
Trlchloroethylana (1,1-dichloro-2-chl oroethylene; Ethinyl Trichloride)	79-01-6	C2HCl3	0.7	150	3	65	9.47
Trlchlorofluoromethane (Freon 11; Fluorocar- bon 11)	75-69-4	CCl3F	ZR				
Trlchloronltromethane (Chloropicrin; Nitrotrichloromethane)	76-06-2	CCl3NO2	ZR				
Trlchlorophenoxyacetic acid,2,4,5- (2,4,5-T ACID; Weedone)	93-76-5	C8H5O3Cl3	1	100	5	100	
Trlchloropropane 1,2,3- (Glycerol Trichlorohydrin; Allyl Trichloride)	96-18-4	C3H5Cl3	ZR				
Trlchlorotrft uoroethane, 1,1,1- (Trifluoroethyl Chloride; 2-chloro-1,1,1- trif- luoroethane)	354-58-5	C2Cl3F3	ZR				
Trlchlorotrft uoroethane, 1,1,2- (Freon 113; Fluorocarbon 113)	76-13-1	C2Cl3F3	ZR				11.99
Trlethylamine ((Diethylamino)ethane; N,N- Diethylethan- amine)	121-44-8	C6H15N	09	110	5	90	7.3
Trlfluoroethane, 1,1,1- (Freon 143a; 1,1,1-Trifluoroform)	420-46-2	C2H3F3	ZR				
Trlfluoroethane, 1,1,2- (Freon 143; 1,1,2-trifluoro-ethan)	430-66-0	C2H3F3	ZR				12.9
Trlfluoroethanol,2,2,2- (1,1H-perfluoroethanol; Ethanol,2,2,2- trif- luoro-)	75-89-8	C2H3F3O	ZR				
Trlfluoromethane (Freon 23; Carbon Trifluoride)	75-46-7	CHF3	ZR				



Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)	Typical MOL PID-AH (ppb)	Typical MDL PID-AH (ppb)	Ionisation Potential eV
Trimethylamine (Dimethylamine; N- Nitrosodimethylamine)	75-50-3	C <sub>3</sub> H <sub>9</sub> N	0.5	200	3	50	
Trimethylbenzene mixtures		C <sub>9</sub> H <sub>12</sub>	0.3	300	2	35	
Trimethylbenzena, 1,3,5- (Mesitylene; 1,3,5-Trimethylbenzene}	108-67-8	C <sub>9</sub> H <sub>12</sub>	0.3	300	2	35	
Trimethylolpropana triacrylata	15625-89-5	C <sub>15</sub> H <sub>20</sub> O <sub>6</sub>	NV				
Trinitrotoluene 2,4,6- (1-Methyl-2,4,6-trinitrobenzene; alpha- TNT}	118-96-7	C <sub>7</sub> H <sub>5</sub> N <sub>3</sub> O <sub>6</sub>	ZR				
Turpantline (FEMA 3089; Fir Oil}	8006-64-2	C <sub>10</sub> H <sub>16</sub>	0.6	167	3	60	8
TVOC			1	100	5	100	
Undecane, n- (Alkane C <sub>11</sub> ; n-Hendecane)	1120-21-4	C <sub>11</sub> H <sub>24</sub>	0.9	110	5	100	9.56
Vinyl acetate (Acetic acid vinyl ester; 1- acetoxyethylene)	108-05-4	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	1.1	90	6	110	
Vinyl bromid• (1-Bromoethylene; Bromethen)	593-60-2	C <sub>2</sub> H <sub>3</sub> Br	1	100	5	100	9.8
Vinyl chloride (Chlorethen; VCM)	75-01-4	C <sub>2</sub> H <sub>3</sub> Cl	2.1	50	10	200	9.99
Vinyl-2-pyrrolidone, 1- (N-Vinyl-2-pyrrolidone; 1-ethenyl-2- pyrrolidinon)	88-12-0	C <sub>6</sub> H <sub>9</sub> NO	0.9	110	5	90	
Xylane mixed Isomers (Aqualine standard 5.0; Xylenes)	1330-20-7	C <sub>8</sub> H <sub>10</sub>	0.4	230	2	40	
Xylene, m- (1,3-Dimethylbenzene; Meta-Xylene)	108-38-3	C <sub>8</sub> H <sub>10</sub>	0.4	230	2	50	8.56
Xylene, o- (1,2-Dimethylbenzene; Ortho-Xylene)	95-47-6	C <sub>8</sub> H <sub>10</sub>	0.6	167	3	60	8.56
Xylene, p- (1,4-Dimethylbenzene; Para-Xylene)	106-42-3	C <sub>8</sub> H <sub>10</sub>	0.6	180	3	50	8.44
Xylidine, all (Dimethylaniline; Aminoxylene)	1300-73-8	C <sub>8</sub> H <sub>11</sub> N	0.7	140	4	70	