Compur Statox 501 PID Response Factors (10.6 eV)

Photoionisation cells are calibrated using isobutylene, but PID is a broadband VOC detection technique, with a sensitivity that differs for each VOC. If you know what VOC you are measuring, then the table below will allow you to calculate the concentration for your specific VOC. Remember, these are approximate values, so for best accuracy you should calibrate with the relevant VOC.

The table includes five columns:

1 **Gas/ VOC** The most common name for the VOC. If you can not find the name of your VOC of concern, then email us at compur@compur.de and we will help

2 **CAS No.** Sometimes it is easier to identify a VOC from the internationally recognised CAS No.: ask your supplier.

3 **Formula** To further assist in identifying the VOC, this also is helpful in identifying its molecular weight, from which ppm measurements can be converted to say, mg/m3 measurements.

4 **Response Factor (RF)** also known as corretion factor. Multiply the output response from the cell by the RF to provide a normalised scale of VOC concentration.

5 **Relative sensitivity (%**) This is the inverse of the correction factor, specifying the percent response of the VOC, relative to isobutylene. If less than 100%, then the VOC is less responsive than isobutylene; if the relative sensitivity is greater than 100%, then the VOC is more responsive than isobutylene. Relative sensitivity (%) is specified the same way as cross-sensitivity for toxic gas sensors.

The RF is measured in dry air; high humidity will reduce this factor by 10% to 20%, so the RF should be increased in high humidities.

VOC response

The PID can not measure all VOCs or gases. Two types of VOCs are not measured:

ZR: No response. The 10.6 eV lamp does not ionise the VOC and the VOC can not be measured.

NV: The vapour pressure of the VOC at 20°C is less than a few ppm, so this Semi-Volatile Organic Compound can not be measured.

Frequently you will be measuring a mixture of VOCs. If the total concentration is within the linear range of your PID, then it is reasonable to assume that the concentrations are additive without interference between the different VOCs. Remember that if you are measuring a combination of VOCs, then accurate measurement of one of these VOCs will be difficult; without careful data analysis, you will get only a CF averaged measurement. Be cautious when reporting actual VOC concentration if you know that there may be several VOCs present.

Balance gas

The relative response is measured in laboratory air, with 20.9% oxygen, balance nitrogen. Some gases absorb UV light (oxygen, methane), so in gases where there are significant concentrations of oxygen or methane, the apparent concentration will be less than is actually present. Methane absorbs UV strongly, so for accurate measurements in methane, calibrate with your target VOC in the expected methane concentration. 50% LEL methane reduces reading by up to 50%.Gases such as nitrogen and helium do not absorb UV and do not affect the relative response.

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)
Acetaldehyde	75-07-0	C2H4O	4.9	21
Acetic Acid	64-17-7	C2H4O2	36	3
Acetic Anhydride	108-24-7	C4H6O3	4.0	25
Acetone	67-64-1	C3H6O	0.7	140
Acetonitrile	75-05-8	CH3CN	ZR	
Acetylene	74-86-2	C2H2	ZR	
Acrolein	107-02-8	C3H4O	4.0	25
Acrylic Acid	79-10-7	C3H4O2	2.7	36
Acrylonitrile	107-13-1	C3H3N	ZR	
Allyl alcohol	107-18-6	C3H6O	2.1	48
Allyl chloride	107-05-1	C3H5Cl	4.5	22
Ammonia	7664-41-7	H3N	8.5	12
Amyl acetate, n-	628-63-7	C7H14O2	1.8	56
Amyl alcohol	71-41-0	C5H12O	3.2	31
Aniline	62-53-3	C6H7N	0.5	200
Anisole	100-66-3	C7H8O	0.5	211
Arsine	7784-42-1	AsH3	2.5	40
Asphalt, petroleum fumes	8052-42-4		1.0	100
Benzaldehyde	100-52-7	C7H6O	0.9	117
Benzene	71-43-2	C6H6	0.5	200
Benzenethiol	108-98-5	C6H5SH	0.7	143
Benzonitrile	100-47-0	C7H5N	0.7	141
Benzyl alcohol	100-51-6	C7H8O	1.3	80
Benzyl chloride	100-44-7	C7H7Cl	0.6	182
Benzyl formate	104-57-4	C8H8O2	0.8	130
Biphenyl	92-52-4	C12H10	0.4	250
Bis(2,3-epoxypropyl) ether	2238-07-5	C6H10O3	3.0	33
Boron trifluoride	7637 07 2	BF3	ZR	
Bromine	7726-95-6	Br2	20	5
Bromine pentafluoride	7789-30-2	BrF5	ZR	
Bromobenzene	108-86-1	C6H5Br	0.7	143
Bromochloromethane	74-97-5	CH2ClBr	ZR	
Bromoethane	74-96-4	C2H5Br	5.0	20
Bromoethyl methyl ether, 2-	6482-24-2	C3H7OBr	2.5	40
Bromoform	75-25-2	CHBr3	2.8	36
Bromopropane, 1-	106-94-5	C3H7Br	1.3	77
Bromotrifluoromethane	75-63-8	CF3Br	ZR	
Butadiene	106-99-0	C4H6	0.8	120
Butadiene diepoxide, 1,3-	1464-53-5	C4H6O2	4.0	25
Butane, n-	106-97-8	C4H10	46	2
Butanol, 1-	71-36-3	C4H10O	4.0	25
Buten-3-ol, 1-	598-32-3	C4H8O	1.2	87
Butene, 1-	106-98-9	C4H8	1.3	77
Butoxyethanol, 2-	111-76-2	C6H14O2	1.1	91
Butyl acetate, n-	123-86-4	C6H12O2	2.4	41
Butyl acrylate, n-	141-32-2	C7H12O2	1.5	67
Butyl lactate	138-22-7	C7H14O3	2.5	40
Butyl mercaptan	109-79-5	C4H10S	0.5	185
Butylamine, 2-	513-49-5	C4H11N	0.9	111
Butylamine, n-	109-73-9	C4H11N	1.0	100
Camphene	565-00-4	C10H16	0.5	222
Carbon dioxide	124-38-9	CO2	ZR	
Carbon disulfide	75-15-0	CS2	1.4	71
Carbon monoxide	630-08-0	CO	ZR	
Carbon tetrabromide	558-13-4	CBr4	3.0	33
Carbon tetrachloride	56-23-5	CCl4	ZR	
Carbonyl sulphide	463-58-1	COS	ZR	

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)
Carvone, R-	6485-40-1	C10H14O	1.0	100
Chlorine	7782-50-5	Cl2	ZR	
Chlorine dioxide	10049-04-4	ClO2	1.0	100
Chlorine trifluoride	7790-91-2	ClF3	ZR	
Chloro-1,1,1,2-tetrafluoroethane	2837-89-0	C2HClF4	ZR	
Chloro-1,1,1-trifluoroethane, 2-	75-88-7	C2H2ClF3	ZR	
Chloro-1,1,2,2-tetrafluoroethane	354-25-6	C2HClF4	ZR	
Chloro-1,1,2-trifluoroethane, 1-	421-04-5	C2H2ClF3	ZR	
Chloro-1,1-difluoroethane, 1-	75-68-3	C2H3ClF2	ZR	
Chloro-1,1-difluoroethane, 1-	75-68-3	C2H3ClF2	ZR	
Chloro-1,1-difluoroethane, 2-	338-65-8	C2H3ClF2	ZR	
Chloro-1,2,2-trifluoroethane	431-07-2	C2H2ClF3	ZR	
Chloro-1,3-butadiene, 2-	126-99-8	C4H5Cl	3.2	30
Chloro-1-fluoroethane, 1-	1615-75-4	C2H4ClF	ZR	
Chloro-2-fluoroethane, 1-	762-50-5	C2H4ClF	ZR	
Chloroacetaldehyde	107-20-0	C2H3OCl	ZR	
Chlorobenzene	108-90-7	C6H5Cl	0,5	220
Chlorodifluoromethane	75-45-6	CHClF2	ZR	
Chloroethane	75-00-3	C2H5Cl	ZR	
Chloroethanol 2-	107-07-3	C2H5ClO	10.0	10
Chloroethyl methyl ether, 2-	627-42-9	C3H7ClO	2,6	40
Chlorofluoromethane	593-70-4	CH2ClF	ZR	
Chloroform	67-66-3	CHCl3	ZR	
Chloromethane	74-87-3	CH3Cl	ZR	
Chloropentafluoroethane	76-15-3	C2ClF5	ZR	
Chlorotoluene, o-	95-49-8	C7H7Cl	0.5	220
Chlorotoluene, p-	108-41-8	C7H7Cl	0.5	200
Chlorotrifluoroethylene	79-38-9	C2ClF3	1.0	100
Chlorotrifluoromethane	75-72-9	CClF3	ZR	
Citral	5392-40-5	C10H16O	1.0	100
Citronellol	26489-01-0	C10H20O	1.0	100
Cresol, m-	108-39-4	C7H8O	1.1	95
Cresol, o-	95-48-7	C7H8O	1.1	95
Cresol, p-	106-44-5	C7H8O	1.1	95
Crotonaldehyde	4170-30-3	C4H6O	1.0	100
Cumene	98-82-8	C9H12	0.6	170
Cyanamide	420-04-2	CH2N2	ZR	
Cyanogen bromide	506-68-3	CNBr	ZR	
Cyanogen chloride	506-77-4	CNCl	ZR	
Cyclohexane	110-82-7	C6H12	1.3	77
Cyclohexanol	108-93-0	C6H12O	2.9	34
Cyclohexanone	108-94-1	C6H10O	1.1	91
Cyclohexene	110-83-8	C6H10	0.8	133
Cyclohexylamine	108-91-8	C6H13N	1.0	102
Cyclopentane	287-92-3	C5H10	4.0	25
Decane, n-	124-18-5	C10H22	1.0	96
Diacetone alcohol	123-42-2	C6H12O2	0.8	125
Dibenzoyl peroxide	94-36-0	C14H10O4	0.8	125
Diborane	19287-45-7	B2H6	ZR	
Dibromochloromethane	124-48-1	CHBr2Cl	10.0	10
Dibromodifluoromethane	75-61-6	CF2Br2	ZR	
Dibromoethane 1,2-	106-93-4	C2H4Br2	2.0	50
Dibromotetrafluoroethane, 1,2-	124-73-2	C2F4Br2	ZR	
Dibutyl hydrogen phosphate	107-66-4	HC8H18 PO4	4.0	25
Dichloro-1,1,1-trifluoroethane, 2,2-	306-83-2	C2HCl2F3	ZR	
Dichloro-1,1-difluoroethane, 1,2-	1649-08-7	C2H2Cl2F2	ZR	
Dichloro-1,2,2-trifluoroethane, 1,2-	354-23-4	C2HCl2F3	ZR	

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)
Dichloro-1,2-difluoroethane, 1,2-	631-06-1	C2H2Cl2F2	ZR	
Dichloro-1-fluoroethane, 1,1-	1717-00-6	C2H3Cl2F	ZR	
Dichloro-1-fluoroethane, 1,1-	1717-00-6	C2H3Cl2F	ZR	
Dichloro-1-fluoroethane, 1,2-	430-57-9	C2H3Cl2F	ZR	
Dichloro-1-propene, 2,3-	78-88-6	C3H4Cl2	1.4	70
Dichloro-2,2,-difluoroethane, 1,1-	79-35-6	C2H2Cl2F2	ZR	
Dichloroacetylene	7572-29-4	C2Cl2	5.0	20
Dichlorobenzene o-	95-50-1	C6H4Cl2	0.5	200
Dichlorodifluoromethane	75-71-8	CCl2F2	ZR	
Dichloroethane 1,2-	107-06-2	C2H4Cl2	ZR	
Dichloroethane, 1,1-	75-34-3	C2H4Cl2	ZR	
Dichloroethene, 1,1-	75-35-4	C2H2Cl2	1.0	105
Dichloroethene, cis-1,2-	156-59-2	C2H2Cl2	0.8	125
Dichloroethene, trans-1,2-	540-59-0	C2H2Cl2	0.7	143
Dichloroethylene 1,2-	540-59-0	C2H2Cl2	0.8	133
Dichlorofluoromethane	75-43-4	CHFCl2	ZR	
Dichloromethane	75-09-2	CH2Cl2	39	3
Dichloropropane, 1,2-	78-87-5	C3H6Cl2	ZR	
Dichlorotetrafluoroethane, 1,1-	374-07-2	C2Cl2F4	ZR	
Dichlorotetrafluoroethane, 1,2-	76-14-2	C2Cl2F4	ZR	
Dicyclopentadiene	77-73-6	C10H12	0.9	110
Diesel Fuel	68334-30-5		0.8	130
Diethyl ether	60-29-7	C4H10O	0.9	110
Diethyl maleate	141-05-9	C8H12O4	2.0	50
Diethyl phthalate	84-66-2	C12H14O4	1.0	100
Diethyl sulphate	64-67-5	C4H10SO4	3.0	33
Diethyl sulphide	352-93-2	C4H10S	0.6	180
Diethylamine	109-89-7	C4H11N	1.0	100
Diethylaminoethanol, 2-	100-37-8	C6H15ON	2.7	40
Diethylaminopropylamine, 3-	104-78-9	C7H18N2	1.0	100
Difluoroethane, 1,1-	75-37-6	C2H4F2	ZR	
Difluoroethane, 1,2-	624-72-6	C2H4F2	ZR	
Difluoromethane	75-10-5	CH2F2	ZR	
Dihydrogen selenide	7783 07 5	H2Se	1.0	100
Dihydroxybenzene, 1,2	120-80-9	C6H6O2	1.0	100
Dihydroxybenzene, 1,3	108-46-3	C6H6O2	1.0	100
Diisobutylene	107-39-1	C8H16	0.6	156
Diisopropyl ether	108-20-3	C6H14O	0.7	150
Diisopropylamine	108-18-9	C6H15N	0.7	140
Diketene	674-82-8	C4H4O2	2.2	45
Dimethoxymethane	109-87-5	C3H8O2	1.4	71
Dimethyl cyclohexane, 1,2-	583-57-3	C8H16	1.1	95
Dimethyl disulphide	624-92-0	C2H6S2	0.2	435
Dimethyl ether	115-10-6	C2H6O	1.3	80
Dimethyl phthalate	131-11-3	C10H10O4	1.0	100
Dimethyl sulphate	77-78-1	C2H6O4S	ZR	
Dimethyl sulphide	75-18-3	C2H6S	0.5	200
Dimethylacetamide N,N-	127-19-5	C4H9NO	1.3	75
Dimethylamine	124-40-3	C2H7N	1.4	70
Dimethylaminoethanol	108-01-0	C4H11NO	1.5	70
Dimethylaniline, NN-	121-69-7	C8H11N	0.6	167
Dimethylbutyl acetate	108-84-9	C8H16O2	1.6	60
Dimethylethylamine, NN-	598-56-1	C4H11N	0.8	125
Dimethylformamide	68-12-2	C3H7NO	0.9	110
Dimethylheptan-4-one, 2,6-	108-83-8	C9H18O	0.8	125
Dimethylhydrazine, 1,1-	57-14-7	C2H8N2	1.0	100
Dinitrobenzene, m-	99-65-0	C6H4N2O4	3.0	33
Dinitrobenzene, o-	528-29-0	C6H4N2O4	ZR	

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)
Dinitrobenzene, p-	100-25-4	C6H4N2O4	5.0	20
Dinonyl phthalate	84-76-4	C26H42O4	1.0	100
Dioxane 1,2-		C4H8O2	1.5	67
Dioxane 1,4-	123-91-1	C4H8O2	1.5	67
Dipentene	138-86-3	C10H16	0.9	110
Diphenyl ether	101-84-8	C12H10O	0.8	125
Disulphur decafluoride	5714-22-7	S2F10	ZR	
Disulphur dichloride	10025-67-9	S2Cl2	3.0	33
Di-tert-butyl-p-cresol	2409-55-4	C11H16O	1.0	100
Divinylbenzene	1321-74-0	C10H10	0.4	250
Dodecanol	112-53-8	C12H26O	0.9	110
Enflurane	13838-16-9	C4H2F5ClO	ZR	
Epichlorohydrin	106-89-8	C3H5ClO	8.0	15
Epoxypropyl isopropyl ether, 2,3-	4016-14-2	C6H12O2	1.1	90
Ethane	74-84-0	C2H6	ZR	
Ethanol	64-17-5	C2H6O	8.7	10
Ethanolamine	141-43-5	C2H7NO	3.0	33
Ethoxy-2-propanol, 1-	1569-02-4	C5H10O2	2.0	50
Ethoxyethanol, 2-	110-80-5	C4H10O2	29.8	3
Ethoxyethyl acetate, 2-	111-15-9	C6H12O3	3.0	33
Ethyl (S)-(-)-lactate	97-64-3	C5H10O3	3.0	33
Ethyl acetate	141-78-6	C4H8O2	3.6	28
Ethyl acrylate	140-88-5	C5H8O2	2.0	50
Ethyl amine	75-04-7	C2H7N	1.0	100
Ethyl benzene	100-41-4	C8H10	0.5	185
Ethyl butyrate	105-54-4	C6H12O2	1.0	105
Ethyl chloroformate	541-41-3	C3H5O2Cl	80	1
Ethyl cyanoacrylate	7085-85-0	C6H7O2N	1.5	67
Ethyl decanoate	110-38-3	C12H24O2	1.8	56
Ethyl formate	109-94-4	C3H6O2	30	3
Ethyl hexanoate	123-66-0	C8H16O2	2.6	38
Ethyl hexanol, 2-	105-76-7	C8H18O	1.5	67
Ethyl hexyl acrylate, 2-	103-11-7	C11H20O2	1.0	100
Ethyl mercaptan	75-08-1	C2H6S	0.7	145
Ethyl octanoate	106-32-1	C10H20O2	2.3	40
Ethylene	74-85-1	C2H4	8.0	13
Ethylene dinitrate	628-96-6	C2H4O6N2	ZR	
Ethylene glycol	107-21-1	C2H6O2	20.0	5
Ethylene oxide	75-21-8	C2H4O	15.0	7
Ferrocene	102-54-5	C10H10Fe	0.8	125
Fluorine	7782-41-4	F2	ZR	
Fluoroethane	353-33-6	C2H5F	ZR	
Fluoromethane	593-53-3	CH3F	ZR	
Formaldehyde	50-00-0	CH2O	ZR	
Formamide	75-12-7	CH3ON	2.0	50
Formic acid	64-18-6	CH2O2	ZR	
Furfural	98-01-1	C5H4O2	1.4	70
Furfuryl alcohol	98-00-0	C5H6O2	2.0	50
Gasoline vapors	8006-61-9		1.1	95
Gasoline vapors	8006-61-9		0.8	125
Gasoline vapors 92 octane	8006-61-9		0.8	125
Germane	7782-65-2	GeH4	10.0	10
Glutaraldehyde	111-30-8	C5H8O2	0.9	111
Halothane	151-67-7	CF3CHBrCl	ZR	
Helium		He	ZR	
Heptan-2-one	110-43-0	C7H14O	0.7	140
Heptan-3-one	106-35-4	C7H14O	0.8	133
Heptane n-	142-82-5	C7H16	2.1	50

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)
Hexachloroethane	67-72-1	C2Cl6	ZR	
Hexafluoroethane	76-16-4	C2F6	ZR	
Hexamethyldisilazane, 1,1,1,3,3,3-.	999-97-3	C6H19NSi2	1.0	100
Hexamethyldisiloxane.	107-46-0	C6H18OSi2	0.3	350
Hexan-2-one	591-78-6	C6H12O	0.8	125
Hexane n-	110-54-3	C6H14	4.2	25
Hexene, 1-	592-41-6	C6H12	0.9	110
Hydrazine	302-01-2	H4N2	3.0	33
Hydrazoic acid	7782-79-8	HN3	ZR	
Hydrogen	1333-74-0	H2	ZR	
Hydrogen bromide	10035-10-6	HBr	ZR	
Hydrogen chloride	7647-01-0	HCl	ZR	
Hydrogen cyanide	74-90-8	HCN	ZR	
Hydrogen fluoride	7664-39-3	HF	ZR	
Hydrogen peroxide	7722-84-1	H2O2	4.0	25
Hydrogen sulfide	7783-06-4	H2S	4.0	25
Hydroquinone	123-31-9	C6H6O2	0.8	125
Hydroxypropyl acrylate 2-	999-61-1	C6H10O3	1.5	67
Iminodi(ethylamine) 2,2-	111-40-0	C4H13N3	0.9	110
Iminodiethanol 2,2'-	111-42-2	C4H11NO2	1.6	60
Indene	95-13-6	C9H8	0.5	220
Iodine	7553-56-2	I2	0.2	667
Iodoform	75-47-8	CHI3	1.5	67
Iodomethane	74-88-4	CH3I	0.4	250
Isoamyl acetate	123-92-2	C7H14O2	1.6	60
Isobutane	75-28-5	C4H10	8.0	15
Isobutanol	78-83-1	C4H10O	3.5	30
Isobutyl acetate	110-19-0	C6H12O2	2.3	45
Isobutyl acrylate	106-63-8	C7H12O2	1.3	80
Isobutylene	115-11-7	C4H8	1.0	100
Isobutyraldehyde	78-84-2	C4H8O	1.2	80
Isocyanates, all			NV	
Isodecanol	25339-17-7	C10H22O	0.9	110
Isoflurane	26675-46-7	C3H2ClF5O	ZR	
Isononanol	2452-97-9	C9H20O	1.5	67
Isooctane	565-75-3	C8H18	1.1	90
Isooctanol	26952-21-6	C8H18O	1.7	60
Isopentane	78-78-4	C5H12	6.0	20
Isophorone	78-59-1	C9H14O	0.8	133
Isoprene	78-79-5	C5H8	0.7	140
Isopropanol	67-63-0	C3H8O	4.4	20
Isopropyl acetate	108-21-4	C5H10O2	2.2	50
Isopropyl chloroformate	108-23-6	C4H7O2Cl	1.6	60
Jet Fuel JP-4			0.8	133
Jet Fuel JP-5			0.7	150
Jet Fuel JP-8			0.7	150
Kerosene	8008-20-6		0.8	120
Ketene	463-51-4	C2H2O	3.0	33
Liquefied petroleum gas	68476-85-7		ZR	
Maleic anhydride	108-31-6	C4H2O3	2.0	50
Mercaptoacetic acid	68-11-1	C2H4O2S	1.0	100
Mercury	7439-97-6	Hg	NV	
Mercury alkyls			NV	
Mesitylene	108-67-8	C9H12	0.3	300
Methacrylic acid	79-41-4	C4H6O2	2.3	40
Methacrylonitrile	126-98-7	C4H5N	5.0	20
Methane	74-82-8	CH4	ZR	
Methanol	67-56-1	CH4O	200	1

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)
Methoxyethanol, 2-	109-86-4	C3H8O2	2.7	40
Methoxyethoxyethanol, 2-	111-77-3	C5H12O3	1.4	70
Methoxymethylethoxy-2-propanol	34590-94-8	C7H16O3	1.3	80
Methoxypropan-2-ol	107-98-2	C4H10O2	3.0	33
Methoxypropyl acetate	108-65-6	C6H12O3	1.2	80
Methyl acetate	79-20-9	C3H6O2	5.2	20
Methyl acrylate	96-33-3	C4H6O2	3.4	30
Methyl bromide	74-83-9	CH3Br	1.9	50
Methyl cyanoacrylate	137-05-3	C5H5O2N	5.0	20
Methyl ethyl ketone	78-93-3	C4H8O	0.8	130
Methyl ethyl ketone peroxides	1338-23-4	C8H18O2	0.8	125
Methyl formate	107-31-3	C2H4O2	ZR	
Methyl isobutyl ketone	108-10-1	C6H12O	0.8	125
Methyl isocyanate	624-83-9	C2H3NO	ZR	
Methyl isothiocyanate	556-61-6	C2H3NS	0.6	167
Methyl mercaptan	74-93-1	CH4S	0.7	140
Methyl methacrylate	80-62-6	C5H8O2	1.6	60
Methyl propyl ketone	107-87-9	C5H10O	0.8	130
Methyl salicylate	119-36-8	C8H8O3	1.2	80
Methyl sulphide	75-18-3	C2H6S	0.5	200
Methyl t-butyl ether	1634-04-4	C5H12O	0.8	125
Methyl-2-propen-1-ol, 2-	51-42-8	C4H8O	1.1	90
Methyl-2-pyrrolidinone, N-	872-50-4	C5H9NO	0.9	110
Methyl-4,6-dinitrophenol, 2-	534-52-1	C7H6N2O5	3.0	33
Methyl-5-hepten-2-one, 6-	110-93-0	C8H14O	0.8	125
Methylamine	74-89-5	CH5N	1.4	70
Methylbutan-1-ol, 3-	123-51-3	C5H12O	3.4	30
Methylcyclohexane	108-87-2	C7H14	1.1	90
Methylcyclohexanol, 4-	589-91-3	C7H14O	2.4	40
Methylcyclohexanone 2-	583-60-8	C7H12O	1.0	100
Methylheptan-3-one, 5-	541-85-5	C8H16O	0.8	133
Methylhexan-2-one, 5-	110-12-3	C7H14O	0.8	133
Methylhydrazine	60-34-4	CH6N2	1.3	80
Methyl-N-2,4, 6-tetranitroaniline, N-	479-45-8	C7H5N5O8	3.0	33
Methylpent-3-en-2-one, 4-	141-79-7	C6H10O	0.7	140
Methylpentan-2-ol, 4-	108-11-2	C6H14O	2.8	40
Methylpentane-2,4-diol, 2-	107-41-5	C6H14O2	4.0	25
Methylpropan-2-ol, 2-	75-65-0	C4H10O	3.5	30
Methylstyrene	25013-15-4	C9H10	0.5	200
Mineral oil	8042-47-5		0.8	125
Mineral spirits	64475-85-0		0.8	125
Naphthalene	91-20-3	C10H8	0.4	230
Nitric oxide	10102-43-9	NO	8.0	15
Nitroaniline 4-	100-01-6	C6H6N2O2	0.8	125
Nitrobenzene	98-95-3	C6H5NO2	1.7	60
Nitroethane	79-24-3	C2H5NO2	ZR	
Nitrogen dioxide	10102-44-0	NO2	10.0	10
Nitrogen trichloride	10025-85-1	NCl3	1.0	100
Nitrogen trifluoride	7783-54-2	NF3	ZR	
Nitromethane	75-52-5	CH3NO2	ZR	
Nitropropane, 1-	108-03-2	C3H7NO2	ZR	
Nitropropane, 2-	79-46-9	C3H7NO2	ZR	
Nitrous oxide	10024-97-2	N2O	ZR	
Nonane, n-	111-84-2	C9H20	1.3	80
Norbornadiene, 2,5-	121-46-0	C7H8	0.6	167
Octachloronaphthalene	2234-13-1	C10Cl8	1.0	100
Octane, n-	111-65-9	C8H18	1.6	60
Octene, 1-	111-66-0	C8H16	0.7	140

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)
Oxalic acid	144-62-7	C2H2O4	ZR	
Oxalonitrile	460-19-5	C2N2	ZR	
Oxydiethanol 2,2-	111-46-6	C4H10O3	4.0	25
Oxygen		O2	ZR	
Ozone	10028-15-6	O3	ZR	
Paraffin wax, fume	8002-74-2		1.0	100
Paraffins, normal	64771-72-8		1.0	105
Pentacarbonyl iron	13463-40-6	FeC5O5	1.0	100
Pentachloroethane	76-01-7	C2HCl5	ZR	
Pentachlorofluoroethane	354-56-3	C2Cl5F	ZR	
Pentafluoroethane	354-33-6	C2HF5	ZR	
Pentan-2-one	107-87-9	C5H10O	0.8	125
Pentan-3-one	96-22-0	C5H10O	0.8	125
Pentandione, 2,4-	123-54-6	C5H8O2	0.8	133
Pentane, n-	109-66-0	C5H12	7.9	15
Peracetic acid	79-21-0	C2H4O3	2.0	50
Perchloryl fluoride	7616-94-6	ClO3F	ZR	
Perfluoropropane	76-19-7	C3F8	ZR	
Petroleum ether			0.9	110
Phenol	108-95-2	C6H6O	1.2	85
Phenyl propene, 2-	98-83-9	C9H10	0.4	230
Phenyl-2,3-epoxypropyl ether	122-60-1	C9H10O2	0.8	125
Phenylenediamine, p-	106-50-3	C6H8N2	0.6	167
Phosgene	75-44-5	COCl2	ZR	
Phosphine	7803-51-2	PH3	2.0	50
Picoline, 3-	108-99-6	C6H7N	0.9	110
Pinene, alpha	80-56-8	C10H16	0.3	315
Pinene, beta	127-91-3	C10H16	0.3	315
Piperidine	110-89-4	C5H11N	0.9	110
Piperylene	504-60-9	C5H8	0.7	150
Prop-2-yn-1-ol	107-19-7	C3H4O	1.3	80
Propan-1-ol	71-23-8	C3H8O	4.8	20
Propane	74-98-6	C3H8	ZR	
Propane-1,2-diol, total	57-55-6	C3H8O2	10.0	10
Propene	115-07-1	C3H6	1.4	70
Propionaldehyde	123-38-6	C3H6O	1.7	60
Propionic acid	79-09-4	C3H6O2	8.0	15
Propyl acetate, n-	109-60-4	C5H10O2	2.5	40
Propylene dinitrate	6423-43-4	C3H6N2O6	ZR	
Propylene oxide	75-56-9	C3H6O	7.0	15
Propyleneimine	75-55-8	C3H7N	1.3	80
Pyridine	110-86-1	C5H5N	0.8	133
Pyridylamine 2-	504-29-0	C5H6N2	0.8	125
Silane	7803-62-5	SiH4	ZR	
Sodium fluoroacetate	62-74-8	C2H2O2FNa	ZR	
Styrene	100-42-5	C8H8	0.4	230
Sulphur dioxide	7446-09-5	SO2	ZR	
Sulphur hexafluoride	2551-62-4	SF6	ZR	
Sulphur tetrafluoride	7783-60-0	SF4	ZR	
Sulphuric acid	7664-93-9	H2SO4	ZR	
Sulphuryl fluoride	2699-79-8	SO2F2	ZR	
Terphenyls		C18H14	0.6	167
Terpinolene	586-62-9	C10H16	0.5	210
Tert-butanol	75-65-0	C4H10O	2.6	40
Tetrabromoethane, 1,1,2,2-	79-27-6	C2H2Br4	2.0	50
Tetracarbonylnickel	13463-39-3	NiC4O4	1.0	100
Tetrachloro-1,2-difluoroethane, 1,1,2,2-	76-12-0	C2Cl4F2	ZR	
Tetrachloro-1-fluoroethane, 1,1,2,2-	354-14-3	C2HCl4F	ZR	

Gas/ VOC	CAS No.	Formula	Relative response	Relative sensitivity (%)
Tetrachloro-2,2-difluoroethane, 1,1,1,2-	76-11-9	C2Cl4F2	ZR	
Tetrachloro-2-fluoroethane, 1,1,1,2-	354-11-0	C2HCl4F	ZR	
Tetrachloroethane, 1,1,1,2-	630-20-6	C2H2Cl4	ZR	
Tetrachloroethane, 1,1,2,2-	79-34-5	C2H2Cl4	ZR	
Tetrachloroethylene	127-18-4	C2Cl4	0.7	140
Tetrachloronaphthalenes, all isomers	20020-02-4	C10H4Cl4	1.0	100
Tetraethyl orthosilicate	78-10-4	C8H20O4Si	2.0	50
Tetraethyllead	78-00-2	C8H20Pb	ZR	
Tetrafluoroethane, 1,1,1,2-	811-97-2	C2H2F4	ZR	
Tetrafluoroethane, 1,1,2,2-	359-35-3	C2H2F4	ZR	
Tetrafluoroethylene	116-14-3	C2F4	1.0	100
Tetrafluoromethane	75-73-0	CF4	ZR	
Tetrahydrofuran	109-99-9	C4H8O	1.6	65
Tetramethyl orthosilicate	681-84-5	C4H12O4Si	ZR	
Tetramethyl succinonitrile	3333-52-6	C8H12N2	1.0	100
Therminol			1.0	100
Thionyl chloride	7719-09-7	SOCl2	ZR	
Toluene	108-88-3	C7H8	0.5	200
Toluene-2,4-diisocyanate	584-84-9	C9H6N2O2	1.6	60
Toluenesulphonyl chloride, p-	98-59-9	C7H7SO2Cl	3.0	33
Toluidine, o-	95-53-4	C7H9N	0.5	200
Tributyl phosphate	126-73-8	C12H27O4P	5.0	20
Tributylamine	102-82-9	C12H27N	1.0	100
Trichloro-1,1-difluoroethane, 1,2,2-	354-21-2	C2HCl3F2	ZR	
Trichloro-1,2-difluoroethane, 1,1,2-	354-15-4	C2HCl3F2	ZR	
Trichloro-2,2-difluoroethane, 1,1,1-	354-12-1	C2HCl3F2	ZR	
Trichloro-2-fluoroethane, 1,1,2-	359-28-4	C2H2Cl3F	ZR	
Trichlorobenzene 1,2,4-	120-82-1	C6H3Cl3	0.6	180
Trichloroethane, 1,1,1-	71-55-6	C2H3Cl3	ZR	
Trichloroethane, 1,1,2-	79-00-5	C2H3Cl3	ZR	
Trichloroethylene	79-01-6	C2HCl3	0.7	150
Trichlorofluoromethane	75-69-4	CCl3F	ZR	
Trichloronitromethane	76-06-2	CCl3NO2	ZR	
Trichlorophenoxyacetic acid, 2,4,5-	93-76-5	C8H5O3Cl3	1.0	100
Trichloropropane 1,2,3-	96-18-4	C3H5Cl3	ZR	
Trichlorotrifluoroethane, 1,1,1-	354-58-5	C2Cl3F3	ZR	
Trichlorotrifluoroethane, 1,1,2-	76-13-1	C2Cl3F3	ZR	
Triethylamine	121-44-8	C6H15N	0.9	110
Trifluoroethane, 1,1,1-	420-46-2	C2H3F3	ZR	
Trifluoroethane, 1,1,2-	430-66-0	C2H3F3	ZR	
Trifluoroethanol, 2,2,2-	75-89-8	C2H3F3O	ZR	
Trifluoromethane	75-46-7	CHF3	ZR	
Trimethylamine	53-50-3	C3H9N	0.5	200
Trimethylbenzene mixtures		C9H12	0.3	300
Trimethylbenzene, 1,3,5-	108-67-8	C9H12	0.3	300
Trinitrotoluene 2,4,6-	118-96-7	C7H5N3O6	ZR	
Turpentine	8006-64-2	C10H16	0.6	167
TVOC			1.0	100
Undecane, n-	1120-21-4	C11H24	0.9	110
Vinyl acetate	108-05-2	C4H6O2	1.1	90
Vinyl bromide	593-60-2	C2H3Br	1.0	100
Vinyl chloride	75-01-4	C2H3Cl	2.1	50
Vinyl-2-pyrrolidinone, 1-	88-12-0	C6H9NO	0.9	110
Xylene mixed isomers	1330-20-7	C8H10	0.4	230
Xylene, m-	108-38-3	C8H10	0.4	230
Xylene, o-	95-47-6	C8H10	0.6	167
Xylene, p-	106-42-3	C8H10	0.6	180
Xylidine, all	1300-73-8	C8H11N	0.7	140