Dräger

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Gas List 2013

List of detectable gases and vapours

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Gas list to find a suitable fixed installed Dräger gas detection instrument for a specified substance

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Subject to alteration

Dräger Safety AG & Co. KGaA
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Search Indexes

This list of gases consists of three search indexes and the main part. The search indexes are suitable to find the substance in question by having only its name (including short name or technical abbreviation), its sum formula, or its CAS-number.

Using the search indexes you will obtain the substance's associated number to look for in the list of gases.
If the substance is not listed, this does not necessarily mean that this substance is not detectable by Polytron equipment.

Search Index for CAS-Number
The CAS-number is a worldwide used code to identify a chemical substance unambiguously. This number is issued by the Chemical Abstracts Service and is the easiest way to characterize a chemical substance. Knowing the CAS-No. means to be able to get comprehensive information and links from internet and search engines.

The considered substance is unambiguously specified by the CAS-No.

Search Index for Name / Abbreviation
When sorting alphabetically the chemical prefixes such as n-, i-, sec-, tert-, N-, N.N-, or numbers were omitted. Please proceed correspondingly when looking for a substance.

When searching 1.2-Dichloroethane look for Dichloroethane, find tert-Butanol under Butanol and Methyltert butylether under Methylbutylether.

This search index also lists short names or technical abbreviations. However these names may be ambiguous from chemical aspects (e.g. Dimethyl ether and Dimethoxy ethane usually both are short-named as "DME").

Furthermore refrigerants were considered. The code basically is preceded by "R" meaning refrigerant although in other countries characters such as "F", "FCK", "HFA" or names such as "Freon", "Frigen" and "Propellant" etc. are used. So, if you look for e.g. Freon 134a please search for R 134a.

Search Index for Sum formula
For every chemical formula - normally given as a semi-structure formula - a sum formula exists. A sum formula is formed according to the Hill-system: Within each sum formula the element symbol C (for Carbon) is on the first place, the element symbol H (for Hydrogen) on the second, followed by all other element symbols in alphabetical order. For every element symbol the order is given with increasing number of atoms of the corresponding molecule. So it seems a little bit strange having a sum formula of e.g. ammonia H_3N, of sulphur dioxide O_2S and of hydrogen cyanide CHN.

Having the chemical formula of a substance, the individual element symbols have to be summarized and sorted accordingly. With the sum formula obtained this way you can go into the search index for sum formulas to get the substance's associated number.

Example: CH_3COOH

Sum formula is $C_2H_4O_2$. This is the sum formula of acetic acid. But you can verify that this is also the sum formula of Methyl formate ($HCOOCH_3$).

Attention:
Sum formulas may be ambiguous!

The Gas List

This list is the real list of gases. For each substance there are at least three lines. Besides the column of the current number the gas list comprises 17 columns which are explained in the following:

Column 1: Substance / Chemical Formula
The main name covers two columns in the first line. The 2nd line shows the CAS-No., and the 3rd line shows the chemical formula.

Column 2: Shortn. and S-formula
If there is a technical abbreviation known it is listed in this column 2nd line. The sum formula is printed in the 3rd line.

Column 3: Synonyms
If further names are known the most usual ones are listed here.

Column 4: Molw. g/mol
In the first line the molecular weight (mol weight) M is listed. The mol weight is used in many calculations, e.g. you can calculate the relative density of a gas or vapour by dividing value M by 28.96. If the result is less than 1 the gas is lighter than air. In most cases the result will be greater than 1 - so it is heavier than air. In case of vapours, however, the maximum vapour pressure (the maximum concentration at a given temperature) in an air/vapour mixture has to be regarded (see vapour pressure column 7): Vapours can never exist in a 100 %v/v-concentration!

Below the mol weight the value of the relative density compared to air is listed. It is marked by a subsequent “r” (for relative).

Example: n-Butanol: 2.56 r

Vapours of n-Butanol are 2.56 times heavier than air.

By using the mol weight M you can convert concentrations given in %v/v (= % by vol.) or ppm to obtain g/m³ or mg/m³.

Using the mol weight M you can also calculate the density of a gas in kg/m³ (at 20 °C and 1013 hPa) by simply multiplying with a factor of 0.04179:

Example: The mol weight of Propane is 44.1 g/mol, so the density of Propane is:

$$\rho = 0.04179 \cdot 44.1 = 1.843 \text{ kg/m}^3$$

If density ρ and mol weight M are known you are able to calculate the amount of liquid to be evaporated in a given volume to obtain a defined vapour concentration. However, it is very important that this liquid is evaporated completely. This requires a sufficiently high vapour pressure.

Use the “calibration chamber formula”: To obtain a vapour concentration c in a volume of 3 litres at 20 °C and 1013 mbar you have to insert the following amount F (in microlitres) of the liquid:

$$F = 1.2478 \cdot \frac{M}{\rho} \cdot c$$

Example: Ethyl acetate, M = 88.1 g/mol, ρ = 0.90 g/ml, LEL = 2.0 %v/v.

To obtain 50 %LEL (c = 1.0 %v/v) vapour of Ethyl acetate in the 3-litres calibration chamber insert

$$F = 1.2478 \cdot \frac{88.1}{0.90} \cdot 1.0 = 122 \text{ microlitres}$$

of liquid Ethyl acetate.

If the flashpoint of the liquid is less than 25 °C the value of the amount to be inserted into the 3 litres calibration chamber to obtain 50 %LEL is printed below the value of the density.
It is marked by a subsequent “v” (for volume).

Example: n-Hexane: 81 v
You need to insert 81 microliters into the Dräger Calibration Chamber to obtain 50 %LEL of hexane vapour.

The Gas List

Column 5: Dens. g/ml
In this column the density ρ of the liquid in g/ml (= g/cm³) at 20 °C is listed. This value exists only for liquids, so gases are indicated by “Gas”.

Column 6: Boil. °C
This column is self-explaining, it shows the boiling point of the substance in °C (at 1013 mbar).

Below the boiling point given in °C the boiling point is printed in °F. This value is marked by a subsequent “°F”.

Column 7: p_{20} mbar
Vapour pressure p_{20} of a liquid at 20 °C given in mbar (= hPa). Vapour pressure is only defined for liquids. So for gases instead of the vapour pressure you will find the marking “Gas” in this column.

The vapour of each liquid forms a pressure which depends on the nature of liquid and the liquid’s temperature. If the vapour pressure is low, the liquid evaporates slowly and thus only produces low vapour concentrations (for such flammable liquids the flashpoint is usually high). The maximum vapour concentration c_{max} (called saturated vapour concentration), which can only form in closed containments, can be estimated by dividing the given vapour pressure by the environmental atmospheric pressure.

Example: n-Nonane, p_{20} = 5 mbar, so

$$c_{max} = \frac{5}{1013} \cdot 100 = 0.49\ \%v/v$$

So at 20 °C no vapour concentrations higher than 4900 ppm n-Nonane can exist. Only higher temperatures may produce higher vapour concentrations. Since the Lower Explosion Limit is 0.7 %v/v even in a closed containment at 20 °C no explosive vapour/air-mixtures of n-Nonane can form.

It is essential that the “calibration chamber formula” does not apply for substances with a low vapour pressure, e.g. dosing to obtain 0.6 %v/v of n-Nonane vapour at 20 °C is not possible.

Column 8: Flpt. °C
This column shows the flashpoint of flammable liquids. Flammable gases do not have a flashpoint and are marked by “Gas”. Gases or liquids being non-flammable are marked by ‘n.a.’.

The flashpoint is defined as the temperature of a flammable liquid which (in a closed containment) is needed to obtain an ignitable vapour concentration above the liquid’s surface.
If ambient temperature and liquid temperature are clearly below the flashpoint (e.g. 10 °C lower), the liquid cannot be ignited.

Example: n-Nonane, flashpoint 31 °C, is not ignitable at 20 °C.

The relatively high flashpoint of n-Nonane is arising from its low vapour pressure. As already shown it is not possible to produce vapours of 100 %LEL under normal conditions (20 °C).
As the flashpoint is a temperature you can also convert a flashpoint F given in degrees Celsius into a flashpoint F given in degrees Fahrenheit using the conversion

$$F_{°F} = \frac{9}{5} \cdot F_{°C} + 32 \text{ deg. Fahrenheit}$$

Example: n-Nonane, flashpoint is 31 °C,

$$F_{°F} = \frac{9}{5} \cdot 31 + 32 = 87.8\ °F$$

Below the flashpoint F given in °C the flashpoint is printed in °F. This value is marked by a subsequent “°F”.

Example: n-Nonane, flashpoint 88 °F

Columns 9, 10 and 11: LEL
These columns show the lower explosion limit in %v/v. Non-inflammable gases and liquids are marked by ‘n.a.’. If there is a void field this indicates that the LEL is unknown. Three values - if available - are listed here:

Germ.: Source: Brandes, Möller (PTB): Safety Characteristic Data, Vol. 1: Flammable Liquids and Gases, Wirtschaftsverlag NW, 2nd Edition, 2008

IEC: Source: IEC 60079-20-1: 2010 „Explosive atmospheres - Material characteristics for gas and vapour classification“

USA: Source: NFPA Fire Protection Guide to Hazardous Materials, 14th edition, 2010 (includes NFPA 497).

The NFPA LELs occasionally deviate from the mentioned ones because the apparatus and procedures to determine the LEL are differently standardized in the USA.

If there is no LEL available from these three sources, LELs from material safety data sheets or chemical catalogues are printed in column 9.
These LELs however are indicated by an additional asterisk (*).

Conversion:
By means of the mol weight (column 4) you can convert the LEL to g/m³ by multiplying the LEL given in %v/v with the mol weight M and dividing it by 2.4. This conversion is valid for 20 °C.

Example: n-Nonane, M = 128.3 g/mol, LEL = 0.7 %v/v, so

$$LEL_{g/m^3} = \frac{128.3}{2.4} \cdot 0.7 = 37.4$$

The LEL of n-Nonane is 37.4 g/m³.

And vice versa:

$$LEL = \frac{2.4}{M} \cdot LEL_{g/m^3}$$

Below the LELs given in %v/v the corresponding values given in g/m³ are listed. They are enclosed in parenthesis.

Column 12: AIT °C
This column shows the auto-ignition temperature (AIT) of flammable gases and vapours. For non-flammable substances this column shows “n.a.”.
If known, the explosion group with subgroup, IIA, IIB or IIC (acc. to standard EN 60079-0), is listed in the 2nd line. If the ignition temperature is known, the 3rd line contains the temperature class. Electrical devices to be operated in hazardous atmospheres containing the considered flammable substance must at least be marked with the given explosion group and temperature class:

Example:
Allyl alcohol: AIT = 375 °C, IIB T2.

An electrical device must at least be marked IIB T2. Devices marked IIA T2 or IIB T1 are not allowed to be used in atmospheres where Allyl alcohol is present in potentially explosive concentrations.

Column 13 and 14: TLV Germ. and TLV USA
If available this column lists toxic limits as threshold limit values (TLV) or workplace limit values (WPL) in ppm.

TLV Germ.: Source: TRGS 900, update in September 2012.

TLV USA: Source: OSHA.
If no OSHA value available: NIOSH

Commonly the TLVs are average values, but sometimes ceiling values (marked by a “c“) are listed. In no case ceiling values are allowed to be exceeded.

If neither the TLV Germ. nor the TLV USA is listed this does not necessarily mean that the considered substance is not toxic. Short-term limit values have not been regarded in this gas list.

Conversion:
By means of the mol weight (column 4) you can convert the TLV to mg/m³ by multiplying the TLV given in ppm with the mol weight M and dividing it by 24. This conversion is valid for 20 °C.

Example: n-Nonane, M = 128.3 g/mol, TLV = 200 ppm:

$$TLV_{mg/m^3} = \frac{128.3}{24} \cdot 200 = 1069$$

The TLV is 1069 mg/m³.

Vice versa:

$$TLV = \frac{24}{M} \cdot TLV_{mg/m^3}$$

Below the TLVs given in ppm the corresponding values given in mg/m³ are listed. They are enclosed in parenthesis. As these figures are exactly calculated they may slightly be different from officially issued values which are frequently rounded.

The Gas List

Column 15: Detectable by ...
This column lists the transmitters by means of which the considered substance is detectable. This information is self-explaining. Especially the term “P 5000 ... GP” indicates the non-explosion-proof (“general purpose”) version of Polytron 5000.

Column 16: Suitable measuring ranges

PEX 3000, SE Ex, P 5200 and P 8200
For catalytic bead sensors and transmitters the full scale deflection is always 100 %LEL. The 10 %LEL sensor can also be used for the detection of the listed substance, in this case the measuring range then is 0 ... 10 %LEL.

P IR type 334 and P IR type 340
If the substance in consideration is stored in the transmitter’s EPROM and so is directly selectable from the gas library it is marked by “Gas-Library”.

The minimum and maximum f.s.d. in %LEL is listed. Separated by a “//” mostly the lowest f.s.d. is also listed in ppm.

A question mark indicates substances which are assumed to be detectable but have not been verified so far.

Dräger PIR 3000
The full scale value is always 100% LEL. Other measuring ranges are not suitable. A question mark indicates substances which are assumed to be detectable but have not been verified so far.

An exclamation mark indicates those substances for which a special calibration routine has to be performed.

Dräger P 5700 type 334 and 340
With this transmitter only the given full scale values are configurable.

So, “50 + 100 %LEL” means that full scale values of e.g. 70 or 80 %LEL are not configurable.

A question mark indicates substances which are assumed to be detectable but have not been verified so far.

Dräger PIR 7000 type 334 and 340
The listed measuring ranges are comparable to those of PIR Type 334 or 340. A “(§)” indicates substances being surely detectable but not yet having undergone verifying measurements - so no calibration hints can be issued so far.

A question mark indicates substances which are assumed to be detectable but have not been verified so far.

Remark:
Since measurements in our application laboratory are an on-going routine one can expect to have calibration data at a later date.

Pulsar
Measuring ranges always are 1 and 4 / 8 LELm, 1 LELm is possible e.g. by the duct version.

Polytron 7000 and Polytron 8000
The minimum, standard, and maximum full scale deflections are listed. If the substance considered is not stored in the sensor’s EEPROM the full scale deflection values have to be multiplied by the given factor.

Example: Morpholine with Polytron 7000 and sensor NH_3: “50 / 100 ppm x 4” means that the configured f.s.d. of 50 or 100 ppm NH_3 corresponds to 200 or 400 ppm Morpholine. So when applying Morpholine to the sensor the reading has to be multiplied by factor 4 to obtain the true concentration.

Concerning the sensors OV1, OV2, H_2S, and NH_3, additionally the gas type to configure is recommended:

Example: 1-Hexene: “as Aald x 2” means:

To measure 1-Hexene configure for Acetic aldehyde, calibrate for Acetic aldehyde and multiply the reading by 2 to have the true concentration of 1-Hexene.

In some cases this factor may even be 0.5, so the reading has to be divided by 2.

Column 17: Important Remarks
Here you will find remarks concerning sensor poisoning by corrosive or polymerizing influences for catalytic bead sensors as well as information about response times (t_{20}, t_{50}).

Measuring performance
If the considered substance is subject of a measuring performance certificate (“measuring function for explosion protection”) this is indicated by “Performance Approval”.

Furthermore there are remarks like e.g. “detectability expected” or “on request”. Also, the relative sensitivities S in respect to the target gas might be of special interest.

For electrochemical sensors the given relative sensitivities S are only valid for new sensors and the values might fluctuate about < ± 30 %. An “L” in parenthesis indicates that this sensor is only suitable to be used for leak detection.

Example: OV1-sensor for Butylene oxide: “S = 0.4 (L)” means the sensitivity of the OV1-sensor exposed to Butylene oxide is 40 % compared to ethylene oxide. For Butylene oxide this sensor should only be used for leak detection purposes.

What is leak detection?
A leak is an unpredictable abnormal release of gases or vapours of higher concentrations.

A leak has to be regarded as an exceptional event of a relative short duration.

In case of normal operation there is only clean air (without even low concentrations of the target gas or vapour).

A gas detection system for leak detection is not to measure a gas concentration but to give alarm reliably if a preset alarm threshold is exceeded. That is why for leak detection rather the t_{20} or t_{50} response times are relevant instead of the t_{90}-time. The given measuring ranges marked by “(L)” have to be interpreted as a range where an alarm threshold of the control unit can be set (choose e.g. 20% or 40% of full scale deflections).

After a gas release a leak gas detection system needs to be checked for proper function.

Mixtures of gases and vapours
Not to expand this gas list unnecessarily, only pure substances, but not mixtures of gases and vapours, are listed. This is especially true for mixtures of flammable solvents and fuels which are differently blended by different manufacturers.

For %LEL-measurement the gas detection instrument has to be calibrated for those substances in the mixture, which are detected with the least sensitivity. From this guideline calibration procedures based on pure substances can be derived. For example to detect Kerosene commonly a Nonane-calibration is recommended. Moreover, a catalytic bead sensor calibrated for n-Nonane is also very suitable to detect numerous hydrocarbon mixtures such as gasolines, petrols, aviation fuels and jet petrols as well as Naphtha, Solvent Naphtha, Varnish Makers & Painters Naphtha (VMPN), White Spirit, etc.

However, whether such a calibration leads to safe detection in an individual application can only be derived from suitable Material Safety Data Sheets or needs to be verified by according measurement tests in the laboratory.

Search Index for Name/Abbreviation

Substance	No.
Bromoethyl	192
Bromomethane	272
3-Bromopropene	14
BTBAS	63
BuAc	55
1.2-Butadiene	37
1.3-Butadiene	38
1.3-Butadiene monoxide	39
i-Butanal	75
n-Butanal	76
i-Butane	40
n-Butane	41
1-Butane amine	60
2-Butane amine	61
1-Butanethiol	71
1-Butanol	44
2-Butanol	42
Butan-1-ol	44
Butan-2-ol	42
i-Butanol	43
n-Butanol	44
tert-Butanol	45
2-Butanone	284
Butan-2-one	284
2-Butenal	46
1-Butene	47
2-Butene	48
But-1-ene	47
i-Butene	49
3-Butene-1-ol	50
Butenine	419
1-Buten-3-one	424
3-Butenyne-1	419
1-Buten-3-yne	419
Butenyne	419
1-Butoxybutane	113
2-Butoxyethanol	51
1-Butoxy-2-hydroxy ethane	51
1-Butoxy propan-2-ol	52
1-Butoxy-2-propanol	52
n-Butoxypropanol	52
2-Butyl acetate	53
i-Butyl acetate	54
n-Butyl acetate	55
sec-Butyl acetate	53
tert-Butyl acetate	56
i-Butyl acrylate	57
n-Butyl acrylate	58
i-Butyl alcohol	43
n-Butyl alcohol	44
sec-Butyl alcohol	42

Substance	No.
tert-Butyl alcohol	45
Butyl aldehyd	76
i-Butyl amine	59
n-Butylamine	60
sec-Butylamine	61
tert-Butylamine	62
Bis(tert-butylamino)silane	63
tert-Butyl arsine	64
N-Butyl-1-butane amine	112
i-Butyl-i-butyrate	65
i-Butyl carbinol	20
n-Butyl carbinol	21
sec-Butyl carbinol	274
Butyl cellosolve	51
Butylchloride	67
i-Butyl chloride	66
n-Butyl chloride	67
tert-Butylchloride	68
1-Butylene	47
2-Butylene	48
i-Butylene	49
1.3-Butyleneglycol monomethyl ether	260
Butylene oxide	180
1.2-Butylen oxide	180
Acetic acid i-butylester	54
Acetic acid tert-butyl ester	56
Formic acid i-butylester	69
Propenoic acid i-butylester	57
i-Butyl ethanoate	54
n-Butyl ethanoate	55
tert-Butyl ethanoate	56
Butyl ether	113
Butyl ethyl acetaldehyde	205
Butyl ethylene	239
tert-Butyl ethyl ether	193
i-Butyl formate	69
n-Butyl formate	70
n-Butyl glycol	51
n-Butyl mercaptan	71
tert-Butyl mercaptan	72
Butyl methacrylate	73
tert-Butyl methane	162
Butyl methanoate	70
tert-Butyl methyl ether	275
Butyl methyl ketone	237
i-Butyl methylketone	276
i-Butyl-2-methyl propanoate	65
Butyl oxitol	51
Butyl-2-propenoate	58
2-Butyne	74
But-2-yne	74

Substance	No.
i-Butyraldehyde	75
n-Butyraldehyde	76
Butyric acid aldehyde	76
i-Butyric aldehyde	75
n-Butyric aldehyde	76
C11	417
C4=	48
C4=	47
C4==	38
1-Caprylene	320
Carbinol	259
Carbon dioxide	77
Carbonic acid anhydride	77
Carbonic acid diethyl ester	135
Carbonic acid dimethyl ester	153
Carbonic acid ethyl methyl ester	281
Carbonic anhydride	77
Carbonic oxide	78
Carbon monoxide	78
Carbon oxide	78
Carbon oxychloride	333
Carbon tetrachloride	79
Carbonyl chloride	333
Carboxyethane	345
Carvene	255
Cellosolve acetate	185
CG	333
CHA	101
Chlorine	80
Chlorine dioxide	81
Chlorine peroxide	81
Chlorine trifluoride	82
2-Chloroacetaldehyde	83
3-Chloroallyl chloride	125
Chloroallylene	15
Chlorobenzene	84
1-Chlorobutane	67
3-Chloro-2-butanone	85
1-Chlorobut-2-ene	86
3-Chloro-i-butene	269
1-Chloro-1.1-difluoroethane	87
Chlorodifluoromethane	88
2-Chloro difluoromethoxytrifluoroethane	178
Chlorodimethyl ether	90
1-Chloro-2.3-epoxypropane	179
2-Chloro-1-ethanal	83
Chloroethane	194
2-Chloroethan-1-ol	89
Chloroethene	420
Chloroethyl	194
2-Chloroethyl alcohol	89

Search Index for Name/Abbreviation

Substance	No.
Diethylsulfide	141
Diethyl thioether	141
Difluoro chloroethane	87
Difluorochloromethane	88
1.1-Difluoroethane	142
Difluoromethane	143
2-Difluoromethoxy tetrafluoroethane	108
Diglyme	137
Dihexyl	177
Dihydro-1.3-dioxol	168
Dihydrogen dioxide	249
Dihydrogen selenide	250
3.4-Dihydro-2-methoxypyrane	262
1.2-Dihydroxyethane	201
α-Diisobutylene	412
Dimazine	160
Dimethoxy dipropylene glycol	171
1.2-Dimethoxyethane	144
Dimethoxy formic acid anhydride	153
Dimethoxymethane	145
2.2-Dimethoxypropane	146
Dimethyl	181
N.N-Dimethyl acetamide	147
1.1-Dimethyl acetone	298
Dimethylacetone	140
Dimethyl acetylene	74
Dimethylamine	148
Dimethylamino cyclohexane	154
2-Dimethylaminoethanol	149
1-Dimethyl aminopropane	164
1-Dimethylaminopropan-2-ol	163
Dimethylaminopropylamine	150
1.2-Dimethylbenzene	427
1.3-Dimethylbenzene	426
1.4-Dimethylbenzene	428
2.2-Dimethylbutane	151
2.3-Dimethylbutane	152
Dimethylcarbinol	340
Dimethyl carbitol	137
Dimethyl carbonate	153
N.N-Dimethyl cyclohexyl amine	154
N.N-Dimethyl-1.3-diaminopropane	150
Dimethyl diglycol	137
Dimethyl dimethoxy methane	146
Dimethyl disulfide	155
Dimethylenediamine	200
Dimethylene oxide	203
N.N-Dimethylethanamine	157
1.1-Dimethylethane	40
1.1-Dimethyl ethanethiol	72
1.1-Dimethylethanol	45

Substance	No.
N.N-Dimethylethanolamine	149
Dimethylether	156
Dimethyl ethinyl carbinol	277
Bis(1.1-dimethylethyl)peroxide	114
1.1-Dimethylethylamine	62
Dimethylethylamine	157
1.1-Dimethylethyl arsine	64
Dimethyl ethyl carbinol	22
1.1-Dimethylethylene	49
1.2-Dimethylethylene	48
Dimethylformamide	158
N.N-Dimethylformamide	158
Dimethylglycol	144
3.4-Dimethyl hexane	159
1.1-Dimethylhydrazine	160
N.N-Dimethylhydrazine	160
unsym-Dimethylhydrazine	160
N.N-Dimethyl-2-hydroxyethylamine	149
Dimethyl ketone	3
N.N-Dimethyl methanamide	147
N.N-Dimethylmethanamide	158
N.N-Dimethylmethanamine	406
Dimethyl methane	339
Dimethylnitromethane	310
2.4-Dimethyl-3-oxa-2.4-disilapentane	382
Dimethyl oxide	156
2.3-Dimethylpentane	161
N.N-Dimethyl-1-propanamine	165
N.N-Dimethyl-1.3-propandiamine	150
2.2-Dimethyl propane	162
N.N-Dimethyl-1-propane amine	164
N.N-Dimethyl-i-propanolamine	163
Dimethylpropylamine	165
N.N-Dimethyl-i-propylamine	164
N.N-Dimethyl-n-propyl amine	165
Dimethylpropylmethane	293
1.1-Dimethyl propylmethyl ether	27
Dimethyl sulfide	166
Dioform cis	119
Dioform trans	120
1.4-Dioxa cyclohexane	167
1.3-Dioxa cyclopentane	168
2.5-Dioxahexane	144
1.4-Dioxane	167
p-Dioxane	167
1.3-Dioxolane	168
DIPA	169
Diplogen	109
Di-i-propyl	152
Di-i-propylamine	169
Di-n-propylamine	170

Substance	No.
Dipropylamine	170
Dipropylene glycol dimethyl ether	171
Dipropylene glycol methyl ether	265
Dipropylene glycol monomethyl ether	265
Di-i-propyl ether	172
Di-n-propyl ether	173
Dipropyl ether	173
N.N-Dipropyl-1-propanamine	415
Disilane	174
2.3-Dithiabutane	155
Divinyl	38
Divinyl benzene	175
Divinylene oxide	218
Divinylether	176
Divinyloxide	176
DMA	148
DMAC	147
DMAPA	150
DMC	153
DMCHA	154
DMDS	155
DME	156
DMEA	157
DMF	158
DMIPA	164
DMK	3
DMPA	165
DMS	166
i-Dodecane	327
n-Dodecane	177
DPDME	171
DPGME	265
DS	174
DTBP	114
DVB	175
DVE	176
ECH	179
EDA	200
EDC	117
EGBE	51
EGDME	144
EGEE	184
EGEEA	185
EGiPE	347
EGME	263
EGnPE	346
EMA	209
EMC	281
Enflurane	178
EO	203
Epichlorohydrin	179

Search Index for Name/Abbreviation

Substance	No.
Formal	145
Formal	145
Formaldehyde	216
Formaldehyde dimethylacetal	145
Formaldehyde ethylene acetal	168
Formic acid	217
Formic acid butyl ester	70
Formic acid dimethylamide	158
Formic acid ethyl ester	204
Formic acid methyl ester	287
Formic acid propylester	358
Formic acid-o-triethyl ester	397
Formic acid-o-trimethyl ester	403
Formonitrile	246
4-Formyl-1-cyclohexene	377
N-Formyldimethylamine	158
2-Furaldehyde	219
Furan	218
2-Furancarbinol	220
2-Furancarboxyaldehyde	219
2-Furan methanol	220
Furfural	219
Furfur alcohol	220
Furfuraldehyde	219
Furfuran	218
Furfuryl alcohol	220
2-Furylmethanal	219
Germane	221
Germanium hydride	221
Germanium tetrachloride	222
Germanium tetrafluoride	223
Germanium tetrahydride	221
Germanomethane	221
Glyceryl trichlorohydrin	395
Glycol	201
Glycol chlorohydrin	89
Glycol dimethylether	144
Glycol monomethyl ether	263
HF-A	247
Halon 10001	289
Halon 2311	224
Halothane	224
HCFC 141b	121
HCFC 142b	87
HCFC 22	88
Heavy Hydrogen	109
Hendecane	417
1.1.1.2.3.3.3-Heptafluoropropane	225
2H-Heptafluoropropane	225
Heptafluoropropane	225
1.1.1.3.5.5.5-Heptamethyltrisiloxane	226
Heptamethyl trisiloxane	226
i-Heptane	161
n-Heptane	227
1-Heptanol	228
Heptan-1-ol	228
2-Heptanone	229
Heptan-2-one	229
1-Hepten	230
Hept-1-ene	230
Heptyl alcohol	228
1-Heptylene	230
Hexafluoro-2-(fluoromethoxy)propane	364
Hexafluoro-1.3-butadiene	231
Hexafluoroethane	232
Hexahydroaniline	101
Hexahydrobenzene	96
Hexahydro-N.N-dimethyl aniline	154
Hexahydrophenol	97
Hexahydropyridine	338
Hexahydrotoluene	280
Hexalin	97
Hexamethyldisilazane	233
Hexamethyldisiloxane	234
Hexamethylene	96
1-Hexanamine	241
Hexanaphthene	96
Hexanaphthylene	99
i-Hexane	293
i-Hexane	294
n-Hexane	235
1-Hexanol	236
Hexan-1-ol	236
2-Hexanone	237
3-Hexanone	238
Hexan-2-one	237
Hexan-3-one	238
Hexanone	98
Hex-2-en	240
1-Hexene	239
2-Hexene	240
Hex-1-ene	239
Hexone	276
Hexyl alcohol	236
n-Hexylamine	241
Hexylene	239
Hexyl hydride	235
HFC-1234ze	376
HFC 365mfc	324
HFO-1234yf	375
HFO-1234ze	376
HMDS	233
HMDSO	234
Hydralin	97
Hydrazine	242
Hydrobromic acid	244
Hydrochloric acid	245
Hydrocyanic acid	246
Hydrofluoric acid	247
Hydrogen	243
Hydrogen arsenide	31
Hydrogen bromide	244
Hydrogen carboxylic acid	217
Hydrogen chloride	245
Hydrogen cyanide	246
Hydrogen dioxide	249
Hydrogen fluoride	247
Hydrogen iodide	248
Hydrogen nitrate	305
Hydrogen peroxide	249
Hydrogen phosphide	334
Hydrogen selenide	250
Hydrogen sulfide	251
Hydroiodic acid anhydrous	248
Hydroperoxide	249
Hydrosulfuric acid	251
2-Hydroxybutane	42
Hydroxycyclohexane	97
2-Hydroxyethanol	201
2-Hydroxyethylamine	183
Propanoic acid 2-hydroxy ethylester	207
1-Hydroxyheptane	228
1-Hydroxyhexane	236
4-Hydroxy-2-keto-4-methylpentane	110
2-Hydroxymethylfuran	220
4-Hydroxy-4-methyl-2-pentanone	110
3-Hydroxypropene	12
Hydroxypropionic acid ethyl ester	207
2-Hydroxy triethylamine	138
IBA	43
i-Butyric acid i-butylester	65
iC12	327
iC4=	49
Iodomethane	289
IPA	340
IPC	353
iPM	359
Isoamyl acetate	18
Isoamyl alcohol	20
Isoamylchloride	24
Isoamyl formate	26
Isoamyl hydride	328
Isoamyl methyl ketone	271

Search Index for Name/Abbreviation

Substance	No.
2-Methylbutan-2-ol	22
3-Methylbutan-1-ol	20
3-Methyl-2-butanone	298
Methyl-i-butenyl ketone	256
3-Methyl butyl acetate	18
2-Methyl butylacrylate	73
2-Methyl butyl alcohol	274
Methyl-i-butylene ketone	256
Methyl-tert-butyl ether	275
3-Methyl-1-butylformate	26
Methyl butyl ketone	237
Methyl-i-butylketone	276
2-Methyl-3-butyn-2-ol	277
3-Methyl butynol	277
3-Methylbutyric acid	273
Methylcarbinol	182
Methyl cellosolve	263
Methyl chloride	278
Methyl chlorocarbonate	279
Methyl chloroform	391
Methyl chloroformate	279
Methyl chloromethanoate	279
Methylchloromethyl ether	90
Methyl cyanide	4
Methylcyclohexane	280
2(4-Methylcyclohex-3-ene-1-yl)propan-2-ol	370
Methyl diethoxy silane	132
Methyl dipropylene glycol	265
Methylene acetone	424
Methylene chloride	122
Methylene dichloride	122
Methylene fluoride	143
Methylene glycol dimethyl ether	145
Methylene oxide	216
4.7-Methylentetrahydro indene	130
Methyl ethanoate	267
Methylethene	355
(1-Methyl ethenyl)benzene	303
Methyl ether	156
2-Methyl-2-ethoxy propane	193
Methyl ethyl carbinol	42
Methyl ethyl carbonate	281
Methylethylene	355
Methyl ethylene oxide	357
Acetic acid 1-methylethyl ester	348
Nitric acid 1-methylethylester	361
Methylethyl ether	282
2-Methyl-4-ethylhexane	283
Methyl ethyl ketone	284
Methylethylmethane	41
1-Methylethyl-2-propanamine	169

Substance	No.
Methylethyl sulfide	285
Methylfluoride	286
Methylfluoroform	399
Methyl formate	287
Methyl glycol	263
2-Methyl-5-hexanone	271
5-Methyl-2-hexanone	271
Methyl hydrazine	288
Methyl hydride	258
Methylhydrogen diethoxy silane	132
Methyl iodide	289
1-Methyl-4-isopropenyl-1-cyclohexene	255
1-Methyl-4-isopropyl-1-cyclohexene-8-ol	370
Methyl mercaptan	290
Methyl methacrylate	291
N-Methylmethanamine	148
Methylmethane	181
Methyl methanoate	287
2-Methyl-2-methoxy propane	275
Methyl-2-methyl-2-propenoate	291
4-Methyl morpholine	292
N-Methyl morpholine	292
4-Methyl-3-oxa-1-pentanol	347
Methyloxirane	357
Methyl oxitol	263
2-Methyl pentane	293
3-Methyl pentane	294
2-Methyl-2-pentanol-4-one	110
4-Methyl-2-pentanone	276
4-Methylpent-3-en-2-on	256
4-Methyl-3-penten-2-one	256
Methyl-tert-pentylether	27
Methyl pentyl ketone	229
Methyl phenyl ether	29
1-Methyl-1-phenylethylene	303
2-Methyl propanal	75
2-Methylpropane	40
2-Methyl-1-propane amine	59
2-Methyl-2-propane amine	62
2-Methyl-2-propanethiol	72
2-Methylpropane-2-thiol	72
Methylpropanoate	295
1-Methyl propanol	42
2-Methyl-1-propanol	43
2-Methyl-2-propanol	45
Methyl propanone	284
2-Methylpropene	49
Methyl propenoate	268
2-Methyl-2-propenoic acid	257
2-Methyl-2-propenoic acid butylester	73
2-Methyl-2-propenoic acid ethylester	209

Substance	No.
2-Methyl-2-propenoic acid methyl ester	291
Methylpropionate	295
1-Methylpropyl acetate	53
2-Methylpropyl acetate	54
2-Methyl propyl acrylate	57
1-Methyl propylamine	61
2-Methylpropyl amine	59
2-Methyl-i-propyl arsine	64
2-Methylpropyl-i-butyrate	65
2-Methylpropyl chloride	66
1-Methyl propylene glycol-2	264
Methyl-n-propylether	296
Methylpropylether	296
2-Methylpropyl formate	69
Methyl propyl ketone	297
Methyl-i-propyl ketone	298
2-Methylpyridine	299
3-Methylpyridine	300
1-Methyl-2-pyrrolidinone	301
1-Methyl-2-pyrrolidone	301
N-Methyl-2-pyrrolidone	301
N-Methylpyrrolidone	301
Methylsilane	302
2-Methyl-2-silapropane	413
a-Methyl styrene	303
Methyl sulfhydrate	290
Methylthioethane	285
Methyl thiomethane	166
1-Methylvinyl acetate	343
Methylvinyl ether	423
Methylvinylketone	424
MFB	215
MiAK	271
MiBK	276
MIPK	298
MMA	291
MMH	288
MMS	302
MO	256
MOB	29
Monoamylamine	23
Monobromoethane	192
Monobromomethane	272
Monobutylamine	60
Monobutyl glycol ether	51
Monochloroacetaldehyde	83
Monochlorobenzene	84
Monochloroethane	194
Monochloromethane	278
Monoethylamine	190
Monoethyl glycol ether	184

Search Index for Name/Abbreviation

Substance	No.
Phosphorus oxytrichloride	335
Phosphorus trichloride	336
Phosphorus trihydride	334
Phosphoryl chloride	335
2-Picoline	299
3-Picoline	300
Picoline	299
m-Picoline	300
o-Picoline	299
Pimelic ketone	98
α-Pinene	337
PIP	338
Piperidine	338
PO	357
POCL	335
Propanal	344
1-Propanamine	351
2-Propanamine	350
Propane	339
1.2-Propanediamine	356
1.2-Propanediol-1-monomethyl ether	264
1-Propanethiol	360
2-Propanethiol	359
Propanoic acid	345
Propanoic acid ethylester	211
Propanoic acid methylester	295
1-Propanol	341
2-Propanol	340
i-Propanol	340
n-Propanol	341
2-Propanon	3
Propan-2-one	3
Propargyl alcohol	342
2-Propenal	8
Propene	355
2-Propene-1-amine	13
2-Propenenitrile	10
1.2-Propene oxide	357
Propenoic acid	9
Propenoic acid butyl ester	58
2-Propenoic acid ethyl ester	189
2-Propenoic acid-2-ethylhexyl ester	206
2-Propenoic acid-2-methylpropyl ester	57
2-Propen-1-ol	12
1-Propen-2-ol acetate	343
Propenyl acetate	11
i-Propenyl acetate	343
Propenyl alcohol	12
2-Propenylamine	13
i-Propenyl benzene	303
i-Propenyl chloride	91

Substance	No.
Acetic acid i-propenyl ester	343
2-Propenyl methanoate	11
Propionaldehyde	344
Propionic acid	345
Propionic acid ethylester	211
Propionic aldehyde	344
2-Propoxyethanol	346
i-Propoxyethanol	347
1-Propoxypropane	173
2-Propyl acetate	348
i-Propyl acetate	348
n-Propyl acetate	349
i-Propyl acetone	276
i-Propyl alcohol	340
n-Propyl alcohol	341
Propyl aldehyde	344
1-Propylamine	351
2-Propyl amine	350
i-Propyl amine	350
n-Propylamine	351
i-Propyl benzene	94
n-Propylbenzene	352
Propyl carbinol	44
i-Propyl carbinol	43
n-Propylcarbinyl chloride	67
Propyl cellosolve	346
i-Propyl chloride	353
n-Propylchloride	354
Propylene	355
Propylene aldehyde	46
Propylene bromide	14
Propylenechloride	15
1.2-Propylenediamine	356
1.2-Propylene dichloride	123
Propylene glycol methylether acetate	266
Propylene glycol monobutylether	52
Propylene glycol monoethyl ether	186
Propylene glycol monomethyl ether	264
Propylene oxide	357
2-Propylenglycol-1-ethylether	186
Acetic acid i-propyl ester	348
Nitric acid i-propylester	361
Ethylene glycol i-propyl ether	347
Propylethylene	331
Propylethylether	212
n-Propylformate	358
Propylglycol	346
i-Propyl glycol	347
i-Propylidene acetone	256
1-Propyl mercaptan	360
2-Propyl mercaptan	359

Substance	No.
i-Propyl mercaptan	359
n-Propyl mercaptan	360
Propyl methyl ketone	297
i-Propyl methylketone	298
i-Propyl nitrate	361
N-Propyl-1-propane amine	170
1-Propyne	362
Propyne	362
2-Propyn-1-ol	342
2-Propynyl alcohol	342
Prussic acid	246
Pseudocumene	407
Pyridine	363
R 10	79
R 1130	120
R 1130a	118
R 114	127
R 1140	420
R 1141	422
R 1150	199
R 116	232
R 123	128
R 1234ze	376
R 123B1	224
R 125	325
R 1270	355
R 134a	373
R 140a	391
R 141b	121
R 142b	87
R 143a	399
R 150	117
R 150a	116
R 152a	142
R 160	194
R 170	181
R 20	393
R 22	88
R 227ea	225
R 23	400
R 245fa	326
R 270	123
R 280	354
R 290	339
R 30	122
R 32	143
R 365	324
R 40	278
R 40B1	272
R 41	286
R 50	258

Search Index for Name/Abbreviation

Substance	No.
Triethylamine	398
Triethyl orthoformate	397
Trifluoro amine	309
Trifluoro ammonia	309
Trifluoroanisene	401
1.1.1-Trifluoroethane	399
Trifluoro methane	400
Trifluoro methoxy benzene	401
Trifluoromethylanilin	402
Trifluoromethyl benzene amine	402
1.1.1-Trimethoxyethane	405
Trimethoxyethane	405
Trimethoxymethane	403
Trimethoxysilane	404
Trimethoxy silylethene	425
Trimethoxy silylhydride	404
Trimethoxy vinylsilane	425
Trimethyl-o-acetate	405
Trimethylamine	406
1.2.4-Trimethylbenzene	407
1.3.5-Trimethylbenzene	408
2.6.6-Trimethylbicyclo(3.1.1)hept-2-ene	337
Trimethyl borane	409
Trimethyl carbinol	45
Trimethylchloromethane	68

Substance	No.
Trimethylene	104
2.2.4-Trimethyl hexane	410
Trimethylmethane	40
Trimethyl orthoacetate	405
Trimethyl orthoformate	403
2.2.4-Trimethylpentane	411
2.4.4-Trimethyl-1-pentene	412
1.2.3-Trimethylpropane	294
Trimethyl silane	413
2.4.6-Trimethyl-1.3.5-trioxane	323
1.3.5-Trioxacyclohexane	414
1.3.5-Trioxane	414
Trioxymethylene	414
Tri-n-propylamine	415
Tripropyl amine	415
Tungsten hexafluoride	416
UDMH	160
n-Undecane	417
i-Valeric acid	273
Valerone	312
VAM	418
VCM	420
VF	422
Vinyl acetate	418
Vinylacetylene	419

Substance	No.
Vinyl benzene	368
Vinyl carbinol	12
Vinyl chloride	420
Vinyl cyanide	10
4-Vinyl cyclohexene	421
2-Vinylethan-1-ol	50
Vinylether	176
Vinyl ethyl alcohol	50
Vinylethylene	38
Vinylethylene oxide	39
Vinyl ethyl ether	213
Vinyl fluoride	422
Vinylidene chloride	118
Vinylmethyl ether	423
Vinylmethylketone	424
Vinylstyrene	175
Vinyltrimethoxysilane	425
VME	423
VTMOS	425
m-Xylene	426
o-Xylene	427

Search Index for Sum formula

Sum formula	No.
BBr3	34
BCl3	35
Br2	36
CCl2O	333
CCl3NO2	394
CCl4	79
CHClF2	88
CHCl3	393
CHF3	400
CHN	246
CH2Cl2	122
CH2F2	143
CH2O	216
CH2O2	217
CH3Br	272
CH3Cl	278
CH3F	286
CH3I	289
CH4	258
CH4O	259
CH4S	290
CH5N	270
CH6N2	288
CH6Si	302
CO	78
CO2	77
C2Cl2F4	127
C2Cl4	371
C2F4	374
C2F6	232
C2HBrClF3	224
C2HCl2F3	128
C2HCl3	392
C2HF5	325
C2H2	7
C2H2Cl2	120
C2H2Cl2	119
C2H2Cl2	118
C2H2F4	373
C2H3Cl	420
C2H3ClF2	87
C2H3ClO	83
C2H3ClO	6
C2H3ClO2	279
C2H3Cl2F	121
C2H3Cl3	391
C2H3F	422
C2H3F3	399
C2H3N	4
C2H4	199
C2H4Cl2	117
C2H4Cl2	116
C2H4F2	142
C2H4O	1
C2H4O	203
C2H4O2	287
C2H4O2	2
C2H4O3	332
C2H5Br	192
C2H5Cl	194
C2H5ClO	89
C2H5ClO	90
C2H5N	202
C2H6	181
C2H6O	156
C2H6O	182
C2H6O2	201
C2H6S	208
C2H6S	166
C2H6S2	155
C2H7N	148
C2H7N	190
C2H7NO	183
C2H8N2	200
C2H8N2	160
C3HF7	225
C3H2ClF5O	252
C3H2ClF5O	178
C3H2F4	375
C3H2F4	376
C3H2F6O	108
C3H3F5	326
C3H3N	10
C3H4	362
C3H4Cl2	125
C3H4O	8
C3H4O	342
C3H4O2	9
C3H5Br	14
C3H5Cl	91
C3H5Cl	15
C3H5ClO	179
C3H5ClO2	195
C3H5Cl3	395
C3H6	355
C3H6	104
C3H6Cl2	123
C3H6Cl2O	124
C3H6O	423
C3H6O	357
C3H6O	3
C3H6O	344
C3H6O	12
C3H6O2	204
C3H6O2	345
C3H6O2	267
C3H6O2	168
C3H6O3	414
C3H6O3	153
C3H7Cl	353
C3H7Cl	354
C3H7N	13
C3H7NO	158
C3H7NO2	310
C3H7NO3	361
C3H8	339
C3H8O	340
C3H8O	341
C3H8O	282
C3H8O2	145
C3H8O2	263
C3H8S	359
C3H8S	360
C3H8S	285
C3H9B	409
C3H9N	351
C3H9N	350
C3H9N	406
C3H10N2	356
C3H10O3Si	404
C3H10Si	413
C4F6	231
C4F8	315
C4H3F7O	364
C4H4	419
C4H4O	218
C4H5F5	324
C4H6	74
C4H6	38
C4H6	37
C4H6O	424
C4H6O	39
C4H6O	46
C4H6O	176
C4H6O2	418
C4H6O2	257
C4H6O2	268
C4H7Cl	269
C4H7Cl	86
C4H7ClO	85
C4H8	95
C4H8	49
C4H8	47
C4H8	48
C4H8O	75
C4H8O	284
C4H8O	180
C4H8O	378
C4H8O	50
C4H8O	213
C4H8O	76
C4H8O2	358
C4H8O2	167
C4H8O2	295
C4H8O2	188
C4H8O3	281
C4H8S	380
C4H9Cl	66
C4H9Cl	67
C4H9Cl	68
C4H9NO	147
C4H9NO	304
C4H10	40
C4H10	41
C4H10O	44
C4H10O	139
C4H10O	296
C4H10O	42
C4H10O	43
C4H10O	45
C4H10O2	184
C4H10O2	144
C4H10O2	264
C4H10O3	403
C4H10S	71
C4H10S	72
C4H10S	141
C4H11As	64
C4H11N	61
C4H11N	60
C4H11N	59
C4H11N	133
C4H11N	62
C4H11N	157
C4H11NO	149
C4H12Si	385
C4H14OSi2	382
C5F8	316
C5H4O2	219
C5H5N	363
C5H6O2	220
C5H8	253
C5H8O	277
C5H8O	103
C5H8O2	291
C5H8O2	11
C5H8O2	189
C5H8O2	343
C5H8O2	5
C5H9NO	301
C5H10	102
C5H10	331
C5H10O	297
C5H10O	298
C5H10O	140
C5H10O2	69
C5H10O2	273
C5H10O2	348
C5H10O2	70
C5H10O2	349
C5H10O2	211
C5H10O3	207
C5H10O3	135
C5H11Cl	25
C5H11Cl	24
C5H11N	338
C5H11NO	292
C5H12	329
C5H12	162
C5H12	328
C5H12O	212
C5H12O	274
C5H12O	275
C5H12O	330
C5H12O	22
C5H12O	20
C5H12O	21
C5H12O2	260
C5H12O2	346
C5H12O2	146
C5H12O2	186
C5H12O2	347
C5H12O3	405
C5H12O3Si	425
C5H13N	164
C5H13N	23
C5H13N	165
C5H13NO	163
C5H14N2	150
C5H14O2Si	132
C6H4Cl2	115
C6H5Cl	84
C6H5F	215
C6H5NO2	306
C6H6	32

Sum formula	No.
C6H7F3O2	187
C6H7N	299
C6H7N	300
C6H7N	28
C6H10	99
C6H10O	256
C6H10O	98
C6H10O	100
C6H10O2	16
C6H10O2	262
C6H10O2	209
C6H12	239
C6H12	240
C6H12	96
C6H12	196
C6H12O	238
C6H12O	237
C6H12O	97
C6H12O	276
C6H12O2	54
C6H12O2	55
C6H12O2	56
C6H12O2	26
C6H12O2	110
C6H12O2	53
C6H12O3	266
C6H12O3	323
C6H12O3	185
C6H13N	101
C6H14	293
C6H14	151
C6H14	152
C6H14	294
C6H14	235
C6H14O	236

Sum formula	No.
C6H14O	27
C6H14O	193
C6H14O	172
C6H14O	173
C6H14O2	131
C6H14O2	51
C6H14O3	137
C6H15N	398
C6H15N	241
C6H15N	170
C6H15N	169
C6H15NO	138
C6H16N2	383
C6H18OSi2	234
C6H19NSi2	233
C7H5F3O	401
C7H6F3N	402
C7H7Cl	33
C7H7Cl	93
C7H8	313
C7H8	389
C7H8O	29
C7H10O	377
C7H12O2	58
C7H12O2	57
C7H12O2	261
C7H14	280
C7H14	198
C7H14	230
C7H14O	229
C7H14O	271
C7H14O2	19
C7H14O2	18
C7H15N	210
C7H16	161

Sum formula	No.
C7H16	227
C7H16O	228
C7H16O2	52
C7H16O3	265
C7H16O3	397
C7H22O2Si3	226
C8H8	368
C8H10	426
C8H10	428
C8H10	427
C8H10	191
C8H12	421
C8H14	314
C8H14O2	73
C8H16	197
C8H16	320
C8H16	412
C8H16O	205
C8H16O2	65
C8H17N	154
C8H18	411
C8H18	159
C8H18	319
C8H18O	113
C8H18O2	114
C8H18O3	171
C8H18O3	136
C8H19N	112
C8H20O4Si	372
C8H20Pb	254
C8H22N2Si	63
C8H24N4Ti	381
C8H24O2Si3	318
C8H24O4Si4	317
C9H10	303

Sum formula	No.
C9H12	408
C9H12	407
C9H12	352
C9H12	94
C9H18O	312
C9H20	410
C9H20	384
C9H20	311
C9H20	283
C9H21N	415
C10H10	175
C10H12	130
C10H12	379
C10H14	134
C10H16	255
C10H16	337
C10H18	105
C10H18O	370
C10H20	107
C10H22	106
C11H20O2	206
C11H24	417
C12H22	129
C12H26	327
C12H26	177
C12H27N	390
ClF3	82
ClO2	81
Cl2	80
Cl2OS	386
Cl3OP	335
Cl3P	336
Cl4Ge	222
Cl4Si	366
Cl4Sn	387

Sum formula	No.
Cl4Ti	388
Cl5Sb	30
D2	109
F2	214
F3N	309
F4Ge	223
F4Si	367
F6W	416
HBr	244
HCl	245
HClO3S	92
HCl3Si	396
HF	247
HI	248
HNO3	305
H2	243
H2Cl2Si	126
H2O2	249
H2S	251
H2Se	250
H3As	31
H3N	17
H3P	334
H4Ge	221
H4N2	242
H4Si	365
H6B2	111
H6Si2	174
NO	308
NO2	307
O2	321
O2S	369
O3	322

Search Index for CAS-Number

CAS-No.	No.
50-00-0	216
56-23-5	79
57-14-7	160
60-29-7	139
60-34-4	288
62-53-3	28
64-17-5	182
64-18-6	217
64-19-7	2
67-56-1	259
67-63-0	340
67-64-1	3
67-66-3	393
68-12-2	158
71-23-8	341
71-36-3	44
71-41-0	21
71-43-2	32
71-55-6	391
74-82-8	258
74-83-9	272
74-84-0	181
74-85-1	199
74-86-2	7
74-87-3	278
74-88-4	289
74-89-5	270
74-90-8	246
74-93-1	290
74-96-4	192
74-98-6	339
74-99-7	362
75-00-3	194
75-01-4	420
75-02-5	422
75-04-7	190
75-05-8	4
75-07-0	1
75-08-1	208
75-09-2	122
75-10-5	143
75-18-3	166
75-19-4	104
75-21-8	203
75-28-5	40
75-29-6	353
75-31-0	350
75-33-2	359
75-34-3	116
75-35-4	118
75-36-5	6
75-37-6	142
75-44-5	333
75-45-6	88
75-46-7	400
75-50-3	406
75-56-9	357
75-64-9	62
75-65-0	45
75-66-1	72
75-68-3	87
75-76-3	385
75-83-2	151
75-85-4	22
76-06-2	394
76-14-2	127
76-16-4	232
77-73-6	130
77-76-9	146
78-00-2	254
78-10-4	372
78-78-4	328
78-79-5	253
78-81-9	59
78-83-1	43
78-84-2	75
78-87-5	123
78-90-0	356
78-92-2	42
78-93-3	284
78-94-4	424
79-01-6	392
79-09-4	345
79-10-7	9
79-20-9	267
79-21-0	332
79-22-1	279
79-29-8	152
79-41-4	257
79-46-9	310
80-56-8	337
80-62-6	291
92-51-3	129
95-47-6	427
95-49-8	93
95-50-1	115
95-63-6	407
96-14-0	294
96-18-4	395
96-22-0	140
96-23-1	124
96-33-3	268
97-63-2	209
97-64-3	207
97-85-8	65
97-88-1	73
98-00-0	220
98-01-1	219
98-16-8	402
98-82-8	94
98-83-9	303
98-94-2	154
98-95-3	306
100-37-8	138
100-40-3	421
100-41-4	191
100-42-5	368
100-44-7	33
100-50-5	377
100-66-3	29
102-69-2	415
102-82-9	390
103-11-7	206
103-65-1	352
105-37-3	211
105-46-4	53
105-57-7	131
105-58-8	135
106-42-3	428
106-63-8	57
106-88-7	180
106-89-8	179
106-92-3	16
106-95-6	14
106-97-8	41
106-98-9	47
106-99-0	38
107-01-7	48
107-02-8	8
107-03-9	360
107-05-1	15
107-06-2	117
107-07-3	89
107-10-8	351
107-11-9	13
107-13-1	10
107-15-3	200
107-18-6	12
107-19-7	342
107-20-0	83
107-21-1	201
107-25-5	423
107-30-2	90
107-31-3	287
107-39-1	412
107-46-0	234
107-51-7	318
107-83-5	293
107-84-6	24
107-87-9	297
107-98-2	264
108-01-0	149
108-05-4	418
108-10-1	276
108-16-7	163
108-18-9	169
108-20-3	172
108-21-4	348
108-22-5	343
108-38-3	426
108-65-6	266
108-67-8	408
108-87-2	280
108-88-3	389
108-90-7	84
108-91-8	101
108-93-0	97
108-94-1	98
108-99-6	300
109-02-4	292
109-06-8	299
109-55-7	150
109-59-1	347
109-60-4	349
109-66-0	329
109-67-1	331
109-69-3	67
109-73-9	60
109-79-5	71
109-86-4	263
109-87-5	145
109-89-7	133
109-92-2	213
109-93-3	176
109-94-4	204
109-99-9	378
110-00-9	218
110-01-0	380
110-05-4	114
110-12-3	271
110-18-9	383
110-19-0	54
110-43-0	229
110-45-2	26
110-54-3	235
110-58-7	23
110-71-4	144
110-74-7	358
110-80-5	184
110-82-7	96
110-83-8	99
110-86-1	363
110-88-3	414
110-89-4	338
110-91-8	304
111-15-9	185
111-26-2	241
111-27-3	236
111-43-3	173
111-65-9	319
111-66-0	320
111-70-6	228
111-76-2	51
111-84-2	311
111-92-2	112
111-96-6	137
112-36-7	136
112-40-3	177
115-07-1	355
115-10-6	156
115-11-7	49
115-19-5	277
115-25-3	315
116-14-3	374
119-64-2	379
120-92-3	103
121-44-8	398
121-46-0	313
122-51-0	397
123-05-7	205
123-38-6	344
123-42-2	110
123-51-3	20
123-54-6	5
123-63-7	323
123-72-8	76
123-73-9	46
123-86-4	55
123-91-1	167
123-92-2	18
124-18-5	106
124-38-9	77
124-40-3	148
127-18-4	371
127-19-5	147

CAS-No.	No.
135-01-3	134
137-32-6	274
140-88-5	189
141-32-2	58
141-43-5	183
141-78-6	188
141-79-7	256
142-82-5	227
142-84-7	170
142-96-1	113
149-73-5	403
151-56-4	202
151-67-7	224
156-59-2	119
156-60-5	120
286-20-4	100
287-23-0	95
287-92-3	102
302-01-2	242
306-83-2	128
352-93-2	141
354-33-6	325
406-58-6	324
420-46-2	399
431-89-0	225
456-55-3	401
460-73-1	326
462-06-6	215
463-82-1	162
493-01-6	105
502-56-7	312
503-17-3	74
503-74-2	273
507-20-0	68
513-36-0	66

CAS-No.	No.
540-54-5	354
540-67-0	282
540-84-1	411
540-88-5	56
541-41-3	195
542-55-2	69
542-75-6	125
543-59-9	25
554-12-1	295
556-67-2	317
557-17-5	296
557-98-2	91
559-40-0	316
563-47-3	269
563-80-4	298
565-59-3	161
583-48-2	159
584-02-1	330
589-38-8	238
590-19-2	37
591-78-6	237
591-87-7	11
591-97-9	86
592-41-6	239
592-43-8	240
592-76-7	230
592-84-7	70
593-53-3	286
593-90-8	409
598-56-1	157
616-38-6	153
623-53-0	281
624-89-5	285
624-92-0	155
627-27-0	50

CAS-No.	No.
628-32-0	212
628-63-7	19
630-08-0	78
637-92-3	193
646-06-0	168
685-63-2	231
689-97-4	419
754-12-1	375
766-09-6	210
811-97-2	373
872-05-9	107
872-50-4	301
926-63-6	165
930-22-3	39
992-94-9	302
993-07-7	413
994-05-8	27
996-35-0	164
999-97-3	233
1120-21-4	417
1321-74-0	175
1333-74-0	243
1445-45-0	405
1569-02-4	186
1590-87-0	174
1634-04-4	275
1640-89-7	198
1645-83-6	376
1678-91-7	197
1712-64-7	361
1717-00-6	121
1873-88-7	226
2031-62-1	132
2487-90-3	404
2517-43-3	260

CAS-No.	No.
2768-02-7	425
2807-30-9	346
3074-75-7	283
3275-24-9	381
3277-26-7	382
3710-30-3	314
4091-39-8	85
4109-96-0	126
4262-43-5	64
4454-05-1	262
4806-61-5	196
5131-66-8	52
5989-27-5	255
7154-79-2	384
7446-09-5	369
7550-45-0	388
7646-78-8	387
7647-01-0	245
7647-18-9	30
7664-39-3	247
7664-41-7	17
7697-37-2	305
7719-09-7	386
7719-12-2	336
7722-84-1	249
7726-95-6	36
7782-39-0	109
7782-41-4	214
7782-44-7	321
7782-50-5	80
7782-65-2	221
7783-06-4	251
7783-07-5	250
7783-54-2	309
7783-58-6	223

CAS-No.	No.
7783-61-1	367
7783-82-6	416
7784-42-1	31
7790-91-2	82
7790-94-5	92
7803-51-2	334
7803-62-5	365
8000-41-7	370
10025-78-2	396
10025-87-3	335
10026-04-7	366
10028-15-6	322
10034-85-2	248
10035-10-6	244
10038-98-9	222
10049-04-4	81
10102-43-9	308
10102-44-0	307
10294-33-4	34
10294-34-5	35
13475-82-6	327
13482-23-0	261
13838-16-9	178
13952-84-6	61
16747-26-5	410
17129-06-5	187
19287-45-7	111
26675-46-7	252
28523-86-6	364
34590-94-8	265
57041-67-5	108
111109-77-4	171
186598-40-3	63

Product overview

TRANSMITTERS WITH ELECTROCHEMICAL SENSORS FOR THE DETECTION OF TOXIC GASES AND OXYGEN

Dräger Polytron 7000
Intrinsically safe universal transmitter for continuous monitoring of toxic gases and oxygen by means of an electrochemical sensor.

ST-3812-2003

Dräger Polytron 7000 with pump
Universal transmitter for continuous monitoring of toxic gases and oxygen with an integrated pump module.

ST-318-2003

Dräger Polytron 7000 with relay
Universal transmitter for continuous monitoring of toxic gases and oxygen with an integrated relay module.

ST-3814-2003

Dräger Polytron 3000 with display
Intrinsically safe low-cost transmitter for continuous monitoring of toxic gases and oxygen.

ST-3811-2003

Dräger Polytron 3000 without display
Intrinsically safe low-cost transmitter for continuous monitoring of toxic gases and oxygen.

ST-3811-2003

Dräger Polytron 8000
Explosion-proof transmitter with electrochemical DrägerSensor for toxic gases and vapours with analogue and digital signal output, display and optional relays.

D-52604-2012

Dräger Polytron 5000
Explosion-proof 4-20-mA-transmitter for toxic gases and vapours with display and electrochemical DrägerSensor.

D-32405-2011

TRANSMITTERS WITH PYROLYSIS MEASURING PRINCIPLE FOR THE DETECTION OF TOXIC GASES AND VAPOURS

Dräger Polytron 7500
Universal fixed gas detector with integrated sampling pump and pyrolysis oven for continuous monitoring of fluorinated and chlorinated gases and NF_3.

ST-3804-2005

TRANSMITTERS WITH IR-SENSORS FOR THE DETECTION OF FLAMMABLE GASES AND VAPOURS

Dräger PIR 7000
Explosion-proof infrared optical transmitter for the detection of flammable gases and vapours offering drift-free optics and SS 316L stainless steel enclosure.

ST-11659-2207

Dräger Polytron IR
Explosion-proof infrared optical transmitter for the detection of flammable gases and vapours, with 4-beam optics and stainless steel enclosure.

ST-3837-2003

Dräger PIR 3000
Explosion-proof infrared optical transmitter for the detection of flammable gases and vapours in standard applications.

ST-7766-2005

Dräger Polytron 8700
Explosion-proof transmitter with Dräger PIR 7000 for flammable gases and vapours. With analogue and digital signal output, display and optional relays.

D-14983-2010

Dräger Polytron 5700
Explosion-proof 4-20-mA-transmitter for flammable gases and vapours with display and Dräger PIR 7000.

D-32409-2011

Dräger Polytron 8310
Explosion-proof transmitter with DrägerSensor IR for flammable gases and vapours. With analogue and digital signal output, display and optional relays.

D-15018-2010

Dräger Polytron 5310
Explosion-proof 4-20-mA-transmitter for flammable gases and vapours with display and DrägerSensor IR.

D-32406-2011

TRANSMITTERS WITH IR-SENSORS FOR THE DETECTION OF TOXIC GASES

Dräger PIR 7200
Explosion-proof infrared optical transmitter for monitoring of carbon dioxide, suitable for industrial environments.

ST-11660-2007

Dräger Polytron 8720
Explosion-proof transmitter with Dräger PIR 7200 for carbon dioxide. With analogue and digital signal output, display and optional relays.

D-46491-2012

Dräger Polytron 5720
Explosion-proof 4-20-mA-transmitter for carbon dioxide with display and Dräger PIR 7200.

D-39564-2011

Product overview

TRANSMITTERS AND SENSING HEADS WITH CATALYTIC BEAD SENSORS

Dräger PEX 3000
Family of low-cost 4-20-mA-transmitters with DrägerSensor Ex PR M DD or LC M, with internal display and control elements.

D-11160-2011

Dräger Polytron SE Ex PR M1 DD
Sensing head with DrägerSensor Ex PR M DD and measuring range 0 to 100 %LEL.

D-13692-2010

Dräger Polytron SE Ex LC M1 DD
Sensing head with DrägerSensor Ex LC M for flammable gases with concentrations lower than 10 %LEL.

ST-5669-2004

Dräger Polytron SE Ex HT M DD
Sensing head with DrägerSensor Ex HT M DD and metal enclosure for ambient temperatures up to 150 °C.

D-13699-2010

Dräger Polytron 8200
Explosion-proof transmitter with DrägerSensor Ex PR NPT DD or Ex LC NPT for flammable gases and vapours. With analogue and digital signal output, display and optional relays.

D-15042-2010

Dräger Polytron 5200
Low-cost explosion-proof 4-20-mA-transmitter for flammable gases with display and DrägerSensor Ex PR NPT DD or Ex LC NPT.

D-32407-2011

ELECTROCHEMICAL, INFRARED-OPTICAL AND CATALYTIC BEAD SENSORS

DrägerSensor (elch)
Electrochemical gas sensor for toxic gases and oxygen, with integrated data memory.

ST-3829-2003

DrägerSensor AC
Electrochemical gas sensor for the leak-detection of corrosive gases.

ST-3806-2003

DrägerSensor IR
Infrared optical sensor with semi-bridge interface and mV-signal for the detection of flammable gases.

ST-7767-2005

DrägerSensor Ex PR M DD
Catalytic bead sensor (pellistor sensor) for the detection of flammable gas concentrations by way of catalytic reaction ranging up to 100 %LEL.

D-1120-2010

DrägerSensor Ex LC M
Catalytic bead sensor with integrated electronics for the detection of flammable gas concentrations ranging up to 10 %LEL.

ST-7770-2005

TRANSMITTERS WITH OPEN PATH FOR THE DETECTION OF SELECTED GASES AND VAPORS

Dräger Polytron Pulsar
Dräger Polytron Pulsar OpenPath system for gas clouds along a line-of-sight of 4 to 200 metres. Robust by stainless steel housing.

ST-981-2001

Dräger Polytron Pulsar 2
Open path system for the detection of gas clouds along a sight line of 4 to 200 meters between receiver and transmitter.

ST-3932-2005

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
1	Acetaldehyde		Ethyl aldehyde	44.1	0.78	21	1006	<-20	4.0	4.0	4.0	155
	CAS 75-07-0	Aald	Ethanal	1.52 r		70°F		<-4°F	(74)	(74)	(74)	IIA
	CH_3CHO	C_2H_4O	Acetic aldehyde	141 v	1 ppm = 1.84 mg/m³				1 mg/m³ = 0.54 ppm			T4
2	Acetic acid		Ethanoic acid	60.1	1.05	118	16	39	6.0	4.0	4.0	485
	CAS 64-19-7		Methanecarboxylic acid	2.07 r		244°F		102°F	(150)	(100)	(100)	IIA
	CH_3COOH	$C_2H_4O_2$	Ethylic acid		1 ppm = 2.50 mg/m³				1 mg/m³ = 0.40 ppm			T1
3	Acetone		Dimethyl ketone	58.1	0.79	56	246	<-20	2.5	2.5	2.5	535
	CAS 67-64-1	DMK	Propan-2-one	2.01 r		133°F		<-4°F	(61)	(61)	(61)	IIA
	CH_3COCH_3	C_3H_6O	2-Propanon	115 v	1 ppm = 2.42 mg/m³				1 mg/m³ = 0.41 ppm			T1
			Ketopropane									
4	Acetonitrile		Methyl cyanide	41.1	0.78	82	94	2	3.0	3.0	3.0	525
	CAS 75-05-8	AN	Ethyl nitrile	1.42 r		180°F		36°F	(51)	(51)	(51)	IIA
	CH_3CN	C_2H_3N	Cyanomethane	99 v	1 ppm = 1.71 mg/m³				1 mg/m³ = 0.58 ppm			T1
			Methanecarbonitrile									
5	Acetyl acetone		2.4-Pentandione	100.1	0.98	140	9	34	1.7	1.7		340
	CAS 123-54-6		Pentane-2.4-dione	3.46 r		284°F		93°F	(71)	(71)		IIA
	$CH_3COCH_2COCH_3$	$C_5H_8O_2$	Diacetylmethane		1 ppm = 4.17 mg/m³				1 mg/m³ = 0.24 ppm			T2
			Aetyl-2-propanone									
6	Acetylchloride		Acetic acid chloride	78.5	1.10	51	309	-4	7.3	5.0	5.0	390
	CAS 75-36-5		Ethanoyl chloride	2.71 r		124°F		25°F	(239)	(164)	(164)	IIA
	CH_3COCl	C_2H_3ClO		223 v	1 ppm = 3.27 mg/m³				1 mg/m³ = 0.31 ppm			T2
7	Acetylene		Ethine	26.0	Gas	-84	Gas	Gas	2.3	2.3	2.5	305
	CAS 74-86-2		Ethyne	0.90 r		-119°F			(25)	(25)	(27)	IIC
	C_2H_2	C_2H_2			1 ppm = 1.08 mg/m³				1 mg/m³ = 0.92 ppm			T2
8	Acrolein		Acrylic aldehyde	56.1	0.84	52	295	<-20	2.8	2.8	2.8	215
	CAS 107-02-8		2-Propenal	1.94 r		126°F		<-4°F	(65)	(65)	(65)	IIB
	CH_2=CHCHO	C_3H_4O	Allyl aldehyde	117 v	1 ppm = 2.34 mg/m³				1 mg/m³ = 0.43 ppm			T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
1	50	200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(92)	(368)	PIR 7000 type 334, P 8700 type 334	40 / 100 %LEL // 16000 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	50 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	25 / 100 %LEL // 10000 ppm Gas-Library	
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	Aald: 50 / 100 / 200 ppm / LDL = 10 ppm	S = 0.3
2	10	10	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	corrosive/sensor poison
	(25)	(25)	PIR 7000 type 334, P 8700 type 334	10 / 25 %LEL	only for concentrations < 25 %LEL
			P 5700 type 334	10 + 20 %LEL	only for concentrations < 25 %LEL
			PIR 7000 type 340, P 8700 type 340	20 + 100 %LEL	
			Polytron 7000 and 8000 AC	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	20 / 100 %LEL	
3	500	1000	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(1210)	(2421)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL // 7500 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	50 / 100 %LEL // 5000 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	35 / 100 %LEL // 8750 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	35 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 0.62 (Propane = 1)
4	20	40	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(34)	(69)			
5	30		P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
	(125)		PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
6			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
7		2500c	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
		(2708)	Polytron 7000 and 8000 OV1	C2H2: 20 / 50 / 100 ppm / LDL = 5 ppm	S = 1.1
8	0.09	0.1	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	polymerizing/sensor poison
	(0.21)	(0.23)	PIR 7000 type 334, P 8700 type 334	55 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	70 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	75 / 100 %LEL	
			P 5700 type 340	100 %LEL	
			Polytron 7000 and 8000 OV1	as MeOH (20 / 50 / 200 ppm)	S = 1.3 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
9	Acrylic acid		Propenoic acid	72.1	1.05	141	4.3	55	2.4	2.4	2.4	395
	CAS 79-10-7		Acroleic acid	2.49 r		286°F		131°F	(72)	(72)	(72)	IIB
	CH_2=CHCOOH	$C_3H_4O_2$	Ethylenecarboxylic acid		1 ppm = 3.00 mg/m³				1 mg/m³ = 0.33 ppm			T2
10	Acrylonitrile		Vinyl cyanide	53.1	0.80	77	117	-5	2.8	2.8	3.0	480
	CAS 107-13-1	ACN	Ethylene cyanide	1.83 r		171°F		23°F	(62)	(62)	(66)	IIB
	CH_2=CHCN	C_3H_3N	2-Propenenitrile	124 v	1 ppm = 2.21 mg/m³				1 mg/m³ = 0.45 ppm			T1
			Cyanoethylene									
11	Allyl acetate		Acetic acid allyl ester	100.1	0.93	103	27	11	1.7	1.7		375
	CAS 591-87-7		Propenyl acetate	3.46 r		217°F		52°F	(71)	(71)		IIA
	CH_3COOCH_2CH=CH_2	$C_5H_8O_2$	2-Propenyl methanoate		1 ppm = 4.17 mg/m³				1 mg/m³ = 0.24 ppm			T2
12	Allyl alcohol		2-Propen-1-ol	58.1	0.85	97	24	21	2.5	2.5	2.5	375
	CAS 107-18-6	AA	Vinyl carbinol	2.01 r		207°F		70°F	(61)	(61)	(61)	IIB
	CH_2=$CHCH_2OH$	C_3H_6O	Propenyl alcohol	107 v	1 ppm = 2.42 mg/m³				1 mg/m³ = 0.41 ppm			T2
			3-Hydroxypropene									
13	Allylamine		3-Aminoprop-1-ene	57.1	0.76	53	262	<-20	2.2		2.2	370
	CAS 107-11-9		2-Propene-1-amine	1.97 r		127°F		<-4°F	(52)		(52)	
	CH_2=$CHCH_2NH_2$	C_3H_7N	1-Amino propylene	103 v	1 ppm = 2.38 mg/m³				1 mg/m³ = 0.42 ppm			T2
			2-Propenylamine									
14	Allyl bromide		3-Bromopropene	121.0	1.40	70	150	-1	4.3		4.4	295
	CAS 106-95-6		Bromoallylene	4.18 r		158°F		30°F	(217)		(222)	IIA
	CH_2=$CHCH_2Br$	C_3H_5Br	Propylene bromide	237 v	1 ppm = 5.04 mg/m³				1 mg/m³ = 0.20 ppm			T3
15	Allyl chloride		3-Chloro-1-propene	76.5	0.94	45	398	<-20	3.2	2.9	2.9	390
	CAS 107-05-1		3-Chloropropylene	2.64 r		113°F		<-4°F	(102)	(92)	(92)	IIA
	CH_2=$CHCH_2Cl$	C_3H_5Cl	Propylenechloride	147 v	1 ppm = 3.19 mg/m³				1 mg/m³ = 0.31 ppm			T2
			Chloroallylene									
16	Allylglycidylether		Allyl-2.3-epoxypropylether	114.1	0.97	154	2.6	45				249
	CAS 106-92-3	AGE	1.2-Epoxy-3-allyloxypropane	3.94 r		309°F		113°F				IIB
	CH_2=$CHCH_2OC_3H_5O$	$C_6H_{10}O_2$	1-Allyloxy-2.3-epoxypropane		1 ppm = 4.75 mg/m³				1 mg/m³ = 0.21 ppm			T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
9	10 (30)	2 (6.0)	P 5200, P 8200, PEX 3000, SE Ex Polytron 7000 and 8000 OV1	10 // 100 %LEL as EO x 10 (20 / 50 / 200 ppm x 10)	polymerizing/sensor poison S = 0.1 (L)
10	1.2 (2.7)	2 (4.4)	P 5200, P 8200, PEX 3000, SE Ex Polytron 7000 and 8000 OV2	10 // 100 %LEL ACN: 20 / 50 / 100 ppm / LDL = 5 ppm	polymerizing/sensor poison S = 0.2
11			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 Polytron 7000 and 8000 OV1	10 // 100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) as EO (20 / 50 / 200 ppm)	 S = 1.0 (L)
12	2 (4.8)	2 (4.8)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron 7000 and 8000 OV1	10 // 100 %LEL 30 / 100 %LEL 50 + 100 %LEL 45 / 100 %LEL 15 / 100 %LEL 20 + 50 + 100 %LEL 100 %LEL (§) 100 %LEL(?) as EO (20 / 50 / 200 ppm)	 S = 1.0 (L)
13			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 Polytron 7000 and 8000 NH3 LC Polytron 7000 and 8000 OV1	100 %LEL 100 %LEL (§) 100 %LEL (§) 20 / 100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) as NH3 x 2 (50 / 100 ppm x 2) as C3H6 (30 / 50 / 100 ppm)	corrosive/sensor poison S = 0.45 (L) S = 0.7 (L)
14			Polytron 7000 and 8000 OV1	as Aald (50 / 100 / 200 ppm)	S = 0.3 (L)
15		1 (3.2)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron 7000 and 8000 OV1	100 %LEL 35 / 100 %LEL // 9600 ppm Gas-Library 50 + 100 %LEL Gas-Library 45 / 100 %LEL // 5800 ppm Gas-Library 45 / 100 %LEL // 12800 ppm Gas-Library 50 + 100 %LEL Gas-Library 100 %LEL (§) 100 %LEL (?) as Aald x 2 (50 / 100 / 200 ppm x 2)	corrosive/sensor poison Performance Approval Performance Approval S = 0.15 (L)
16		5 (24)	Polytron 7000 and 8000 OV1	as Aald (50 / 100 / 200 ppm)	S = 0.4 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
17	Ammonia CAS 7664-41-7 NH_3	H_3N	Anhydrous ammonia R 717	17.0 0.59 r	Gas 1 ppm = 0.71 mg/m³	-33.4 -28°F	Gas	Gas	15.4 (109) 1 mg/m³ = 1.41 ppm	15.0 (106)	15.0 (106)	630 IIA T1
18	i-Amyl acetate CAS 123-92-2 $CH_3COOC_5H_{11}$	$C_7H_{14}O_2$	Isoamyl acetate Acetic acid i-amylester i-Pentyl acetate Isopentyl acetate 3-Methyl butyl acetate	130.2 4.49 r 93 v	0.87 1 ppm = 5.43 mg/m³	142 288°F	5.3	25 77°F	1.0 (54) 1 mg/m³ = 0.18 ppm		1.0 (54)	380 IIA T2
19	n-Amylacetate CAS 628-63-7 $CH_3COOC_5H_{11}$	$C_7H_{14}O_2$	n-Pentyl acetate Acetic acid n-amyl ester Acetic acid pentyl ester Amyl acetic ester	130.2 4.49 r	0.88 1 ppm = 5.43 mg/m³	149 300°F	5.3	41 106°F	1.0 (54) 1 mg/m³ = 0.18 ppm	1.0 (54)	1.1 (60)	350 IIA T2
20	i-Amyl alcohol CAS 123-51-3 $(CH_3)_2CHC_2H_4OH$	$C_5H_{12}O$	3-Methylbutan-1-ol i-Pentanol i-Butyl carbinol Isoamyl alcohol Isopentanol Isobutyl carbinol	88.2 3.04 r	0.81 1 ppm = 3.68 mg/m³	131 268°F	2.7	42 108°F	1.2 (44) 1 mg/m³ = 0.27 ppm	1.3 (48)	1.2 (44)	340 IIA T2
21	n-Amyl alcohol CAS 71-41-0 $C_5H_{11}OH$	$C_5H_{12}O$	n-Pentyl alcohol 1-Pentanol n-Pentanol n-Butyl carbinol	88.2 3.04 r	0.81 1 ppm = 3.68 mg/m³	138 280°F	1.3	43 109°F	1.3 (48) 1 mg/m³ = 0.27 ppm	1.06 (39)	1.2 (44)	320 IIA T2
22	tert-Amyl alcohol CAS 75-85-4 $(CH_3)_2C(OH)C_2H_5$	$C_5H_{12}O$	2-Methylbutan-2-ol Dimethyl ethyl carbinol tert-Pentanol	88.2 3.04 r 82 v	0.81 1 ppm = 3.68 mg/m³	102 216°F	16	19 66°F	1.3 (48) 1 mg/m³ = 0.27 ppm	1.4 (51)	1.2 (44)	435 IIA T2
23	n-Amylamine CAS 110-58-7 $C_5H_{11}NH_2$	$C_5H_{13}N$	1-Aminopentane Monoamylamine 1-Pentane amine	87.2 3.01 r 157 v	0.76 1 ppm = 3.63 mg/m³	104 219°F	31	7 45°F	1.3 (47) 1 mg/m³ = 0.28 ppm		2.2 (80)	 IIA
24	i-Amylchloride CAS 107-84-6 $(CH_3)_2CHC_2H_4Cl$	$C_5H_{11}Cl$	i-Pentylchloride 1-Chloro-3-methylbutane Isoamylchloride Isopentylchloride	106.6 3.68 r 112 v	0.89 1 ppm = 4.44 mg/m³	100 212°F		1 34°F	1.5 (67) 1 mg/m³ = 0.23 ppm		1.5 (67)	240 IIA T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
17	20	50	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(14)	(35)	Polytron 3000 NH3 HC	300 / 1000 ppm	
			Polytron 3000 NH3 LC	100 ppm	
			Polytron 7000 and 8000 NH3 HC	300 / 1000 / 1000 ppm	
			Polytron 7000 and 8000 NH3 LC	NH3: 50 / 100 / 200 ppm / LDL = 5 ppm	
			Polytron 5000 NH3 LC GP	50 / 100 ppm	
			Polytron 5000 NH3 HC GP	300 / 500 ppm	
18	50	100	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
	(271)	(543)	PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
19	50	100	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
	(271)	(543)	PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
20		100	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
		(368)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as EtOH (100 / 200 / 300 ppm)	S = 0.6
21			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as Aald (50 / 100 / 200 ppm)	S = 0.3 (L)
22			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
23			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
24			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
25	n-Amylchloride		Amyl chloride	106.6	0.88	108	32	3	1.4		1.6	255
	CAS 543-59-9		1-Chloropentane	3.68 r		226°F		37°F	(62)		(71)	IIA
	$C_5H_{11}Cl$	$C_5H_{11}Cl$	Pentylchloride	121 v	1 ppm = 4.44 mg/m³				1 mg/m³ = 0.23 ppm			T3
26	i-Amyl formate		Formic acid i-pentylester	116.2	0.88	124	15	22	1.7			320
	CAS 110-45-2		i-Pentyl formate	4.01 r		255°F		72°F	(82)			IIA
	$HCOOC_5H_{11}$	$C_6H_{12}O_2$	3-Methyl-1-butylformate		1 ppm = 4.84 mg/m³				1 mg/m³ = 0.21 ppm			T2
			Isoamyl formate									
			Isopentyl formate									
27	tert-Amyl methyl ether		Methyl-tert-amylether	102.2	0.77	86	76	-18	1.2	1.18		345
	CAS 994-05-8	TAME	2-Methoxy-2-methyl butane	3.53 r		187°F		0°F	(51)	(50)		IIA
	$CH_3OC(CH_3)_2CH_2CH_3$	$C_6H_{14}O$	Methyl-tert-pentylether		1 ppm = 4.26 mg/m³				1 mg/m³ = 0.23 ppm			T2
			tert-Pentyl methyl ether									
			1.1-Dimethyl propylmethyl ether									
28	Aniline		Aminobenzene	93.1	1.02	184	0.7	76	1.2	1.2	1.3	630
	CAS 62-53-3		Benzenamine	3.21 r		363°F		169°F	(47)	(47)	(50)	IIA
	$C_6H_5NH_2$	C_6H_7N	Phenylamine		1 ppm = 3.88 mg/m³				1 mg/m³ = 0.26 ppm			T1
29	Anisole		Methoxybenzene	108.1	0.99	154	3.6	41	1.2			475
	CAS 100-66-3	MOB	Phenyl methyl ether	3.73 r		309°F		106°F	(54)			IIB
	$C_6H_5OCH_3$	C_7H_8O	Methyl phenyl ether		1 ppm = 4.50 mg/m³				1 mg/m³ = 0.22 ppm			T1
			Phenoxy methane									
30	Antimony pentachloride		Antimony-(V)-chloride	299.0	2.33	150	1	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 7647-18-9			10.32 r		302°F						
	$SbCl_5$	Cl_5Sb			1 ppm = 12.46 mg/m³				1 mg/m³ = 0.08 ppm			
31	Arsenic hydride		Hydrogen arsenide	77.9	Gas	-62	Gas	Gas	3.9		5.1	285
	CAS 7784-42-1		Arsine	2.69 r		-80°F			(127)		(166)	
	AsH_3	H_3As	Arsenic trihydride		1 ppm = 3.25 mg/m³				1 mg/m³ = 0.31 ppm			T3
32	Benzene		Phenyl hydride	78.1	0.88	80	100	-11	1.2	1.2	1.2	555
	CAS 71-43-2		Cyclohexatriene	2.70 r		176°F		12°F	(39)	(39)	(39)	IIA
	C_6H_6	C_6H_6		66 v	1 ppm = 3.25 mg/m³				1 mg/m³ = 0.31 ppm			T1
33	Benzyl chloride		Chloro methylbenzene	126.6	1.10	179	1.2	60	1.1	1.1	1.1	585
	CAS 100-44-7		α-Chlorotoluene	4.37 r		354°F		140°F	(58)	(58)	(58)	IIA
	$C_6H_5CH_2Cl$	C_7H_7Cl			1 ppm = 5.28 mg/m³				1 mg/m³ = 0.19 ppm			T1
34	Boron tribromide		Tribromoborane	250.5	2.69	90	72	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 10294-33-4		Boron bromide	8.65 r		194°F						
	BBr_3	BBr_3			1 ppm = 10.44 mg/m³				1 mg/m³ = 0.10 ppm			
35	Boron trichloride		Trichloroborane	117.2	Gas	12.6	Gas	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 10294-34-5		Boron chloride	4.05 r		55°F						
	BCl_3	BCl_3			1 ppm = 4.88 mg/m³				1 mg/m³ = 0.20 ppm			
36	Bromine			159.8	3.12	58.8	220	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 7726-95-6			5.52 r		138°F						
	Br_2	Br_2			1 ppm = 6.66 mg/m³				1 mg/m³ = 0.15 ppm			

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
25			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	corrosive/sensor poison
26			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
27			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
28	2 (7.8)	5 (19)	PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334	100 %LEL (§) 100 %LEL (§) 30 / 100 %LEL	
29			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	30 / 100 %LEL 50 + 100 %LEL 55 / 100 %LEL 25 / 100 %LEL 50 + 100 %LEL 40 / 100 %LEL 100 %LEL	
30			Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm AnPC: 5 / 10 / 20 ppm / LDL = 0.2 ppm	
31	0.005 (0.02)	0.05 (0.16)	Polytron 7000 and 8000 Hydride Polytron 7000 and 8000 Hydride SC Polytron 7000 and 8000 PH3/AsH3	AsH3: 0.3 / 1 / 20 ppm / LDL = 0.03 ppm AsH3: 0.3 / 1 / 1 ppm / LDL = 0.01 ppm AsH3: 0.3 / 1 / 20 ppm / LDL = 0.02 ppm	
32	1 (3.3)	1 (3.3)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 3000, P 5310, P 8310	10 // 100 %LEL 30 / 100 %LEL // 3600 ppm Gas-Library 50 + 100 %LEL Gas-Library 35 / 100 %LEL // 2400 ppm Gas-Library 100 %LEL	SE Ex / PEX 3000: Perf. Approval Performance Approval Performance Approval
33		1 (5.3)	Pyrolyzer Polytron 7500 PFC	50 ppm / LDL = 1 ppm	S = 0.5
34		1c (10)	Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm as BCl3 (5 / 10 / 20 ppm)	
35			Polytron 3000 BCl3 Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	10 ppm BCl3: 3 / 10 / 10 ppm / LDL = 0.5 ppm BCl3: 5 / 10 / 20 ppm / LDL = 0.2 ppm	
36	0.1 (0.67)	0.1 (0.67)	Polytron 7000 and 8000 Cl2	Br2: 1 / 10 / 50 ppm	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
37	1.2-Butadiene CAS 590-19-2 $H_2C=C=CHCH_3$	 C_4H_6	Methylallene	54.1 1.87 r	Gas 1 ppm = 2.25 mg/m³	10.8 51°F	Gas	Gas	1.6 (36) 1 mg/m³ = 0.44 ppm			340 T2
38	1.3-Butadiene CAS 106-99-0 $CH_2=CH-CH=CH_2$	 C4== C_4H_6	Erythrene Vinylethylene Divinyl	54.1 1.87 r	Gas 1 ppm = 2.25 mg/m³	-5 23°F	Gas	Gas	1.4 (32) 1 mg/m³ = 0.44 ppm	1.4 (32)	2.0 (45)	415 IIB T2
39	1.3-Butadiene monoxide CAS 930-22-3 $H_2C=CH-CHCH_2O$	 C_4H_6O	3.4-Epoxybut-1-ene Ethenyl oxirane Vinylethylene oxide	70.1 2.42 r	0.87 1 ppm = 2.92 mg/m³	66 151°F		<-20 <-4°F	0.95* (28) 1 mg/m³ = 0.34 ppm			430 T2
40	i-Butane CAS 75-28-5 $(CH_3)_3CH$	 C_4H_{10}	Isobutane 2-Methylpropane Trimethylmethane 1.1-Dimethylethane R 600a	58.1 2.01 r	Gas 1 ppm = 2.42 mg/m³	-12 10°F	Gas	Gas	1.5 (36) 1 mg/m³ = 0.41 ppm	1.3 (31)	1.8 (44)	460 IIA T1
41	n-Butane CAS 106-97-8 C_4H_{10}	 C_4H_{10}	Methylethylmethane R 600	58.1 2.01 r	Gas 1 ppm = 2.42 mg/m³	-0.5 31°F	Gas	Gas	1.4 (34) 1 mg/m³ = 0.41 ppm	1.4 (34)	1.9 (46)	365 IIA T2
42	2-Butanol CAS 78-92-2 $C_2H_5CH(OH)CH_3$	 SBA $C_4H_{10}O$	sec-Butyl alcohol Butan-2-ol Methyl ethyl carbinol 2-Hydroxybutane 1-Methyl propanol	74.1 2.56 r 97 v	0.81 1 ppm = 3.09 mg/m³	99 210°F	17	23 73°F	1.7 (52) 1 mg/m³ = 0.32 ppm	1.7 (52)	1.7 (52)	390 IIB T2
43	i-Butanol CAS 78-83-1 $(CH_3)_2CHCH_2OH$	 IBA $C_4H_{10}O$	Isobutanol Isobutyl alcohol i-Butyl alcohol 2-Methyl-1-propanol i-Propyl carbinol Isopropyl carbinol	74.1 2.56 r 98 v	0.80 1 ppm = 3.09 mg/m³	108 226°F	12	27 81°F	1.4 (43) 1 mg/m³ = 0.32 ppm	1.4 (43)	1.7 (52)	430 IIA T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
37			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	50 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	25 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	25 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
38	2	1	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(4.5)	(2.3)	PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL // 4900 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	50 / 100 %LEL // 4000 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	BTD: 20 / 50 / 200 ppm / LDL = 5 ppm	S = 1.2
39			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	30 / 100 %LEL	
40	1000		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(2421)		PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 2600 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	50 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 1040 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 0.7 (Propane = 1)
41	1000	800	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(2421)	(1937)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 2800 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	25 / 100 %LEL // 3200 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 700 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	10 / 100 %LEL // 700 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 1.03 (Propane = 1)
42		150	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
		(463)	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
43	100	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(309)	(309)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	55 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
44	n-Butanol CAS 71-36-3 C_4H_9OH	 NBA $C_4H_{10}O$	1-Butanol Butan-1-ol n-Butyl alcohol Propyl carbinol	74.1 2.56 r	0.81 1 ppm = 3.09 mg/m³	118 244°F	7	35 95°F	1.4 (43) 1 mg/m³ = 0.32 ppm	1.4 (43)	1.4 (43)	325 IIB T2
45	tert-Butanol CAS 75-65-0 $(CH_3)_3COH$	 TBA $C_4H_{10}O$	tert-Butyl alcohol 2-Methyl-2-propanol Trimethyl carbinol 1.1-Dimethylethanol	74.1 2.56 r 140 v	0.79 1 ppm = 3.09 mg/m³	83 181°F	41	11 52°F	1.4 (43) 1 mg/m³ = 0.32 ppm		2.4 (74)	470 IIA T1
46	2-Butenal CAS 123-73-9 $CH_3CH=CHCHO$	 C_4H_6O	Crotonaldehyde Crotonic aldehyde Propylene aldehyde	70.1 2.42 r 108 v	0.85 1 ppm = 2.92 mg/m³	102 216°F	24	8 46°F	2.1 (61) 1 mg/m³ = 0.34 ppm	2.1 (61)	2.1 (61)	230 IIB T3
47	1-Butene CAS 106-98-9 $C_2H_5CH=CH_2$	 C4= C_4H_8	1-Butylene But-1-ene Ethylethylene	56.1 1.94 r	Gas 1 ppm = 2.34 mg/m³	-6 21°F	Gas	Gas	1.5 (35) 1 mg/m³ = 0.43 ppm	1.6 (37)	1.6 (37)	360 IIA T2
48	2-Butene CAS 107-01-7 $CH_3CH=CHCH_3$	 C4= C_4H_8	2-Butylene 1.2-Dimethylethylene	56.1 1.94 r	Gas 1 ppm = 2.34 mg/m³	1 34°F	Gas		1.6* (37) 1 mg/m³ = 0.43 ppm			
49	i-Butene CAS 115-11-7 $(CH_3)_2C=CH_2$	 iC4= C_4H_8	Isobutene i-Butylene Isobutylene 2-Methylpropene 1.1-Dimethylethylene	56.1 1.94 r	Gas 1 ppm = 2.34 mg/m³	-7 19°F	Gas	Gas	1.6 (37) 1 mg/m³ = 0.43 ppm	1.6 (37)	1.8 (42)	465 IIA T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
44	100	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(309)	(309)	PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL // 3500 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	40 / 100 %LEL // 2800 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 700 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	as EtOH (100 / 200 / 300 ppm)	S = 0.65
45	20	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(62)	(309)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
46		2	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
		(5.8)	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as C3H6 x 0.5 (30 / 50 / 100 ppm x 0.5)	S = 1.4 (L)
47			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL // 3200 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	25 / 100 %LEL // 3300 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL // 2400 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
48			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
49			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 3200 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL // 2400 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
50	3-Butene-1-ol CAS 627-27-0 $CH_2=CH(CH_2)_2OH$	 C_4H_8O	Allylcarbinol 2-Vinylethan-1-ol Vinyl ethyl alcohol	72.1 2.49 r	0.84 1 ppm = 3.00 mg/m³	112 234°F		32 90°F	2.0 (60) 1 mg/m³ = 0.33 ppm		4.7 (141)	 IIB
51	2-Butoxyethanol CAS 111-76-2 $C_4H_9OC_2H_4OH$	 EGBE $C_6H_{14}O_2$	Ethylene glycol monobutyl ether Monobutyl glycol ether n-Butyl glycol Butyl cellosolve 1-Butoxy-2-hydroxy ethane Butyl oxitol	118.2 4.08 r	0.90 1 ppm = 4.93 mg/m³	171 340°F	1.2	61 142°F	1.1 (54) 1 mg/m³ = 0.20 ppm	1.1 (54)	1.1 (54)	240 IIB T3
52	1-Butoxy-2-propanol CAS 5131-66-8 C_4H_9-O-$CH_2CH(OH)CH_3$	 PGBE $C_7H_{16}O_2$	1-Butoxy propan-2-ol n-Butoxypropanol Propylene glycol monobutylether Solvenon PnB	132.2 4.56 r	0.88 1 ppm = 5.51 mg/m³	170 338°F	1.3	59 138°F	0.9 (50) 1 mg/m³ = 0.18 ppm	1.1 (61)		260 IIB T3
53	2-Butyl acetate CAS 105-46-4 $CH_3COOCH(CH_3)C_2H_5$	 $C_6H_{12}O_2$	sec-Butyl acetate 1-Methylpropyl acetate Acetic acid sec butyl ester	116.2 4.01 r 142 v	0.87 1 ppm = 4.84 mg/m³	112 234°F	25	16 61°F	1.3 (63) 1 mg/m³ = 0.21 ppm	1.3 (63)	1.7 (82)	410 IIA T2
54	i-Butyl acetate CAS 110-19-0 $CH_3COOCH_2CH(CH_3)_2$	 $C_6H_{12}O_2$	Isobutyl acetate 2-Methylpropyl acetate Acetic acid i-butylester Acetic acid-2-methylpropyl ester i-Butyl ethanoate Isobutyl ethanoate	116.2 4.01 r 108 v	0.87 1 ppm = 4.84 mg/m³	118 244°F	20	18 64°F	1.3 (63) 1 mg/m³ = 0.21 ppm		1.3 (63)	420 IIA T2
55	n-Butyl acetate CAS 123-86-4 $CH_3COOC_4H_9$	 BuAc $C_6H_{12}O_2$	Acetic acid butylester n-Butyl ethanoate	116.2 4.01 r 107 v	0.88 1 ppm = 4.84 mg/m³	127 261°F	11	27 81°F	1.2 (58) 1 mg/m³ = 0.21 ppm	1.2 (58)	1.3 (63)	390 IIA T2
56	tert-Butyl acetate CAS 540-88-5 $CH_3COOC(CH_3)_3$	 $C_6H_{12}O_2$	Acetic acid tert-butyl ester tert-Butyl ethanoate Acetic acid-1.1-dimethyl ethylester	116.2 4.01 r 143 v	0.86 1 ppm = 4.84 mg/m³	97 207°F	41	1 34°F	1.3 (63) 1 mg/m³ = 0.21 ppm	1.3 (63)	1.7 (82)	435 IIA T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
50			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
51	20	50	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 2200 ppm Gas-Library	
	(99)	(246)	P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 550 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	5 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	as EtOH (100 / 200 / 300 ppm)	S = 0.65
52			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	75 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
53	62	200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(300)	(968)	PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
54	62	150	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(300)	(726)	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
55	62	150	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(300)	(726)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL // 3250 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL // 2600 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL // 1950 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
56	42	200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(203)	(968)	PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
57	i-Butyl acrylate CAS 106-63-8 CH_2=CHCOOC_4H_9	$C_7H_{12}O_2$	Isobutyl acrylate Acrylo-i-butylic ester 2-Methyl propyl acrylate 2-Propenoic acid-2-methylpropyl ester Propenoic acid i-butylester	128.2 4.43 r	0.89	132 270°F 1 ppm = 5.34 mg/m³	8.8		1.2* (64) 1 mg/m³ = 0.19 ppm			
58	n-Butyl acrylate CAS 141-32-2 CH_2=CHCOOC_4H_9	$C_7H_{12}O_2$	Acrylobutylic ester Propenoic acid butyl ester Butyl-2-propenoate	128.2 4.43 r	0.90	148 298°F 1 ppm = 5.34 mg/m³	5.3	37 99°F	1.2 (64) 1 mg/m³ = 0.19 ppm	1.2 (64)	1.5 (80)	275 IIB T3
59	i-Butyl amine CAS 78-81-9 $(CH_3)_2CHCH_2NH_2$	$C_4H_{11}N$	Isobutyl amine 2-Methylpropyl amine 2-Methyl-1-propane amine 1-Amino-2-methylpropane	73.1 2.52 r 204 v	0.76	66 151°F 1 ppm = 3.05 mg/m³	149	-13 9°F	1.9 (58) 1 mg/m³ = 0.33 ppm	1.47 (45)	3.4 (104)	370 IIA T2
60	n-Butylamine CAS 109-73-9 $C_4H_9NH_2$	$C_4H_{11}N$	1-Aminobutane 1-Butane amine Monobutylamine	73.1 2.52 r 105 v	0.74	78 172°F 1 ppm = 3.05 mg/m³	95	-14 7°F	1.7 (52) 1 mg/m³ = 0.33 ppm	1.7 (52)	1.7 (52)	310 IIA T2
61	sec-Butylamine CAS 13952-84-6 $C_2H_5CH(CH_3)NH_2$	B2A $C_4H_{11}N$	2-Aminobutane 2-Butane amine 1-Methyl propylamine	73.1 2.52 r	0.72	63 145°F 1 ppm = 3.05 mg/m³	181	-20 -4°F	1.7 (52) 1 mg/m³ = 0.33 ppm			IIA
62	tert-Butylamine CAS 75-64-9 $(CH_3)_3CNH_2$	$C_4H_{11}N$	2-Amino-2-methylpropane 2-Methyl-2-propane amine 1.1-Dimethylethylamine	73.1 2.52 r 111 v	0.70	45 113°F 1 ppm = 3.05 mg/m³	394	<-30 <-22°F	1.7 (52) 1 mg/m³ = 0.33 ppm		1.7 (52)	380 IIA T2
63	Bis(tert-butylamino)silane CAS 186598-40-3 $((CH_3)_3CNH)_2SiH_2$	BTBAS $C_8H_{22}N_2Si$	N.N'-Di-tert-butylsilane diamine	174.4 6.02 r	0.82	166 331°F 1 ppm = 7.27 mg/m³	1.5			0.5 (36) 1 mg/m³ = 0.14 ppm		
64	tert-Butyl arsine CAS 4262-43-5 $(CH_3)_3CAsH_2$	TBAs $C_4H_{11}As$	2-Methyl-i-propyl arsine 1.1-Dimethylethyl arsine	134.1 4.63 r	1.08	68 154°F 1 ppm = 5.59 mg/m³	166					
65	i-Butyl-i-butyrate CAS 97-85-8 $(CH_3)_2CHCOOCH_2CH(CH_3)_2$	$C_8H_{16}O_2$	i-Butyric acid i-butylester 2-Methylpropyl-i-butyrate i-Butyl-2-methyl propanoate Isobutyl isobutyrate Isobutyric acid isobutyl ester Isobutyl-2-methyl propanoate	144.2 4.98 r	0.85	147 297°F 1 ppm = 6.01 mg/m³	4	37 99°F		0.8 (48) 1 mg/m³ = 0.17 ppm	0.96 (58)	430 IIA T2
66	i-Butyl chloride CAS 513-36-0 $(CH_3)_2CHCH_2Cl$	C_4H_9Cl	Isobutyl chloride 1-Chloro-2-methylpropane 2-Methylpropyl chloride	92.6 3.20 r 131 v	0.88	69 156°F 1 ppm = 3.86 mg/m³	158	-21 -6°F	2.0 (77) 1 mg/m³ = 0.26 ppm	2.0 (77)	2.0 (77)	416 IIA T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
57			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)
58	2 (11)	10 (53)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	polymerizing/sensor poison
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 2400 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	35 / 100 %LEL // 3000 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 1200 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)
59			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
60		5c (15)	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
61			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
62			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
63			Polytron 7000 and 8000 Hydride	BTBS: 5 / 20 / 20 ppm / LDL = 0.4 ppm	
64			Polytron 7000 and 8000 Hydride SC	as PH3 x 0.75 (0.3 / 1.0 ppm x 0.75)	S = 1.5 (L)
65			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			P 5700 type 340	20 + 50 + 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
66			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
67	n-Butyl chloride		Butylchloride	92.6	0.89	78	112	-12	1.8	1.8	1.8	245
	CAS 109-69-3	NBC	1-Chlorobutane	3.20 r		172°F		10°F	(69)	(69)	(69)	IIA
	C_4H_9Cl	C_4H_9Cl	n-Propylcarbinyl chloride	117 v	1 ppm = 3.86 mg/m³				1 mg/m³ = 0.26 ppm			T3
68	tert-Butylchloride		2-Chloro-2-methylpropane	92.6	0.84	51	317	-33	1.8*			541
	CAS 507-20-0		Trimethylchloromethane	3.20 r		124°F		-27°F	(69)			IIA
	$(CH_3)_3CCl$	C_4H_9Cl			1 ppm = 3.86 mg/m³				1 mg/m³ = 0.26 ppm			T1
69	i-Butyl formate		Isobutyl formate	102.1	0.88	98	43	5	1.7		1.7	320
	CAS 542-55-2		Formic acid i-butylester	3.52 r		208°F		41°F	(72)		(72)	
	$HCOOC_4H_9$	$C_5H_{10}O_2$	2-Methylpropyl formate	123 v	1 ppm = 4.25 mg/m³				1 mg/m³ = 0.24 ppm			T2
70	n-Butyl formate		Formic acid butyl ester	102.1	0.92	106	31	18	1.6		1.7	265
	CAS 592-84-7		Butyl methanoate	3.52 r		223°F		64°F	(68)		(72)	
	$HCOOC_4H_9$	$C_5H_{10}O_2$		118 v	1 ppm = 4.25 mg/m³				1 mg/m³ = 0.24 ppm			T3
71	n-Butyl mercaptan		1-Butanethiol	90.2	0.84	98	40	1	1.4	1.4		272
	CAS 109-79-5	NBM	1-Mercaptobutane	3.11 r		208°F		34°F	(53)	(53)		
	C_4H_9SH	$C_4H_{10}S$	Thiobutyl alcohol		1 ppm = 3.76 mg/m³				1 mg/m³ = 0.27 ppm			T3
72	tert-Butyl mercaptan		2-Methylpropane-2-thiol	90.2	0.83	64	241	-26	1.7*			
	CAS 75-66-1	tBM	1.1-Dimethyl ethanethiol	3.11 r		147°F		-15°F	(64)			
	$(CH_3)_3CSH$	$C_4H_{10}S$	2-Methyl-2-propanethiol		1 ppm = 3.76 mg/m³				1 mg/m³ = 0.27 ppm			
73	Butyl methacrylate		2-Methyl butylacrylate	142.2	0.90	163	2.7	50	1.0	1.0		290
	CAS 97-88-1	BMA	2-Methyl-2-propenoic acid butylester	4.91 r		325°F		122°F	(59)	(59)		IIA
	$CH_2=C(CH_3)COOC_4H_9$	$C_8H_{14}O_2$	Methacrylic acid butylester		1 ppm = 5.93 mg/m³				1 mg/m³ = 0.17 ppm			T3
74	But-2-yne		2-Butyne	54.1	0.69	27	774	<-20	1.4		1.4	
	CAS 503-17-3		Dimethyl acetylene	1.87 r		81°F		<-4°F	(32)		(32)	
	CH_3CCCH_3	C_4H_6	Crotonylene	68 v	1 ppm = 2.25 mg/m³				1 mg/m³ = 0.44 ppm			
75	i-Butyraldehyde		i-Butanal	72.1	0.79	64	184	-24	1.6	1.6	1.6	165
	CAS 78-84-2		Isobutanal	2.49 r		147°F		-11°F	(48)	(48)	(48)	IIA
	$(CH_3)_2CHCHO$	C_4H_8O	i-Butyric aldehyde	91 v	1 ppm = 3.00 mg/m³				1 mg/m³ = 0.33 ppm			T4
			Isobutyraldehyde									
			2-Methyl propanal									
			Isobutyric aldehyde									

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
67	25		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	corrosive/sensor poison
	(96)		PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
68			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
69			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
70			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
71	0.5	10	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
	(1.9)	(38)	P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	45 / 100 %LEL	
72			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			Polytron IR type 334	60 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 H2S LC	tBM: 20 / 50 / 100 ppm / LDL = 1 ppm	
73			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	65 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
74			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
75			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
76	n-Butyraldehyde CAS 123-72-8 C_3H_7CHO	 C_4H_8O	n-Butanal Butyl aldehyd Butyric acid aldehyde n-Butyric aldehyde	72.1 2.49 r 107 v	0.80 1 ppm = 3.00 mg/m³	75 167°F	113	-11 12°F	1.7 (51) 1 mg/m³ = 0.33 ppm	1.7 (51)	1.9 (57)	190 IIA T4
77	Carbon dioxide CAS 124-38-9 CO_2	 CO_2	Carbonic anhydride Carbonic acid anhydride R 744	44.0 1.52 r	Gas 1 ppm = 1.83 mg/m³	-78.5 -109°F	Gas	n.a.	n.a. 1 mg/m³ = 0.55 ppm	n.a.	n.a.	n.a.
78	Carbon monoxide CAS 630-08-0 CO	 CO	Carbon oxide Carbonic oxide	28.0 0.97 r	Gas 1 ppm = 1.17 mg/m³	-192 -314°F	Gas	Gas	10.9 (127) 1 mg/m³ = 0.86 ppm	10.9 (127)	12.5 (146)	605 IIA T1
79	Carbon tetrachloride CAS 56-23-5 CCl_4	 Tetra CCl_4	Tetrachlorocarbon Tetrachloromethane R 10	153.8 5.31 r	1.59 1 ppm = 6.41 mg/m³	76 169°F	120	n.a.	n.a. 1 mg/m³ = 0.16 ppm	n.a.	n.a.	n.a.
80	Chlorine CAS 7782-50-5 Cl_2	 Cl_2		70.9 2.45 r	Gas 1 ppm = 2.95 mg/m³	-34 -29°F	Gas	n.a.	n.a. 1 mg/m³ = 0.34 ppm	n.a.	n.a.	n.a.
81	Chlorine dioxide CAS 10049-04-4 ClO_2	 ClO_2	Chlorine peroxide	67.5 2.33 r	Gas 1 ppm = 2.81 mg/m³	11 52°F	Gas	n.a.	n.a. 1 mg/m³ = 0.36 ppm	n.a.	n.a.	n.a.
82	Chlorine trifluoride CAS 7790-91-2 ClF_3	 ClF_3	Chlorotrifluoride	92.4 3.19 r	Gas 1 ppm = 3.85 mg/m³	12 54°F	Gas	n.a.	n.a. 1 mg/m³ = 0.26 ppm	n.a.	n.a.	n.a.
83	2-Chloroacetaldehyde CAS 107-20-0 CH_2ClCHO	 C_2H_3ClO	2-Chloro-1-ethanal Monochloroacetaldehyde	78.5 2.71 r	1.21 1 ppm = 3.27 mg/m³	86 187°F	133			5.7 (186) 1 mg/m³ = 0.31 ppm		
84	Chlorobenzene CAS 108-90-7 C_6H_5Cl	 MCB C_6H_5Cl	Phenyl chloride Monochlorobenzene Benzene chloride	112.6 3.89 r 82 v	1.11 1 ppm = 4.69 mg/m³	132 270°F	12	28 82°F	1.3 (61) 1 mg/m³ = 0.21 ppm	1.3 (61)	1.3 (61)	590 IIA T1
85	3-Chloro-2-butanone CAS 4091-39-8 $CH_3CHClCOCH_3$	 C_4H_7ClO	1-Chloroethyl methyl ketone	106.6 3.68 r	1.06 1 ppm = 4.44 mg/m³	115 239°F	23		2.3* (102) 1 mg/m³ = 0.23 ppm			
86	1-Chlorobut-2-ene CAS 591-97-9 $CH_3CH=CHCH_2Cl$	 C_4H_7Cl	Crotyl chloride	90.6 3.13 r	0.93 1 ppm = 3.78 mg/m³	85 185°F	494	<0			4.2 (159) 1 mg/m³ = 0.26 ppm	

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
76	20 (60)		P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron 7000 and 8000 OV1	10 // 100 %LEL 30 / 100 %LEL 50 + 100 %LEL 100 %LEL (§) 20 / 100 %LEL 20 + 50 + 100 %LEL 100 %LEL (§) 100 %LEL (?) as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)
77	5000 (9167)	5000 (9167)	PIR 7200, P 5720, P 8720	2000 ppm / 10 vol% / 30 vol%	
78	30 (35)	50 (58)	P 5200, P 8200, PEX 3000, SE Ex Polytron 3000 CO Polytron 3000 CO LS Polytron 7000 and 8000 CO Polytron 7000 and 8000 CO LS Polytron 5000 CO	10 // 100 %LEL 100 / 300 / 1000 ppm 300 ppm CO: 50 / 300 / 1000 ppm / LDL = 5 ppm CO: 200 / 1000 / 5000 ppm / LDL = 10 ppm 50 / 100 / 200 / 300 / 500 ppm	
79	0.5 (3.2)	10 (64)	Pyrolyzer Polytron 7500 PFC	20 ppm / LDL = 0.5 ppm	S = 1.5
80	0.5 (1.5)	0.5c (1.5)	Polytron 3000 Cl2 Polytron 7000 and 8000 Cl2 Polytron 5000 CL2 GP	1 / 10 / 25 ppm Cl2: 1 / 10 / 50 ppm 5 / 10 / 20 / 50 ppm	
81	0.1 (0.28)	0.1 (0.28)	Polytron 7000 and 8000 Cl2	ClO2: 1 / 10 / 50 ppm	S = 0.6
82		0.1c (0.39)	Polytron 7000 and 8000 AC	ClF3: 3 / 3 / 30 ppm / LDL = 0.5 ppm	approved for cross-calibration with Cl2
83		1c (3.3)	Polytron 7000 and 8000 OV1	as C3H6 x 0.5 (30 / 50 / 100 ppm x 0.5)	S = 1.4 (L)
84	10 (47)	75 (352)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 Pyrolyzer Polytron 7500 PFC	10 // 100 %LEL 50 / 100 %LEL // 6500 ppm Gas-Library 50 + 100 %LEL Gas-Library 80 / 100 %LEL // 2600 ppm Gas-Library 60 ppm / LDL = 1 ppm	corrosive/sensor poison Performance Approval Performance Approval S = 0.4
85			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	40 / 100 %LEL 50 + 100 %LEL 100 %LEL (?) 40 / 100 %LEL 50 + 100 %LEL 100 %LEL (?)	
86			P 5200, P 8200, PEX 3000, SE Ex Polytron 7000 and 8000 OV1	100 %LEL as Aald x 2 (50 / 100 / 200 ppm x 2)	corrosive/sensor poison S = 0.15 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
87	1-Chloro-1.1-difluoroethane CAS 75-68-3 CH_3CClF_2	$C_2H_3ClF_2$	Difluoro chloroethane R 142b HCFC 142b	100.5 3.47 r	Gas 1 ppm = 4.19 mg/m³	-10 14°F	Gas	Gas	6.3 (264) 1 mg/m³ = 0.24 ppm		6.2 (260)	 IIA
88	Chlorodifluoromethane CAS 75-45-6 $CHClF_2$	$CHClF_2$	Difluorochloromethane R 22 HCFC 22	86.5 2.99 r	Gas 1 ppm = 3.60 mg/m³	-40.8 -41°F	Gas	n.a.	n.a. 1 mg/m³ = 0.28 ppm	n.a.	n.a.	n.a.
89	2-Chloroethan-1-ol CAS 107-07-3 $Cl\text{-}CH_2CH_2\text{-}OH$	C_2H_5ClO	Ethylene chlorohydrin Glycol chlorohydrin 2-Chloroethyl alcohol	80.5 2.78 r	1.21 1 ppm = 3.35 mg/m³	129 264°F	7.1	55 131°F	5.0 (168) 1 mg/m³ = 0.30 ppm	4.9 (164)	4.9 (164)	425 IIA T2
90	Chloromethyl methylether CAS 107-30-2 $ClCH_2OCH_3$	CMME C_2H_5ClO	Chlorodimethyl ether Chloromethoxymethane Methylchloromethyl ether Methoxy methylchloride	80.5 2.78 r	1.06 1 ppm = 3.35 mg/m³	59 138°F	213	-8 18°F	4.5* (151) 1 mg/m³ = 0.30 ppm			 IIA
91	2-Chloropropene CAS 557-98-2 $CH_2{=}C(Cl)CH_3$	C_3H_5Cl	2-Chloropropylene i-Propenyl chloride Isopropenyl chloride	76.5 2.64 r 231 v	0.93 1 ppm = 3.19 mg/m³	23 73°F	915	<-20 <-4°F	2.5 (80) 1 mg/m³ = 0.31 ppm		4.5 (143)	
92	Chlorosulfonic acid CAS 7790-94-5 HSO_3Cl	$HClO_3S$	Chlorosulfuric acid Sulfuric chlorohydrin Sulfuryl oxychloride	116.5 4.02 r	1.75 1 ppm = 4.85 mg/m³	151 304°F	0.45	n.a.	n.a. 1 mg/m³ = 0.21 ppm	n.a.	n.a.	n.a.
93	2-Chlorotoluene CAS 95-49-8 $CH_3C_6H_4Cl$	C_7H_7Cl	1-Chloro-2-methylbenzene o-Chlorotoluene o-Tolyl chloride	126.6 4.37 r	1.08 1 ppm = 5.28 mg/m³	159 318°F	3.8	43 109°F	1.3 (69) 1 mg/m³ = 0.19 ppm			550 IIA T1
94	Cumene CAS 98-82-8 $C_6H_5CH(CH_3)_2$	C_9H_{12}	i-Propyl benzene Isopropyl benzene 2-Phenyl propane	120.2 4.15 r	0.86 1 ppm = 5.01 mg/m³	152 306°F	5.3	31 88°F	0.8 (40) 1 mg/m³ = 0.20 ppm	0.8 (40)	0.9 (45)	420 IIA T2
95	Cyclobutane CAS 287-23-0 $(CH_2)_4$	C_4H_8	Tetramethylene	56.1 1.94 r	Gas 1 ppm = 2.34 mg/m³	12.5 55°F	Gas	Gas	1.8 (42) 1 mg/m³ = 0.43 ppm	1.8 (42)	1.8 (42)	 IIA
96	Cyclohexane CAS 110-82-7 $(CH_2)_6$	C_6H_{12}	Hexahydrobenzene Hexamethylene Hexanaphthene Naphthene	84.2 2.91 r 88 v	0.78 1 ppm = 3.51 mg/m³	81 178°F	104	-18 0°F	1.0 (35) 1 mg/m³ = 0.29 ppm	1.0 (35)	1.3 (46)	260 IIA T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
87	1000 (4188)		PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340	50 / 100 %LEL // 31000 ppm Gas-Library 50 + 100 %LEL Gas-Library 75 / 100 %LEL 100 / 100 %LEL 100 %LEL	
88	1000 (3604)	1000 (3604)	Pyrolyzer Polytron 7500 PFC	CDFM: 50 / 50 ppm / LDL = 0.5 ppm	
89	1 (3.4)	5 (17)	Polytron 7000 and 8000 OV1	as EO x 0.5 (20 / 50 / 100 ppm x 0.5)	S = 2.0 (L)
90			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	15 / 100 %LEL 20 + 50 + 100 %LEL 20 / 100 %LEL 5 / 100 %LEL 20 + 50 + 100 %LEL 10 / 100 %LEL 100 %LEL	
91			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	corrosive/sensor poison
92			Polytron 7000 and 8000 AC	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
93			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	40 / 100 %LEL 50 + 100 %LEL 45 / 100 %LEL 55 / 100 %LEL 100 %LEL 55 / 100 %LEL 100 %LEL	
94	20 (100)	50 (250)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	10 // 100 %LEL 25 / 100 %LEL // 2000 ppm Gas-Library 50 + 100 %LEL 45 / 100 %LEL 20 / 100 %LEL // 1600 ppm Gas-Library 20 + 50 + 100 %LEL 25 / 100 %LEL 100 %LEL	
95			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
96	200 (702)	300 (1053)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 Polytron Pulsar 2	10 // 100 %LEL 8 / 100 %LEL // 600 ppm Gas-Library 20 + 50 + 100 %LEL Gas-Library 8 / 100 %LEL // 600 ppm Gas-Library 1 // 4 / 8 LELm	Performance Approval S = 0.70 (Propane = 1)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
97	Cyclohexanol CAS 108-93-0 $(CH_2)_5CHOH$	 Anol $C_6H_{12}O$	Cyclohexyl alcohol Hexahydrophenol Hydroxycyclohexane Hexalin Hydralin	100.2 3.46 r	0.95 1 ppm = 4.18 mg/m³	161 322°F	1	61 142°F	1.2 (50) 1 mg/m³ = 0.24 ppm	1.2 (50)		300 IIA T3
98	Cyclohexanone CAS 108-94-1 $(CH_2)_5CO$	 Anon $C_6H_{10}O$	Sextone Hexanone Cyclohexyl ketone Ketohexamethylene Pimelic ketone	98.1 3.39 r	0.95 1 ppm = 4.09 mg/m³	156 313°F	4.5	43 109°F	1.3 (53) 1 mg/m³ = 0.24 ppm	1.3 (53)	1.1 (45)	430 IIA T2
99	Cyclohexene CAS 110-83-8 C_6H_{10}	 C_6H_{10}	1.2.3.4-Tetrahydrobenzene Hexanaphthylene Benzene tetrahydride	82.1 2.83 r 76 v	0.81 1 ppm = 3.42 mg/m³	83 181°F	90	-17 1°F	1.1 (38) 1 mg/m³ = 0.29 ppm	1.1 (38)	1.2 (41)	265 IIA T3
100	Cyclohexene oxide CAS 286-20-4 $(CH_2)_4CHCHO$	 CHO $C_6H_{10}O$	1.2-Epoxy cyclohexane Tetramethylene oxirane 7-Oxabicyclo(4.1.0)heptane	98.1 3.39 r	0.97 1 ppm = 4.09 mg/m³	130 266°F	12	24 75°F	1.5 (61) 1 mg/m³ = 0.24 ppm			345 IIB T2
101	Cyclohexylamine CAS 108-91-8 $(CH_2)_5CHNH_2$	 CHA $C_6H_{13}N$	Cylohexane amine Amino cyclohexane Hexahydroaniline Aminohexahydrobenzene	99.2 3.42 r 108 v	0.86 1 ppm = 4.13 mg/m³	134 273°F	13	27 81°F	1.1 (45) 1 mg/m³ = 0.24 ppm	1.1 (45)	1.5 (62)	275 IIA T3
102	Cyclopentane CAS 287-92-3 $(CH_2)_5$	 CP C_5H_{10}	Pentamethylene	70.1 2.42 r 89 v	0.74 1 ppm = 2.92 mg/m³	49 120°F	346	<-20 <-4°F	1.4 (41) 1 mg/m³ = 0.34 ppm	1.4 (41)	1.5 (44)	320 IIA T2
103	Cyclopentanone CAS 120-92-3 $(CH_2)_4CO$	 C_5H_8O	Keto pentamethylene Ketocyclopentane Adipic ketone	84.1 2.90 r	0.95 1 ppm = 3.50 mg/m³	131 268°F	11.5	26 79°F		1.6 (56) 1 mg/m³ = 0.29 ppm		430 IIA T2
104	Cyclopropane CAS 75-19-4 $(CH_2)_3$	 C_3H_6	Trimethylene RC 270	42.1 1.45 r	Gas 1 ppm = 1.75 mg/m³	-33 -27°F	Gas	Gas	2.4 (42) 1 mg/m³ = 0.57 ppm	2.4 (42)	2.4 (42)	495 IIA T1
105	cis-Decahydronaphthalene CAS 493-01-6 $CH(CH_2)_8CH$	 $C_{10}H_{18}$	cis-Bicyclo(4.4.0)decane cis-Decaline Perhydronaphthalene cis-Naphthane	138.2 4.77 r	0.90 1 ppm = 5.76 mg/m³	196 385°F	1.1	61 142°F	0.7 (40) 1 mg/m³ = 0.17 ppm	0.7 (40)		240 IIA T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
97		50 (209)	PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
98	20 (82)	50 (204)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	10 // 100 %LEL 35 / 100 %LEL // 3500 ppm Gas-Library 50 + 100 %LEL Gas-Library 80 / 100 %LEL 15 / 100 %LEL // 1500 ppm Gas-Library 20 + 50 + 100 %LEL Gas-Library 15 / 100 %LEL 100 %LEL	
99		300 (1026)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	10 // 100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
100			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
101		10 (41)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	corrosive/sensor poison
102		600 (1753)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron Pulsar 2	10 // 100 %LEL 20 / 100 %LEL // 2100 ppm Gas-Library 20 + 50 + 100 %LEL 30 / 100 %LEL // 2200 ppm Gas-Library 10 / 100 %LEL 20 + 50 + 100 %LEL 10 / 100 %LEL // 700 ppm Gas-Library 100 %LEL 1 // 4 / 8 LELm	S = 0.68 (Propane = 1)
103			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
104			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
105			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	10 / 100 %LEL 20 + 50 + 100 %LEL 100 %LEL (§)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
106	n-Decane CAS 124-18-5 $C_{10}H_{22}$	$C_{10}H_{22}$		142.3 4.91 r	0.73 1 ppm = 5.93 mg/m³	174 345°F	1.7	46 115°F	0.7 (42) 1 mg/m³ = 0.17 ppm	0.7 (42)	0.8 (47)	200 IIA T4
107	1-Decene CAS 872-05-9 $C_{10}H_{20}$	$C_{10}H_{20}$	n-Decylene	140.3 4.84 r	0.74 1 ppm = 5.85 mg/m³	172 342°F	2	<55 <131°F		0.55 (32) 1 mg/m³ = 0.17 ppm	0.5 (29)	235 T3
108	Desflurane CAS 57041-67-5 CHF_2-O-$CHFCF_3$	$C_3H_2F_6O$	Tetrafluoroethyl difluoromethyl ether 2-Difluoromethoxy tetrafluoroethane Suprane	168.0 5.80 r	1.47 1 ppm = 7.00 mg/m³	23.5 74°F	885	n.a.	n.a. 1 mg/m³ = 0.14 ppm	n.a.	n.a.	n.a.
109	Deuterium CAS 7782-39-0 D_2	2D D_2	Heavy Hydrogen Diplogen Dideuterium	4.0 0.14 r	Gas 1 ppm = 0.17 mg/m³	-250 -418°F	Gas	Gas	6.7 (11) 1 mg/m³ = 6.00 ppm		5.0 (8.3)	560 T1
110	Diacetone alcohol CAS 123-42-2 $CH_3COCH_2COH(CH_3)_2$	$C_6H_{12}O_2$	4-Hydroxy-4-methyl-2-pentanone 2-Methyl-2-pentanol-4-one 4-Hydroxy-2-keto-4-methylpentane	116.2 4.01 r	0.93 1 ppm = 4.84 mg/m³	166 331°F	1	58 136°F	1.3 (63) 1 mg/m³ = 0.21 ppm	1.8 (87)	1.8 (87)	515 IIB T1
111	Diborane CAS 19287-45-7 B_2H_6	H_6B_2	Boron hydride Boroethane Diboron hexahydride	27.7 0.96 r	Gas 1 ppm = 1.15 mg/m³	-93 -135°F	Gas	Gas	0.8 (9.2) 1 mg/m³ = 0.87 ppm		0.8 (9.2)	
112	Dibutylamine CAS 111-92-2 $(C_4H_9)_2NH$	$C_8H_{19}N$	N-Butyl-1-butane amine	129.3 4.46 r	0.76 1 ppm = 5.39 mg/m³	161 322°F	2.7	42 108°F			1.1 (59) 1 mg/m³ = 0.19 ppm	260 IIA T3
113	Di-n-butylether CAS 142-96-1 $(C_4H_9)_2O$	$C_8H_{18}O$	1-Butoxybutane 1.1'-Oxybisbutane Dibutylether Butyl ether	130.2 4.49 r 158 v	0.77 1 ppm = 5.43 mg/m³	141 286°F	6.4	25 77°F	0.9 (49) 1 mg/m³ = 0.18 ppm	0.9 (49)	1.5 (81)	175 IIB T4
114	Di-tert-butyl peroxide CAS 110-05-4 $(CH_3)_3COOC(CH_3)_3$	DTBP $C_8H_{18}O_2$	Bis(1.1-dimethylethyl)peroxide	146.2 5.05 r	0.79 1 ppm = 6.09 mg/m³	110 230°F	26	4 39°F	0.7 (43) 1 mg/m³ = 0.16 ppm	0.74 (45)		170 IIB T4
115	1.2-Dichlorobenzene CAS 95-50-1 $C_6H_4Cl_2$	ODCB $C_6H_4Cl_2$	ortho-Dichlorobenzene	147.0 5.07 r	1.32 1 ppm = 6.13 mg/m³	179 354°F	1.33	66 151°F	1.7 (104) 1 mg/m³ = 0.16 ppm		2.2 (135)	640 IIA T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
106			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	70 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
107			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	40 / 100 %LEL	
108			Pyrolyzer Polytron 7500 PFC	20 ppm / LDL = 0.5 ppm	S = 1.3
109			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
110	20 (97)	50 (242)	PIR 7000 type 334, P 8700 type 334	40 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	60 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
111		0.1 (0.12)	Polytron 3000 B2H6	0.5 ppm	
			Polytron 7000 and 8000 Hydride	B2H6: 0.5 / 1 / 1 ppm / LDL = 0.05 ppm	
			Polytron 7000 and 8000 Hydride SC	B2H6: 0.3 / 1 / 5 ppm / LDL = 0.02 ppm	
112	5 (27)		PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
113			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	75 / 100 %LEL	
114			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
115	10 (61)	50c (306)	PIR 7000 type 334, P 8700 type 334	80 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	80 / 100 %LEL	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
116	1.1-Dichloroethane CAS 75-34-3 CH_3CHCl_2	 $C_2H_4Cl_2$	Ethylidene chloride R 150a	99.0 3.42 r 285 v	1.17 1 ppm = 4.13 mg/m³	57 135°F	243	-10 14°F	5.6 (231) 1 mg/m³ = 0.24 ppm	5.6 (231)	5.4 (223)	440 IIA T2
117	1.2-Dichloroethane CAS 107-06-2 $ClCH_2CH_2Cl$	 EDC $C_2H_4Cl_2$	Ethylene chloride Ethylene dichloride Ethane dichloride R 150	99.0 3.42 r 306 v	1.25 1 ppm = 4.13 mg/m³	84 183°F	87	13 55°F	4.2 (173) 1 mg/m³ = 0.24 ppm	6.2 (256)	6.2 (256)	440 IIA T2
118	1.1-Dichloroethylene CAS 75-35-4 $CH_2=CCl_2$	 $C_2H_2Cl_2$	1.1-Dichloroethene Vinylidene chloride R 1130a	96.9 3.34 r 314 v	1.25 1 ppm = 4.04 mg/m³	32 90°F	660	-25 -13°F	6.5 (262) 1 mg/m³ = 0.25 ppm	6.5 (262)	6.5 (262)	530 IIA T1
119	1.2-Dichloroethylene cis CAS 156-59-2 CHCl=CHCl	 $C_2H_2Cl_2$	1.2-Dichloroethene cis Dioform cis	96.9 3.34 r 264 v	1.28 1 ppm = 4.04 mg/m³	60.3 141°F	216	6 43°F	6.2 (250) 1 mg/m³ = 0.25 ppm		5.6 (226)	460 IIA T1
120	1.2-Dichloroethylene trans CAS 156-60-5 CHCl=CHCl	 $C_2H_2Cl_2$	1.2-Dichloroethene trans Dioform trans R 1130	96.9 3.34 r	1.26 1 ppm = 4.04 mg/m³	48 118°F	361	-6 21°F	6.1 (246) 1 mg/m³ = 0.25 ppm	9.7 (392)		440 IIA T2
121	1.1-Dichloro-1-fluoroethane CAS 1717-00-6 CCl_2FCH_3	 $C_2H_3Cl_2F$	R 141b HCFC 141b	117.0 4.04 r	1.27 1 ppm = 4.88 mg/m³	32 90°F	648		5.6* (273) 1 mg/m³ = 0.21 ppm			
122	Dichloromethane CAS 75-09-2 CH_2Cl_2	 DCM CH_2Cl_2	Methylene chloride Methylene dichloride R 30	84.9 2.93 r	1.33 1 ppm = 3.54 mg/m³	40 104°F	470	n.a.	13.0 (460) 1 mg/m³ = 0.28 ppm		13.0 (460)	605 IIA T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
116	100 (413)	100 (413)	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
117		50 (206)	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 334, P 8700 type 334	40 / 100 %LEL // 15500 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	55 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	40 / 100 %LEL // 15500 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	30 / 100 %LEL // 12400 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 0.8
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 1.13 (Propane = 1)
118	2 (8.1)		P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
119		200 (808)	Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 0.8
120		200 (808)	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 334, P 8700 type 334	50 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	45 / 100 %LEL	
			Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 0.8
121			PIR 7000 type 334, P 8700 type 334	40 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	55 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	80 / 100 %LEL	
			P 5700 type 340	100 %LEL	
			Polytron IR type 340	80 / 100 %LEL	
			Pyrolyzer Polytron 7500 PFC	20 ppm / LDL = 0.5 ppm	S = 1.3
122	75 (265)	25 (88)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL // 39000 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	45 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	50 / 100 %LEL // 65000 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	50 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 1.0

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
123	1.2-Dichloropropane		1.2-Propylene dichloride	113.0	1.16	96	51	15	3.1	3.4	3.4	555
	CAS 78-87-5	PDC	R 270	3.90 r		205°F		59°F	(146)	(160)	(160)	IIA
	$CH_3CH(Cl)CH_2Cl$	$C_3H_6Cl_2$		207 v	1 ppm = 4.71 mg/m³				1 mg/m³ = 0.21 ppm			T1
124	1.3-Dichloro-2-propanol		1.3-Dichlorohydrin	129.0	1.36	175	0.72	74	3.5*			
	CAS 96-23-1	1.3-DCP	1.3-Dichloro-i-propanol	4.45 r		347°F		165°F	(188)			IIA
	$(CH_2Cl)_2CHOH$	$C_3H_6Cl_2O$	1.3-Dichloroisopropyl alcohol		1 ppm = 5.38 mg/m³				1 mg/m³ = 0.19 ppm			
			1.3-Dichloro-2-hydroxypropane									
125	1.3-Dichloropropene		Telone	111.0	1.23	108	37	27	5.3	5.3	5.3	
	CAS 542-75-6	DCP	3-Chloroallyl chloride	3.83 r		226°F		81°F	(245)	(245)	(245)	IIA
	$ClCH_2CH=CHCl$	$C_3H_4Cl_2$	1.3-Dichloropropylene	298 v	1 ppm = 4.63 mg/m³				1 mg/m³ = 0.22 ppm			
126	Dichlorosilane		Silicon dichloride	101.0	Gas	8	Gas	Gas	2.5		4.1	185
	CAS 4109-96-0	DCS		3.49 r		46°F			(105)		(173)	
	SiH_2Cl_2	H_2Cl_2Si			1 ppm = 4.21 mg/m³				1 mg/m³ = 0.24 ppm			T4
127	1.2-Dichlorotetrafluoroethane		Cryofluorane	170.9	Gas	3.6	Gas	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 76-14-2		R 114	5.90 r		38°F						
	$C_2Cl_2F_4$	$C_2Cl_2F_4$			1 ppm = 7.12 mg/m³				1 mg/m³ = 0.14 ppm			
128	2.2-Dichloro-1.1.1-trifluoroethane		R 123	152.9	1.48	28.7	914	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 306-83-2			5.28 r		84°F						
	$CHCl_2CF_3$	$C_2HCl_2F_3$			1 ppm = 6.37 mg/m³				1 mg/m³ = 0.16 ppm			
129	Dicyclohexyl		Bicyclohexyl	166.3	0.86	227		74	0.6		0.7	240
	CAS 92-51-3		Cyclohexyl cyclohexane	5.74 r		441°F		165°F	(42)		(49)	IIA
	$(C_6H_{11})_2$	$C_{12}H_{22}$			1 ppm = 6.93 mg/m³				1 mg/m³ = 0.14 ppm			T3
130	1.3-Dicyclopentadiene		4.7-Methylentetrahydro indene	132.2	0.94	166	3	39		0.8	0.8	500
	CAS 77-73-6		Cyclopentadiene dimere	4.56 r		331°F		102°F		(44)	(44)	IIA
	$C_{10}H_{12}$	$C_{10}H_{12}$	Tetrahydro-4.7-methanoindene		1 ppm = 5.51 mg/m³				1 mg/m³ = 0.18 ppm			T1
131	1.1-Diethoxyethane		Acetal	118.2	0.82	102	35	13	1.6		1.6	230
	CAS 105-57-7		Diethylacetal	4.08 r		216°F		55°F	(79)		(79)	
	$CH_3CH(OC_2H_5)_2$	$C_6H_{14}O_2$	Acetaldehyde diethyl acetal	144 v	1 ppm = 4.93 mg/m³				1 mg/m³ = 0.20 ppm			T3
			Ethylidene diethyl ether									
132	Diethoxy methyl silane		Methyl diethoxy silane	134.3	0.84	94						
	CAS 2031-62-1	DEMS	Methylhydrogen diethoxy silane	4.64 r		201°F						
	$(C_2H_5O)_2SiHCH_3$	$C_5H_{14}O_2Si$			1 ppm = 5.60 mg/m³				1 mg/m³ = 0.18 ppm			

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
123		75 (353)	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL // 9300 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	35 / 100 %LEL // 6800 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL // 9300 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
124			PIR 7000 type 334, P 8700 type 334	55 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			Pyrolyzer Polytron 7500 PFC	150 ppm / LDL = 5 ppm	S = 0.2
125		1 (4.6)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL // 15900 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	40 / 100 %LEL // 10600 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	40 / 100 %LEL // 21200 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
126			Polytron 7000 and 8000 AC	DCS: 3 / 10 / 30 ppm / LDL = 0.5 ppm	Check sensor after prolonged exposure
			Polytron 7000 and 8000 HCl	DCS: 5 / 10 / 20 ppm / LDL = 0.2 ppm	
127	1000 (7121)	1000 (7121)	Pyrolyzer Polytron 7500 PFC	20 ppm / 0.5 ppm	S = 1.7
128			Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 0.9
129			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
130	0.5 (2.8)	5 (28)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
131			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
132			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
133	Diethylamine		N-Ethylethane amine	73.1	0.70	56	256	<-20	1.7	1.7	1.8	310
	CAS 109-89-7	DEA	N.N-Diethylamine	2.52 r		133°F		<-4°F	(52)	(52)	(55)	IIA
	$(C_2H_5)_2NH$	$C_4H_{11}N$		117 v	1 ppm = 3.05 mg/m³				1 mg/m³ = 0.33 ppm			T2
134	1.2-Diethylbenzene		o-Diethylbenzene	134.2	0.88	183	1.1	55	0.8*			380
	CAS 135-01-3			4.63 r		361°F		131°F	(45)			IIA
	$C_6H_4(C_2H_5)_2$	$C_{10}H_{14}$			1 ppm = 5.59 mg/m³				1 mg/m³ = 0.18 ppm			T2
135	Diethyl carbonate		Diethoxy formic acid anhydride	118.1	0.97	126	11	25	1.4	1.4		445
	CAS 105-58-8	DEC	Carbonic acid diethyl ester	4.08 r		259°F		77°F	(69)	(69)		IIB
	$CO(OC_2H_5)_2$	$C_5H_{10}O_3$			1 ppm = 4.92 mg/m³				1 mg/m³ = 0.20 ppm			T2
136	Diethylene glycol diethylether		Diethyldiglycol	162.2	0.91	189	0.8					
	CAS 112-36-7		Bis(2-ethoxyethyl)-ether	5.60 r		372°F						
	$(C_2H_5OC_2H_4)_2O$	$C_8H_{18}O_3$	Diethylcarbitol		1 ppm = 6.76 mg/m³				1 mg/m³ = 0.15 ppm			
			Ethyldiglyme									
			1.1'-Oxybis(2-ethoxy-ethane)									
137	Diethylenglycol dimethylether		Bis(2-methoxyethyl)-ether	134.2	0.94	160	2.2	51	1.3			190
	CAS 111-96-6	DEGDME	Dimethyl diglycol	4.63 r		320°F		124°F	(73)			
	$CH_3OC_2H_4OC_2H_4OCH_3$	$C_6H_{14}O_3$	Diglyme		1 ppm = 5.59 mg/m³				1 mg/m³ = 0.18 ppm			T4
			Dimethyl carbitol									
			1.1'-Oxybis(2-methoxy-ethane)									
138	N.N-Diethylethanolamine		2-Diethylaminoethanol	117.2	0.88	161	1.9	51.5	1.8		6.7	320
	CAS 100-37-8		2-Hydroxy triethylamine	4.05 r		322°F		125°F	(88)		(327)	IIA
	$(C_2H_5)_2NC_2H_4OH$	$C_6H_{15}NO$	2-Diethylaminoethyl alcohol		1 ppm = 4.88 mg/m³				1 mg/m³ = 0.20 ppm			T2
139	Diethyl ether		Ethoxy ethane	74.1	0.71	35	586	<-20	1.7	1.7	1.9	175
	CAS 60-29-7		1.1'-Oxybisethane	2.56 r		95°F		<-4°F	(52)	(52)	(59)	IIB
	$(C_2H_5)_2O$	$C_4H_{10}O$	Diethyl oxide	124 v	1 ppm = 3.09 mg/m³				1 mg/m³ = 0.32 ppm			T4
			Ethyl ether									
			R 610									
140	Diethyl ketone		3-Pentanone	86.1	0.81	102	36	7		1.6	1.6	455
	CAS 96-22-0	DEK	Amylketone	2.97 r		216°F		45°F		(57)	(57)	IIB
	$(C_2H_5)_2CO$	$C_5H_{10}O$	Dimethylacetone	106 v	1 ppm = 3.59 mg/m³				1 mg/m³ = 0.28 ppm			T1
			Methacetone									

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
133	5	25	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
	(15)	(76)	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	45 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	5 / 100 %LEL	
			Polytron 7000 and 8000 NH3 LC	DEA: 100 ppm / LDL = 5 ppm	
134			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
135			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
136			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as MeOH (20 / 50 / 200 ppm)	S = 1.5 (L)
137	5		PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
	(28)		P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
138	5	10	PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
	(24)	(49)	P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 NH3 LC	as NH3 x 2 (50 / 100 ppm x 2)	S = 0.5 (L)
139	400	400	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(1235)	(1235)	PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL // 2550 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 850 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	8 / 100 %LEL // 850 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	Et2O: 50 / 50 / 200 ppm / LDL = 5 ppm	S = 0.4
140		200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
		(718)	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	20 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
141	Diethylsulfide CAS 352-93-2 $(C_2H_5)_2S$	 $C_4H_{10}S$	Diethyl thioether 1.1'-Thiobisethane 3-Thiapentane	90.2 3.11 r	0.84 1 ppm = 3.76 mg/m³	92 198°F	66	-10 14°F	2.2'* (83) 1 mg/m³ = 0.27 ppm			
142	1.1-Difluoroethane CAS 75-37-6 CHF_2CH_3	 $C_2H_4F_2$	Ethylidene fluoride R 152a	66.1 2.28 r	Gas 1 ppm = 2.75 mg/m³	-25 -13°F	Gas	Gas	4.0 (110) 1 mg/m³ = 0.36 ppm			455 IIA T1
143	Difluoromethane CAS 75-10-5 CH_2F_2	 CH_2F_2	Methylene fluoride R 32	52.0 1.79 r	Gas 1 ppm = 2.17 mg/m³	-51.7 -61°F	Gas	n.a.	13.1 (284) 1 mg/m³ = 0.46 ppm	13.5 (293)	12.7 (275)	648 T1
144	1.2-Dimethoxyethane CAS 110-71-4 $(CH_3OCH_2)_2$	 EGDME $C_4H_{10}O_2$	Ethylene glycol dimethyl ether Dimethylglycol Monoglyme 2.5-Dioxahexane Glycol dimethylether	90.1 3.11 r	0.87 1 ppm = 3.75 mg/m³	84 183°F	78	-2 28°F	1.6 (60) 1 mg/m³ = 0.27 ppm	1.6 (60)		197 IIB T4
145	Dimethoxymethane CAS 109-87-5 $CH_2(OCH_3)_2$	 Formal $C_3H_8O_2$	Methylal Formaldehyde dimethylacetal Methylene glycol dimethyl ether Formal	76.1 2.63 r 88 v	0.86 1 ppm = 3.17 mg/m³	42 108°F	426	-31 -24°F	2.2 (70) 1 mg/m³ = 0.32 ppm	2.2 (70)	1.6 (51)	235 IIB T3
146	2.2-Dimethoxypropane CAS 77-76-9 $(CH_3)_2C(OCH_3)_2$	 $C_5H_{12}O_2$	Acetone dimethylacetal Dimethyl dimethoxy methane	104.2 3.60 r	0.85 1 ppm = 4.34 mg/m³	83 181°F	66	-11 12°F	6.0* (261) 1 mg/m³ = 0.23 ppm			
147	N.N-Dimethyl acetamide CAS 127-19-5 $(CH_3)_2NCOCH_3$	 DMAC C_4H_9NO	Acetic acid dimethyl amide Acetyl dimethylamine N.N-Dimethyl methanamide	87.1 3.01 r	0.94 1 ppm = 3.63 mg/m³	165 329°F	3.3	66 151°F	1.8 (65) 1 mg/m³ = 0.28 ppm		1.8 (65)	 IIA
148	Dimethylamine CAS 124-40-3 $(CH_3)_2NH$	 DMA C_2H_7N	N-Methylmethanamine	45.1 1.56 r	Gas 1 ppm = 1.88 mg/m³	7 45°F	Gas	Gas	2.8 (53) 1 mg/m³ = 0.53 ppm	2.8 (53)	2.8 (53)	400 IIA T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
141			Polytron 7000 and 8000 H2S LC	as THT (20 / 50 / 100 ppm)	S = 0.3
142			PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	20 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
143			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	5 / 100 %LEL	
			Pyrolyzer Polytron 7500 PFC	DFM: 100 / 100 ppm / LDL = 2 ppm	
144			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
145	1000 (3171)	1000 (3171)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
146			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
147	10 (36)	10 (36)	PIR 7000 type 334, P 8700 type 334	55 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	70 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	35 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	35 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
148	2 (3.8)	10 (19)	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	80 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 NH3 LC	DMA: 100 ppm / LDL = 5 ppm	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
149	2-Dimethylaminoethanol CAS 108-01-0 $(CH_3)_2NC_2H_4OH$	 $C_4H_{11}NO$	N.N-Dimethylethanolamine N.N-Dimethyl-2-hydroxyethylamine	89.1 3.08 r	0.89 1 ppm = 3.71 mg/m³	131 268°F	5.6	31 88°F	 1 mg/m³ = 0.27 ppm	 	1.6 (59)	220 IIA T3
150	Dimethylaminopropylamine CAS 109-55-7 $(CH_3)_2NC_3H_6NH_2$	 DMAPA $C_5H_{14}N_2$	N.N-Dimethyl-1.3-diaminopropane 3-Aminopropyl dimethylamine N.N-Dimethyl-1.3-propandiamine 1-Amino-3-dimethylaminopropane	102.2 3.53 r	0.81 1 ppm = 4.26 mg/m³	134 273°F	6	35 95°F	1.9 (81) 1 mg/m³ = 0.23 ppm	1.2 (51)	 	219 IIA T3
151	2.2-Dimethylbutane CAS 75-83-2 $(CH_3)_3CCH_2CH_3$	 C_6H_{14}	Neohexane	86.2 2.98 r 101 v	0.64 1 ppm = 3.59 mg/m³	50 122°F	348	<-20 <-4°F	1.2 (43) 1 mg/m³ = 0.28 ppm	1.0 (36)	1.2 (43)	435 IIA T2
152	2.3-Dimethylbutane CAS 79-29-8 $(CH_3)_2CHCH(CH_3)_2$	 C_6H_{14}	Di-i-propyl	86.2 2.98 r 98 v	0.66 1 ppm = 3.59 mg/m³	58 136°F	255	<-20 <-4°F	1.2 (43) 1 mg/m³ = 0.28 ppm	1.0 (36)	1.2 (43)	415 IIA T2
153	Dimethyl carbonate CAS 616-38-6 $CO(OCH_3)_2$	 DMC $C_3H_6O_3$	Dimethoxy formic acid anhydride Carbonic acid dimethyl ester	90.1 3.11 r	1.07 1 ppm = 3.75 mg/m³	90 194°F	53	14 57°F	4.2* (158) 1 mg/m³ = 0.27 ppm	 	 	455 T1
154	N.N-Dimethyl cyclohexyl amine CAS 98-94-2 $C_6H_{11}N(CH_3)_2$	 DMCHA $C_8H_{17}N$	N-Cyclohexyl dimethyl amine Hexahydro-N.N-dimethyl aniline Dimethylamino cyclohexane	127.2 4.39 r	0.85 1 ppm = 5.30 mg/m³	161 322°F	3.6	40 104°F	0.9 (48) 1 mg/m³ = 0.19 ppm	 	 	215 T3
155	Dimethyl disulfide CAS 624-92-0 $(CH_3)_2S_2$	 DMDS $C_2H_6S_2$	2.3-Dithiabutane	94.2 3.25 r	1.06 1 ppm = 3.93 mg/m³	110 230°F	25	10 50°F	1.1* (43) 1 mg/m³ = 0.25 ppm	 	 	370 IIA T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
149			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	50 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
150			PIR 7000 type 334, P 8700 type 334	55 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	80 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
151	500 (1796)		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
152	500 (1796)		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
153			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
154			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	80 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	30 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
155			PIR 7000 type 334, P 8700 type 334	60 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	40 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	50 / 100 %LEL	
			Polytron 7000 and 8000 H2S LC	DMDS: 20 / 50 / 100 ppm / LDL = 1 ppm	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
156	Dimethylether CAS 115-10-6 $(CH_3)_2O$	 DME C_2H_6O	Methoxy methane Dimethyl oxide 1.1'-Oxybismethane Methyl ether	46.1 1.59 r	Gas 1 ppm = 1.92 mg/m³	-25 -13°F	Gas	Gas	2.7 (52) 1 mg/m³ = 0.52 ppm	2.7 (52)	3.4 (65)	240 IIB T3
157	Dimethylethylamine CAS 598-56-1 $C_2H_5N(CH_3)_2$	 DMEA $C_4H_{11}N$	N-Ethyl dimethylamine N.N-Dimethylethanamine	73.1 2.52 r	0.68 1 ppm = 3.05 mg/m³	36.5 98°F	527	-36 -33°F	0.9* (27) 1 mg/m³ = 0.33 ppm			190 T4
158	Dimethylformamide CAS 68-12-2 $HCON(CH_3)_2$	 DMF C_3H_7NO	Formic acid dimethylamide N.N-Dimethylformamide N.N-Dimethylmethanamide N-Formyldimethylamine	73.1 2.52 r	0.95 1 ppm = 3.05 mg/m³	153 307°F	3.8	58 136°F	2.2 (67) 1 mg/m³ = 0.33 ppm	1.8 (55)	2.2 (67)	440 IIA T2
159	3.4-Dimethyl hexane CAS 583-48-2 $(C_2H_5CHCH_3)_2$	 C_8H_{18}	i-Octane Isooctane	114.2 3.94 r	0.72 1 ppm = 4.76 mg/m³	118 244°F	22	2 36°F	0.8 (38) 1 mg/m³ = 0.21 ppm	0.8 (38)		305 IIA T2
160	1.1-Dimethylhydrazine CAS 57-14-7 $(CH_3)_2N\text{-}NH_2$	 UDMH $C_2H_8N_2$	N.N-Dimethylhydrazine Dimazine unsym-Dimethylhydrazine	60.1 2.07 r 96 v	0.78 1 ppm = 2.50 mg/m³	63 145°F	145	-18 0°F	2.0 (50) 1 mg/m³ = 0.40 ppm	2.4 (60)	2.0 (50)	240 IIB T3
161	2.3-Dimethylpentane CAS 565-59-3 $C_2H_5CH(CH_3)CH(CH_3)_2$	 C_7H_{16}	i-Heptane Isoheptane	100.2 3.46 r 98 v	0.70 1 ppm = 4.18 mg/m³	90 194°F	72	-12 10°F	1.1 (46) 1 mg/m³ = 0.24 ppm		1.1 (46)	330 IIA T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
156	1000 (1921)		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
			PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL // 4050 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	20 / 100 %LEL // 5400 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 1350 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
157			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	50 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 NH3 LC	DMEA: 100 ppm / LDL = 5 ppm	
158	5 (15)	10 (30)	PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	90 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
159	500 (2379)		P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
160		0.5 (1.3)	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	40 / 100 %LEL	
			Polytron 7000 and 8000 N2H4	UDMH: 1 / 1 / 3 ppm / LDL = 0.02 ppm	
161	500 (2088)		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
162	2.2-Dimethyl propane CAS 463-82-1 $C(CH_3)_4$	C_5H_{12}	Neopentane Tetramethyl methane tert-Butyl methane tert-Pentane	72.2 2.49 r	Gas 1 ppm = 3.01 mg/m³	10 50°F	Gas	Gas	1.3 (39) 1 mg/m³ = 0.33 ppm		1.4 (42)	450 IIA T2
163	N.N-Dimethyl-i-propanolamine CAS 108-16-7 $(CH_3)_2NCH_2CH(OH)CH_3$	$C_5H_{13}NO$	1-Dimethylaminopropan-2-ol	103.2 3.56 r	0.86 1 ppm = 4.30 mg/m³	126 259°F	18	35 95°F	2.7* (116) 1 mg/m³ = 0.23 ppm			IIA
164	N.N-Dimethyl-i-propylamine CAS 996-35-0 $(CH_3)_2CHN(CH_3)_2$	DMIPA $C_5H_{13}N$	1-Dimethyl aminopropane N.N-Dimethyl-1-propane amine	87.2 3.01 r	0.72 1 ppm = 3.63 mg/m³	66 151°F	170	<-20 <-4°F	1.1 (40) 1 mg/m³ = 0.28 ppm			IIA
165	N.N-Dimethyl-n-propyl amine CAS 926-63-6 $(CH_3)_2NC_3H_7$	DMPA $C_5H_{13}N$	N.N-Dimethyl-1-propanamine Dimethylpropylamine	87.2 3.01 r	0.72 1 ppm = 3.63 mg/m³	65 149°F	173	<-20 <-4°F	1.3 (47) 1 mg/m³ = 0.28 ppm			IIA
166	Dimethyl sulfide CAS 75-18-3 $(CH_3)_2S$	DMS C_2H_6S	2-Thiapropane Thiobismethane Methyl thiomethane	62.1 2.14 r 100 v	0.85 1 ppm = 2.59 mg/m³	37 99°F	527	<-20 <-4°F	2.2 (57) 1 mg/m³ = 0.39 ppm		2.2 (57)	215 IIA T3
167	1.4-Dioxane CAS 123-91-1 $(CH_2)_4O_2$	$C_4H_8O_2$	Diethylene dioxide Diethylene ether 1.4-Dioxa cyclohexane p-Dioxane	88.1 3.04 r 107 v	1.03 1 ppm = 3.67 mg/m³	101 214°F	38	11 52°F	1.4 (51) 1 mg/m³ = 0.27 ppm	1.4 (51)	2.0 (73)	375 IIB T2
168	1.3-Dioxolane CAS 646-06-0 $(CH_2)_3O_2$	$C_3H_6O_2$	1.3-Dioxa cyclopentane Formaldehyde ethylene acetal Dihydro-1.3-dioxol	74.1 2.56 r	1.06 1 ppm = 3.09 mg/m³	74 165°F	114	-5 23°F	2.3 (71) 1 mg/m³ = 0.32 ppm	2.3 (71)		245 IIB T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
162	1000 (3008)		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
163			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
164	1 (3.6)		P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 NH3 LC	as NH3 x 2 (50 / 100 ppm x 2)	S = 0.5 (L)
165			PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
166			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	25 / 100 %LEL	
			Polytron 7000 and 8000 H2S LC	DMS: 20 / 50 / 100 ppm / LDL = 1 ppm	
167	20 (73)	100 (367)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL // 3500 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL // 4000 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	8 / 100 %LEL // 1120 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
168	100 (309)		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as EO x 0.5 (20 / 50 / 200 ppm x 0.5)	S = 2.0 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
169	Di-i-propylamine		1-Methylethyl-2-propanamine	101.2	0.72	82	85	-7	1.2	1.2	1.1	285
	CAS 108-18-9	DIPA		3.49 r		180°F		19°F	(51)	(51)	(46)	IIA
	$((CH_3)_2CH)_2NH$	$C_6H_{15}N$		96 v	1 ppm = 4.22 mg/m³				1 mg/m³ = 0.24 ppm			T3
170	Dipropylamine		Di-n-propylamine	101.2	0.74	105	38	7	1.2	1.2		260
	CAS 142-84-7		N-Propyl-1-propane amine	3.49 r		221°F		45°F	(51)	(51)		IIA
	$(C_3H_7)_2NH$	$C_6H_{15}N$			1 ppm = 4.22 mg/m³				1 mg/m³ = 0.24 ppm			T3
171	Dipropylene glycol dimethyl ether		Oxybis(methoxypropane)	162.2	0.90	175	0.74	65	0.7			165
	CAS 111109-77-4	DPDME	Dimethoxy dipropylene glycol	5.60 r		347°F		149°F	(47)			IIB
	$CH_3O(CH_2)_3O(CH_2)_3OCH_3$	$C_8H_{18}O_3$	Bis(methoxypropyl)ether		1 ppm = 6.76 mg/m³				1 mg/m³ = 0.15 ppm			T4
172	Di-i-propyl ether		2-Isopropoxy propane	102.2	0.72	69	175	<-20	1.0	1.0	1.4	405
	CAS 108-20-3		2.2'-Oxybispropane	3.53 r		156°F		<-4°F	(43)	(43)	(60)	IIA
	$(CH_3)_2CHOCH(CH_3)_2$	$C_6H_{14}O$	Isopropyl ether	124 v	1 ppm = 4.26 mg/m³				1 mg/m³ = 0.23 ppm			T2
173	Di-n-propyl ether		Dipropyl ether	102.2	0.75	90	73	-18	1.2	1.18	1.3	175
	CAS 111-43-3		1-Propoxypropane	3.53 r		194°F		0°F	(51)	(50)	(55)	IIA
	$(C_3H_7)_2O$	$C_6H_{14}O$	1.1'-Oxybispropane	111 v	1 ppm = 4.26 mg/m³				1 mg/m³ = 0.23 ppm			T4
174	Disilane		Silicon hexahydride	62.2	Gas	-14	Gas		1.0*			
	CAS 1590-87-0	DS	Silico ethane	2.15 r		7°F			(26)			
	Si_2H_6	H_6Si_2			1 ppm = 2.59 mg/m³				1 mg/m³ = 0.39 ppm			
175	Divinyl benzene		Diethenyl benzene	130.2	0.91	195	0.9	64			0.7	
	CAS 1321-74-0	DVB	Vinylstyrene	4.49 r		383°F		147°F			(38)	
	$C_6H_4(CH=CH_2)_2$	$C_{10}H_{10}$			1 ppm = 5.43 mg/m³				1 mg/m³ = 0.18 ppm			
176	Divinylether		Divinyloxide	70.1	0.77	28	737	<-20	1.7		1.7	360
	CAS 109-93-3	DVE	Vinylether	2.42 r		82°F		<-4°F	(50)		(50)	IIB
	$(CH_2=CH)_2O$	C_4H_6O	1.1'-Oxybisethene	97 v	1 ppm = 2.92 mg/m³				1 mg/m³ = 0.34 ppm			T2
			Ethenyloxyethene									
177	n-Dodecane		Dihexyl	170.3	0.75	216	0.12	80	0.6		0.6	200
	CAS 112-40-3			5.88 r		421°F		176°F	(43)		(43)	IIA
	$C_{12}H_{26}$	$C_{12}H_{26}$			1 ppm = 7.10 mg/m³				1 mg/m³ = 0.14 ppm			T4
178	Enflurane		Ethrane	184.5	1.52	56.5	233	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 13838-16-9		Chlorotrifluoroethyldifluoromethyl ether	6.37 r		134°F						
	CHF_2-O-CF_2CHFCl	$C_3H_2ClF_5O$	2-Chloro difluoromethoxytrifluoroethane		1 ppm = 7.69 mg/m³				1 mg/m³ = 0.13 ppm			
179	Epichlorohydrin		1-Chloro-2.3-epoxypropane	92.5	1.18	116	16.3	28	2.3	2.3	3.8	385
	CAS 106-89-8	ECH	2.3-Epoxypropylchloride	3.19 r		241°F		82°F	(89)	(89)	(146)	IIB
	$CH_2ClCHCH_2O$	C_3H_5ClO	Chloromethyl oxirane	186 v	1 ppm = 3.85 mg/m³				1 mg/m³ = 0.26 ppm			T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
169		5 (21)	PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
170			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	corrosive/sensor poison
171			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 / 100 %LEL 100 %LEL (§) 100 %LEL (§) 20 / 100 %LEL	
172	200 (852)	500 (2129)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	10 // 100 %LEL 20 / 100 %LEL 20 + 50 + 100 %LEL 30 / 100 %LEL 10 / 100 %LEL 20 + 50 + 100 %LEL 10 / 100 %LEL 100 %LEL (?)	
173			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
174			Polytron 7000 and 8000 Hydride	DS: 5 / 20 / 20 ppm / LDL = 0.3 ppm	
175		10 (54)	PIR 7000 type 334, P 8700 type 334	25 / 25 %LEL	only for concentrations < 25 %LEL
176			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	polymerizing - sensor poison
177			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
178	20 (154)	2c (15)	Pyrolyzer Polytron 7500 PFC	10 ppm / LDL = 0.2 ppm	S = 2.2
179		5 (19)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron 7000 and 8000 OV2	100 %LEL 30 / 100 %LEL // 6900 ppm Gas-Library 50 + 100 %LEL Gas-Library 30 / 100 %LEL // 4600 ppm Gas-Library 40 / 100 %LEL // 9200 ppm Gas-Library 50 + 100 %LEL Gas-Library 100 %LEL (§) 100 %LEL (?) ECH: 20 / 50 / 100 ppm / LDL = 5 ppm	corrosive/sensor poison Performance Approval Performance Approval Performance Approval S = 0.45 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
180	1.2-Epoxybutane		Butylene oxide	72.1	0.83	65	177	-15	1.5		1.7	370
	CAS 106-88-7		Ethyl oxirane	2.49 r		149°F		5°F	(45)		(51)	
	C_4H_8O	C_4H_8O	1.2-Butylen oxide	92 v	1 ppm = 3.00 mg/m³				1 mg/m³ = 0.33 ppm			T2
181	Ethane		Methylmethane	30.1	Gas	-89	Gas	Gas	2.4	2.4	3.0	515
	CAS 74-84-0		Dimethyl	1.04 r		-128°F			(30)	(30)	(38)	IIA
	C_2H_6	C_2H_6	R 170		1 ppm = 1.25 mg/m³				1 mg/m³ = 0.80 ppm			T1
182	Ethanol		Ethyl alcohol	46.1	0.79	78	58	12	3.1	3.1	3.3	400
	CAS 64-17-5	EtOH	Methylcarbinol	1.59 r		172°F		54°F	(60)	(60)	(63)	IIB
	C_2H_5OH	C_2H_6O		120 v	1 ppm = 1.92 mg/m³				1 mg/m³ = 0.52 ppm			T2
183	Ethanol amine		2-Aminoethanol	61.1	1.02	172	0.5	85			3.0	410
	CAS 141-43-5		2-Hydroxyethylamine	2.11 r		342°F		185°F			(76)	IIA
	$NH_2C_2H_4OH$	C_2H_7NO	Colamine		1 ppm = 2.55 mg/m³				1 mg/m³ = 0.39 ppm			T2
184	2-Ethoxyethanol		Ethyl glycol	90.1	0.93	135	5	40	1.8	1.7	1.7	235
	CAS 110-80-5	EGEE	Ethylene glycol monoethyl ether	3.11 r		275°F		104°F	(68)	(64)	(64)	IIB
	$C_2H_5OC_2H_4OH$	$C_4H_{10}O_2$	Ethyl cellosolve		1 ppm = 3.75 mg/m³				1 mg/m³ = 0.27 ppm			T3
			Monoethyl glycol ether									
			Oxitol									
185	2-Ethoxyethyl acetate		2-Ethoxyethanol acetate	132.2	0.98	156	2.7	51	1.2	1.2	1.7	380
	CAS 111-15-9	EGEEA	Ethyl glycol acetate	4.56 r		313°F		124°F	(66)	(66)	(94)	IIA
	$CH_3COOC_2H_4OC_2H_5$	$C_6H_{12}O_3$	Ethylene glycol monoethyl ether acetate		1 ppm = 5.51 mg/m³				1 mg/m³ = 0.18 ppm			T2
			Acetic acid 2-ethoxyethylester									
			Cellosolve acetate									
186	1-Ethoxy-2-propanol		1-Ethoxypropan-2-ol	104.2	0.90	130	10	42	1.3			255
	CAS 1569-02-4	PGEE	Propylene glycol monoethyl ether	3.60 r		266°F		108°F	(56)			IIB
	$C_2H_5OCH_2CH(OH)CH_3$	$C_5H_{12}O_2$	2-Propylenglycol-1-ethylether		1 ppm = 4.34 mg/m³				1 mg/m³ = 0.23 ppm			T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
180			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as PO x 2 (20 / 50 / 200 ppm x 2)	S = 0.4 (L)
181			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 3750 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL // 2500 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 1.03 (Propane = 1)
182	500	1000	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(960)	(1921)	PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL // 4650 ppm Gas.-Bibl.	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	25 / 100 %LEL // 6600 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 1550 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	5 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron 7000 and 8000 OV1	EtOH: 100 / 200 / 300 ppm / LDL = 10 ppm	S = 0.6
183	2	3	PIR 7000 type 340, P 8700 type 340	20 %LEL (?)	
	(5.1)	(7.6)	P 5700 type 340	20 %LEL (?)	
			Polytron IR type 340	20 %LEL (?)	
184	2	200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(7.5)	(751)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
185	2	100	PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
	(11)	(551)	P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
186	50		P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
	(217)		PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL // 3250 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 1300 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
187	4-Ethoxy-1.1.1-trifluoro-3-buten-2-one CAS 17129-06-5 $C_2H_5OCH=CHC(O)CF_3$	ETFBO $C_6H_7F_3O_2$	Ethoxytrifluorbutenon	168.1 5.80 r	1.18 1 ppm = 7.00 mg/m³	159 318°F	3		1.4* (98) 1 mg/m³ = 0.14 ppm			
188	Ethyl acetate CAS 141-78-6 $CH_3COOC_2H_5$	 $C_4H_8O_2$	Acetic acid ethyl ester Ethanoic acid ethyl ester Ethyl ethanoate	88.1 3.04 r 122 v	0.90 1 ppm = 3.67 mg/m³	77 171°F	98	-4 25°F	2.0 (73) 1 mg/m³ = 0.27 ppm	2.0 (73)	2.0 (73)	470 IIA T1
189	Ethyl acrylate CAS 140-88-5 $CH_2=CHCOOC_2H_5$	 $C_5H_8O_2$	Acrylic acid ethyl ester 2-Propenoic acid ethyl ester Ethyl propenoate	100.1 3.46 r 95 v	0.92 1 ppm = 4.17 mg/m³	100 212°F	39	9 48°F	1.7 (71) 1 mg/m³ = 0.24 ppm	1.4 (58)	1.4 (58)	350 IIB T2
190	Ethylamine CAS 75-04-7 $C_2H_5NH_2$	 C_2H_7N	Aminoethane Monoethylamine Ethane amine R 631	45.1 1.56 r	Gas 1 ppm = 1.88 mg/m³	17 63°F	Gas	Gas	3.5 (66) 1 mg/m³ = 0.53 ppm	3.5 (66)	3.5 (66)	385 IIA T2
191	Ethyl benzene CAS 100-41-4 $C_6H_5C_2H_5$	 C_8H_{10}	Phenylethane Ethylbenzol	106.2 3.67 r 61 v	0.87 1 ppm = 4.43 mg/m³	136 277°F	9.8	23 73°F	1.0 (44) 1 mg/m³ = 0.23 ppm	0.8 (35)	0.8 (35)	430 IIB T2
192	Ethyl bromide CAS 74-96-4 C_2H_5Br	 C_2H_5Br	Bromoethane Bromoethyl Monobromoethane	109.0 3.76 r	1.46 1 ppm = 4.54 mg/m³	38 100°F	513	n.a.	6.7 (304) 1 mg/m³ = 0.22 ppm	6.7 (304)	6.8 (309)	510 IIB T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
187			PIR 7000 type 334, P 8700 type 334	40 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
188	400	400	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(1468)	(1468)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 3300 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	25 / 100 %LEL // 4000 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL // 3300 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 1.24 (Propane = 1)
189	5	25	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
	(21)	(104)	P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	25 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (§)	
			Polytron 7000 and 8000 OV1	as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)
190	5	10	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	corrosive/sensor poison
	(9.4)	(19)	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (§)	
			Polytron 7000 and 8000 NH3 LC	EA: 100 ppm / LDL = 5 ppm	
191	20	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(89)	(443)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL // 2400 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL // 1600 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL // 2400 ppm Gas-Library	
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	35 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
192		200	PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL	
		(908)	P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
193	Ethyl-tert-butylether		tert-Butyl ethyl ether	102.2	0.74	73	135	-19	1.2			
	CAS 637-92-3	ETBE	2-Methyl-2-ethoxy propane	3.53 r		163°F		-2°F	(51)			
	$C_2H_5OC(CH_3)_3$	$C_6H_{14}O$	2-Ethoxy-2-methyl propane		1 ppm = 4.26 mg/m³				1 mg/m³ = 0.23 ppm			
			Ethyl-1.1-dimethylethyl ether									
194	Ethyl chloride		Chloroethyl	64.5	Gas	12	Gas	Gas	3.6	3.6	3.8	510
	CAS 75-00-3		Chloroethane	2.23 r		54°F			(97)	(97)	(102)	IIA
	C_2H_5Cl	C_2H_5Cl	Monochloroethane		1 ppm = 2.69 mg/m³				1 mg/m³ = 0.37 ppm			T1
			R 160									
195	Ethyl chloroformate		Ethoxycarbonyl chloride	108.5	1.14	93	55	16	3.7*			500
	CAS 541-41-3		Ethyl chlorocarbonate	3.75 r		199°F		61°F	(167)			IIA
	$ClCOOC_2H_5$	$C_3H_5ClO_2$	Chloroformic acid ethyl ester		1 ppm = 4.52 mg/m³				1 mg/m³ = 0.22 ppm			T1
			Ethyl chloromethanoate									
196	Ethylcyclobutane		Ethylcyclotetramethylene	84.2	0.73	71		<-20	1.2	1.2	1.2	210
	CAS 4806-61-5			2.91 r		160°F		<-4°F	(42)	(42)	(42)	IIA
	$(CH_2)_3CHC_2H_5$	C_6H_{12}		86 v	1 ppm = 3.51 mg/m³				1 mg/m³ = 0.29 ppm			T3
197	Ethylcyclohexane		Ethylhexamethylene	112.2	0.79	132	13	<21	0.9	0.9	0.9	260
	CAS 1678-91-7			3.87 r		270°F		<70°F	(42)	(42)	(42)	IIA
	$(CH_2)_5CHC_2H_5$	C_8H_{16}		80 v	1 ppm = 4.68 mg/m³				1 mg/m³ = 0.21 ppm			T3
198	Ethylcyclopentane		Ethylpentamethylene	98.2	0.77	103	41	<21	1.1	1.05	1.1	260
	CAS 1640-89-7			3.39 r		217°F		<70°F	(45)	(43)	(45)	IIA
	$(CH_2)_4CHC_2H_5$	C_7H_{14}		88 v	1 ppm = 4.09 mg/m³				1 mg/m³ = 0.24 ppm			T3
199	Ethylene		Ethene	28.1	Gas	-104	Gas	Gas	2.4	2.3	2.7	440
	CAS 74-85-1		Olefiant gas	0.97 r		-155°F			(28)	(27)	(32)	IIB
	$CH_2=CH_2$	C_2H_4	R 1150		1 ppm = 1.17 mg/m³				1 mg/m³ = 0.85 ppm			T2
200	Ethylenediamine		1.2-Diaminoethane	60.1	0.90	116	12.4	34		2.5	2.5	385
	CAS 107-15-3	EDA	1.2-Ethanediamine	2.07 r		241°F		93°F		(63)	(63)	IIA
	NH_2-C_2H_4-NH_2	$C_2H_8N_2$	Dimethylenediamine		1 ppm = 2.50 mg/m³				1 mg/m³ = 0.40 ppm			T2
201	Ethylene glycol		1.2-Ethanediol	62.1	1.11	197	0.07	111	3.2		3.2	410
	CAS 107-21-1		1.2-Dihydroxyethane	2.14 r		387°F		232°F	(83)		(83)	IIB
	$HOCH_2CH_2OH$	$C_2H_6O_2$	Glycol		1 ppm = 2.59 mg/m³				1 mg/m³ = 0.39 ppm			T2
			2-Hydroxyethanol									

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
193			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
194	40	1000	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
	(108)	(2688)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 7200 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL // 5400 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
195			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	30 / 100 %LEL	
196			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
197			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
198			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
199			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
			PIR 7000 type 334, P 8700 type 334	40 / 100 %LEL // 9200 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	50 / 100 %LEL // 5400 ppm Gas-Library	Performance Approval
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron 7000 and 8000 OV1	C2H4: 20 / 50 / 100 ppm / LDL = 5 ppm	S = 1.3
			Polytron Pulsar 2	1 // 4 / 8 LELm	Special version for Ethylene
200		10	PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
		(25)	P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
			Polytron 7000 and 8000 NH3 LC	as NH3 x 5 (50 / 100 ppm x 5)	S = 0.2 (L)
201	10		PIR 7000 type 340, P 8700 type 340	10 / 10 %LEL	only for concentrations < 10 %LEL
	(26)		Polytron IR type 340	10 %LEL (§)	only for concentrations < 10 %LEL

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
202	Ethyleneimine		Aziridine	43.1	0.83	55	227	-13	3.6	3.3	3.3	320
	CAS 151-56-4		Aminoethylene	1.49 r		131°F		9°F	(65)	(59)	(59)	IIB
	$(CH_2)_2NH$	C_2H_5N	Azirane	107 v	1 ppm = 1.80 mg/m³				1 mg/m³ = 0.56 ppm			T2
			Azacyclopropane									
203	Ethylene oxide		1.2-Epoxyethane	44.1	Gas	10	Gas	Gas	2.6	2.6	3.0	435
	CAS 75-21-8	EO	Oxirane	1.52 r		50°F			(48)	(48)	(55)	IIB
	C_2H_4O	C_2H_4O	Dimethylene oxide		1 ppm = 1.84 mg/m³				1 mg/m³ = 0.54 ppm			T2
204	Ethyl formate		Ethyl methanoate	74.1	0.92	54	266	-20	2.7	2.7	2.8	445
	CAS 109-94-4		Formic acid ethyl ester	2.56 r		129°F		-4°F	(83)	(83)	(86)	IIA
	$HCOOC_2H_5$	$C_3H_6O_2$	Methanoic acid ethyl ester	141 v	1 ppm = 3.09 mg/m³				1 mg/m³ = 0.32 ppm			T2
205	2-Ethylhexanal		2-Ethyl-1-hexanal	128.2	0.82	163	2.4	42		0.9	0.85	185
	CAS 123-05-7		2-Ethylhexaldehyde	4.43 r		325°F		108°F		(48)	(45)	IIA
	$C_4H_9CH(C_2H_5)CHO$	$C_8H_{16}O$	2-Ethyl caproaldehyde		1 ppm = 5.34 mg/m³				1 mg/m³ = 0.19 ppm			T4
			Butyl ethyl acetaldehyde									
206	2-Ethylhexyl acrylate		2-Propenoic acid-2-ethylhexyl ester	184.3	0.89	214	0.13	82	0.8	0.7	0.7	245
	CAS 103-11-7		2-Ethylhexyl-2-propenoate	6.36 r		417°F		180°F	(61)	(54)	(54)	
	$CH_2=CHCOOCH_2CH(C_2H_5)C_4H_9$	$C_{11}H_{20}O_2$	Acrylic acid (2-ethylhexyl)ester		1 ppm = 7.68 mg/m³				1 mg/m³ = 0.13 ppm			T3
207	Ethyl lactate		Hydroxypropionic acid ethyl ester	118.1	1.03	154	2	46	1.5		1.5	400
	CAS 97-64-3		Lactic acid ethyl ester	4.08 r		309°F		115°F	(74)		(74)	IIA
	$CH_3CH(OH)COOC_2H_5$	$C_5H_{10}O_3$	Propanoic acid 2-hydroxy ethylester		1 ppm = 4.92 mg/m³				1 mg/m³ = 0.20 ppm			T2
208	Ethyl mercaptan		Ethanethiol	62.1	0.84	35	576	<-20	2.8	2.8	2.8	295
	CAS 75-08-1	EtM	Mercaptoethane	2.14 r		95°F		<-4°F	(72)	(72)	(72)	IIB
	C_2H_5SH	C_2H_6S	Ethyl sulfhydrate	129 v	1 ppm = 2.59 mg/m³				1 mg/m³ = 0.39 ppm			T3
			Thioethyl alcohol									
209	Ethylmethacrylate		Methacrylic acid ethylester	114.1	0.91	117	16	19	1.4	1.5	1.8	
	CAS 97-63-2	EMA	2-Methyl-2-propenoic acid ethylester	3.94 r		243°F		66°F	(67)	(71)	(86)	IIA
	$CH_2=C(CH_3)COOC_2H_5$	$C_6H_{10}O_2$	Ethyl methyl acrylate	141 v	1 ppm = 4.75 mg/m³				1 mg/m³ = 0.21 ppm			
			Ethyl-2-methyl-2-propenoate									

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
202			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
203		1	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
		(1.8)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 3900 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	25 / 100 %LEL // 6000 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL // 7800 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 3000 C2H4O	50 ppm	
			Polytron 7000 and 8000 OV1	EO: 20 / 50 / 200 ppm / LDL = 5 ppm	S = 1.0
			Polytron 5000 EO	20 / 50 / 100 ppm	
204	100	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(309)	(309)	PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as Et2O (50 / 50 / 200 ppm)	S = 0.4 (L)
205			PIR 7000 type 334, P 8700 type 334	60 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
206	5		PIR 7000 type 340, P 8700 type 340	20 / 30 %LEL	only for concentrations < 30 %LEL
	(38)		Polytron IR type 340	25 / 30 %LEL	only for concentrations < 30 %LEL
207			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
208	0.5	0.5c	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
	(1.3)	(1.3)	P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 H2S LC	EtM: 20 / 50 / 100 ppm / LDL = 1 ppm	
209			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as Et2O x 2 (50 / 50 / 200 ppm x 2)	S = 0.2 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
210	N-Ethylpiperidine CAS 766-09-6 $C_2H_5N(CH_2)_5$	EPP $C_7H_{15}N$	1-Ethylpiperidine	113.2 3.91 r	0.82 1 ppm = 4.72 mg/m³	131 268°F	10.3	17 63°F	1.9* (90) 1 mg/m³ = 0.21 ppm			
211	Ethylpropionate CAS 105-37-3 $C_2H_5COOC_2H_5$	$C_5H_{10}O_2$	Propionic acid ethylester Ethyl propanoate Propanoic acid ethylester	102.1 3.52 r 136 v	0.89 1 ppm = 4.25 mg/m³	99 210°F	27	12 54°F	1.8 (77) 1 mg/m³ = 0.24 ppm		1.9 (81)	455 IIA T1
212	Ethylpropylether CAS 628-32-0 $C_2H_5OC_3H_7$	$C_5H_{12}O$	1-Ethoxypropane Propylethylether	88.2 3.04 r 128 v	0.73 1 ppm = 3.68 mg/m³	64 147°F	194	<-20 <-4°F	1.7 (62) 1 mg/m³ = 0.27 ppm		1.7 (62)	 IIB
213	Ethyl vinyl ether CAS 109-92-2 $CH_2=CHOC_2H_5$	EVE C_4H_8O	Vinyl ethyl ether Ethoxyethene	72.1 2.49 r 102 v	0.75 1 ppm = 3.00 mg/m³	36 97°F	561	<-20 <-4°F	1.7 (51) 1 mg/m³ = 0.33 ppm		1.7 (51)	200 IIB T4
214	Fluorine CAS 7782-41-4 F_2	F_2		38.0 1.31 r	Gas 1 ppm = 1.58 mg/m³	-188 -306°F	Gas	n.a.	n.a. 1 mg/m³ = 0.63 ppm	n.a.	n.a.	n.a.
215	Fluorobenzene CAS 462-06-6 C_6H_5F	MFB C_6H_5F	Monofluorobenzene Phenyl fluoride	96.1 3.32 r	1.03 1 ppm = 4.00 mg/m³	85 185°F	81	-15 5°F	1.3* (52) 1 mg/m³ = 0.25 ppm			 IIA
216	Formaldehyde CAS 50-00-0 HCHO	CH_2O	Methanal Methyl aldehyde Oxomethane Methylene oxide	30.0 1.04 r	Gas 1 ppm = 1.25 mg/m³	-19 -2°F	Gas	Gas	7.0 (88) 1 mg/m³ = 0.80 ppm	7.0 (88)	7.0 (88)	424 IIB T2
217	Formic acid CAS 64-18-6 HCOOH	CH_2O_2	Methanoic acid Hydrogen carboxylic acid	46.0 1.59 r	1.22 1 ppm = 1.92 mg/m³	101 214°F	45	45 113°F	16.4 (314) 1 mg/m³ = 0.52 ppm	18.0 (345)	18.0 (345)	520 IIA T1
218	Furan CAS 110-00-9 $(CH)_4O$	Oxol C_4H_4O	Furfuran 1.4-Epoxy-1.3-butadiene Oxacyclopentadiene Divinylene oxide	68.1 2.35 r 104 v	0.94 1 ppm = 2.84 mg/m³	32 90°F	658	<-20 <-4°F	2.3 (65) 1 mg/m³ = 0.35 ppm	2.3 (65)	2.3 (65)	390 IIB T2
219	Furfuraldehyde CAS 98-01-1 C_4H_3OCHO	$C_5H_4O_2$	Furfural 2-Furaldehyde 2-Furancarboxyaldehyde 2-Furylmethanal	96.1 3.32 r	1.16 1 ppm = 4.00 mg/m³	162 324°F	1.5	60 140°F	2.1 (84) 1 mg/m³ = 0.25 ppm	2.1 (84)	2.1 (84)	316 IIB T2
220	Furfuryl alcohol CAS 98-00-0 $C_4H_3OCH_2OH$	$C_5H_6O_2$	Furfur alcohol 2-Furan methanol 2-Hydroxymethylfuran 2-Furancarbinol	98.1 3.39 r	1.13 1 ppm = 4.09 mg/m³	171 340°F	0.53	75 167°F	1.8 (74) 1 mg/m³ = 0.24 ppm	1.8 (74)	1.8 (74)	390 IIB T2
221	Germanium hydride CAS 7782-65-2 GeH_4	H_4Ge	Germane Germanium tetrahydride Germanomethane Tetrahydrogermane	76.6 2.64 r	Gas 1 ppm = 3.19 mg/m³	-88.5 -127°F	Gas		1 mg/m³ = 0.31 ppm			

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
210			PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
211			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
212			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
213			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	polymerizing/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as EO x 2 (20 / 50 / 200 ppm x 2)	S = 0.5 (L)
214	1 (1.6)	0.1 (0.16)	Polytron 7000 and 8000 Cl2	F2: 1 / 10 / 50 ppm	
215			PIR 7000 type 334, P 8700 type 334	70 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	100 %LEL (?)	
216		0.75 (0.94)	PIR 7000 type 340, P 8700 type 340	1000 ppm (?)	
			P 5700 type 340	1000 ppm (?)	
			Polytron IR type 340	1000 ppm (?)	
			Polytron 7000 and 8000 OV1	FYDE: 20 / 50 / 100 ppm / LDL = 5 ppm	S = 1.0
217	5 (9.6)	5 (9.6)	Polytron 7000 and 8000 AC	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
218			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			Polytron 7000 and 8000 OV1	as Et2O (50 / 50 / 200 ppm)	S = 0.4 (L)
219		5 (20)	Polytron 7000 and 8000 OV1	as Aald (50 / 100 / 200 ppm)	S = 0.3 (L)
220	10 (41)	50 (204)	Polytron 7000 and 8000 OV1	as IPA (100 / 200 / 300 ppm)	S = 0.35 (L)
221		0.2 (0.64)	Polytron 7000 and 8000 Hydride	GeH4: 0.3 / 1 / 20 ppm / LDL = 0.05 ppm	
			Polytron 7000 and 8000 Hydride SC	GeH4: 0.3 / 1 / 5 ppm / LDL = 0.02 ppm	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
222	Germanium tetrachloride CAS 10038-98-9 $GeCl_4$	Cl_4Ge	Tetrachlorogermane	214.4 7.40 r	1.88 1 ppm = 8.93 mg/m³	82 180°F	97	n.a.	n.a. 1 mg/m³ = 0.11 ppm	n.a.	n.a.	n.a.
223	Germanium tetrafluoride CAS 7783-58-6 GeF_4	F_4Ge	Tetrafluorogermane	148.6 5.13 r	Gas 1 ppm = 6.19 mg/m³	-37 -35°F	Gas	n.a.	n.a. 1 mg/m³ = 0.16 ppm	n.a.	n.a.	n.a.
224	Halothane CAS 151-67-7 $CF_3CHBrCl$	$C_2HBrClF_3$	2-Bromo-2-chloro-1.1.1-trifluoroethane Halon 2311 Fluothrane R 123B1	197.4 6.81 r	1.87 1 ppm = 8.23 mg/m³	50.2 122°F	242	n.a.	n.a. 1 mg/m³ = 0.12 ppm	n.a.	n.a.	n.a.
225	Heptafluoropropane CAS 431-89-0 $F_3C\text{-}CHF\text{-}CF_3$	C_3HF_7	1.1.1.2.3.3.3-Heptafluoropropane 2H-Heptafluoropropane R 227ea	170.0 5.87 r	Gas 1 ppm = 7.08 mg/m³	-16.4 2°F	Gas		1 mg/m³ = 0.14 ppm			
226	Heptamethyl trisiloxane CAS 1873-88-7 $(CH_3)_3SiOSi(HCH_3)OSi(CH_3)_3$	$C_7H_{22}O_2Si_3$	Bis(trimethylsiloxy)methylsilane 1.1.1.3.5.5.5-Heptamethyltrisiloxane Methylbis(trimethylsiloxy)silane	222.5 7.68 r	0.82 1 ppm = 9.27 mg/m³	142 288°F			0.5* (46) 1 mg/m³ = 0.11 ppm			
227	n-Heptane CAS 142-82-5 C_7H_{16}	C_7H_{16}		100.2 3.46 r 92 v	0.68 1 ppm = 4.18 mg/m³	98 208°F	47	-7 19°F	0.8 (33) 1 mg/m³ = 0.24 ppm	0.85 (35)	1.0 (42)	220 IIA T3
228	1-Heptanol CAS 111-70-6 $C_7H_{15}OH$	$C_7H_{16}O$	Heptan-1-ol Heptyl alcohol 1-Hydroxyheptane	116.2 4.01 r	0.82 1 ppm = 4.84 mg/m³	175 347°F	0.15	70 158°F	0.9 (44) 1 mg/m³ = 0.21 ppm	0.9 (44)		275 IIB T3
229	2-Heptanone CAS 110-43-0 $CH_3COC_5H_{11}$	MAK $C_7H_{14}O$	Heptan-2-one Methyl amyl ketone n-Amyl methyl ketone Methyl pentyl ketone	114.2 3.94 r	0.82 1 ppm = 4.76 mg/m³	151 304°F	4.5	40 104°F	1 mg/m³ = 0.21 ppm	1.1 (52)	1.1 (52)	305 IIA T2
230	1-Hepten CAS 592-76-7 $C_5H_{11}CH{=}CH_2$	C_7H_{14}	Hept-1-ene 1-Heptylene	98.2 3.39 r	0.70 1 ppm = 4.09 mg/m³	94 201°F	64	-8 18°F	1.0 (41) 1 mg/m³ = 0.24 ppm			250 IIB T3
231	Hexafluoro-1.3-butadiene CAS 685-63-2 $F_2C{=}CF\text{-}CF{=}CF_2$	C_4F_6	Perfluoro butadiene	162.0 5.59 r	Gas 1 ppm = 6.75 mg/m³	6 43°F	Gas		7.0* (473) 1 mg/m³ = 0.15 ppm			
232	Hexafluoroethane CAS 76-16-4 CF_3CF_3	C_2F_6	R 116	138.0 4.76 r	Gas 1 ppm = 5.75 mg/m³	-78.2 -109°F	Gas	n.a.	n.a. 1 mg/m³ = 0.17 ppm	n.a.	n.a.	n.a.

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
222			Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm as SiCl4 (5 / 10 / 20 ppm)	
223			Polytron 7000 and 8000 AC	GeF4: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
224	5 (41)	2c (16)	Pyrolyzer Polytron 7500 PFC	20 ppm / LDL = 0.5 ppm	S = 1.2
225			Pyrolyzer Polytron 7500 PFC	60 ppm / LDL = 1 ppm	S = 0.5
226			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	40 / 100 %LEL 50 + 100 %LEL 100 %LEL (§) 25 / 100 %LEL 50 + 100 %LEL 100 %LEL (§)	
227	500 (2088)	500 (2088)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron Pulsar 2	10 // 100 %LEL 25 / 100 %LEL // 1700 ppm Gas-Library 50 + 100 %LEL 70 / 100 %LEL 8 / 100 %LEL // 425 ppm Gas-Library 20 + 50 + 100 %LEL 10 / 100 %LEL 100 %LEL 1 // 4 / 8 LELm	S = 0.97 (Propane = 1)
228			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
229	50 (238)	100 (476)	PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
230			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron 7000 and 8000 OV1	10 // 100 %LEL 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)
231		5 (34)	Pyrolyzer Polytron 7500 PFC	C4F6: 2 / 30 ppm / LDL = 0.5 ppm	
232			Pyrolyzer Polytron 7500 PFC	400 ppm / LDL = 10 ppm	S = 0.1

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
233	Hexamethyldisilazane CAS 999-97-3 $(CH_3)_3Si\text{-}NH\text{-}Si(CH_3)_3$	HMDS $C_6H_{19}NSi_2$	Bis-trimethylsilyl-amine Tetramethyl-3-aza-2.4-disilapentane	161.4 5.57 r	0.78 1 ppm = 6.73 mg/m³	126 259°F	20		0.8* (54) 1 mg/m³ = 0.15 ppm			
234	Hexamethyldisiloxane CAS 107-46-0 $(CH_3)_3Si\text{-}O\text{-}Si(CH_3)_3$	HMDSO $C_6H_{18}OSi_2$	Tetramethyl-3-oxa-2.4-disilapentane	162.4 5.61 r	0.76 1 ppm = 6.77 mg/m³	101 214°F	20	-8 18°F	0.7 (47) 1 mg/m³ = 0.15 ppm			310 IIB T2
235	n-Hexane CAS 110-54-3 C_6H_{14}	 C_6H_{14}	Hexyl hydride	86.2 2.98 r 90 v	0.66 1 ppm = 3.59 mg/m³	69 156°F	162	<-20 <-4°F	1.0 (36) 1 mg/m³ = 0.28 ppm	1.0 (36)	1.1 (40)	230 IIA T3
236	1-Hexanol CAS 111-27-3 $C_6H_{13}OH$	 $C_6H_{14}O$	Hexan-1-ol Hexyl alcohol Amyl carbinol 1-Hydroxyhexane	102.2 3.53 r	0.82 1 ppm = 4.26 mg/m³	157 315°F	0.9	60 140°F	1.1 (47) 1 mg/m³ = 0.23 ppm	1.1 (47)	1.2 (51)	280 IIB T3
237	2-Hexanone CAS 591-78-6 $CH_3COC_4H_9$	MBK $C_6H_{12}O$	Hexan-2-one Methyl butyl ketone Butyl methyl ketone	100.2 3.46 r 93 v	0.81 1 ppm = 4.18 mg/m³	128 262°F	12.8	23 73°F	1.2 (50) 1 mg/m³ = 0.24 ppm	1.2 (50)	1.2 (50)	420 IIA T2
238	3-Hexanone CAS 589-38-8 $C_2H_5COC_3H_7$	 $C_6H_{12}O$	Hexan-3-one Ethylpropylketone	100.2 3.46 r 76 v	0.82 1 ppm = 4.18 mg/m³	123 253°F	13.5	20 68°F	1.0 (42) 1 mg/m³ = 0.24 ppm		1.0 (42)	 IIA
239	1-Hexene CAS 592-41-6 $C_4H_9CH{=}CH_2$	 C_6H_{12}	Hex-1-ene Butyl ethylene Hexylene	84.2 2.91 r 94 v	0.67 1 ppm = 3.51 mg/m³	63 145°F	199	<-20 <-4°F	1.2 (42) 1 mg/m³ = 0.29 ppm		1.2 (42)	255 IIB T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
233			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	60 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as MeOH (20 / 50 / 200 ppm)	S = 1.5 (L)
234			PIR 7000 type 334, P 8700 type 334	40 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	25 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	30 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	as MeOH (20 / 50 / 200 ppm)	S = 0.95 (L)
235	50	500	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(180)	(1796)	PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL // 2500 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL // 2200 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 500 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	8 / 100 %LEL // 500 ppm Gas-Library	Performance Approval
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 0.82 (Propane = 1)
236	50		PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
	(213)		P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
237	5	100	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
	(21)	(418)	PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
238			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
239			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 2400 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	8 / 100 %LEL // 960 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
240	2-Hexene CAS 592-43-8 $CH_3(CH_2)_2CH=CHCH_3$	C_6H_{12}	Hex-2-en	84.2 2.91 r	0.69 1 ppm = 3.51 mg/m³	69 156°F	193		1.2* (42) 1 mg/m³ = 0.29 ppm			
241	n-Hexylamine CAS 111-26-2 $C_6H_{13}NH_2$	$C_6H_{15}N$	1-Aminohexane 1-Hexanamine	101.2 3.49 r	0.77 1 ppm = 4.22 mg/m³	131 268°F	10.6	27 81°F	2.1* (89) 1 mg/m³ = 0.24 ppm			IIA
242	Hydrazine CAS 302-01-2 $H_2N\text{-}NH_2$	H_4N_2	Diazane Diamine	32.0 1.10 r	1.01 1 ppm = 1.33 mg/m³	113 235°F	21	40 104°F	4.7 (63) 1 mg/m³ = 0.75 ppm		2.9 (39)	270 T3
243	Hydrogen CAS 1333-74-0 H_2	H_2	R 702	2.0 0.07 r	Gas 1 ppm = 0.08 mg/m³	-253 -423°F	Gas	Gas	4.0 (3.3) 1 mg/m³ = 12.00 ppm	4.0 (3.3)	4.0 (3.3)	560 IIC T1
244	Hydrogen bromide CAS 10035-10-6 HBr	HBr	Hydrobromic acid	80.9 2.79 r	Gas 1 ppm = 3.37 mg/m³	-67 -89°F	Gas	n.a.	n.a. 1 mg/m³ = 0.30 ppm	n.a.	n.a.	n.a.
245	Hydrogen chloride CAS 7647-01-0 HCl	HCl	Hydrochloric acid Muriatic acid	36.5 1.26 r	Gas 1 ppm = 1.52 mg/m³	-85 -121°F	Gas	n.a.	n.a. 1 mg/m³ = 0.66 ppm	n.a.	n.a.	n.a.
246	Hydrogen cyanide CAS 74-90-8 HCN	AC CHN	Hydrocyanic acid Formonitrile Prussic acid	27.0 0.93 r 137 v	0.69 1 ppm = 1.13 mg/m³	26 79°F	817	<-20 <-4°F	5.4 (61) 1 mg/m³ = 0.89 ppm	5.4 (61)	5.6 (63)	535 IIB T1
247	Hydrogen fluoride CAS 7664-39-3 HF	HF-A HF	Hydrofluoric acid	20.0 0.69 r	Gas 1 ppm = 0.83 mg/m³	19.5 67°F	Gas	n.a.	n.a. 1 mg/m³ = 1.20 ppm	n.a.	n.a.	n.a.
248	Hydrogen iodide CAS 10034-85-2 HI	HI	Hydroiodic acid anhydrous	127.9 4.41 r	Gas 1 ppm = 5.33 mg/m³	-35 -31°F	Gas	n.a.	n.a. 1 mg/m³ = 0.19 ppm	n.a.	n.a.	n.a.
249	Hydrogen peroxide CAS 7722-84-1 H_2O_2	H_2O_2	Hydrogen dioxide Hydroperoxide Dihydrogen dioxide	34.0 1.17 r	1.24 1 ppm = 1.42 mg/m³	107 225°F	1.9	n.a.	n.a. 1 mg/m³ = 0.71 ppm	n.a.	n.a.	n.a.
250	Hydrogen selenide CAS 7783-07-5 H_2Se	H_2Se	Selane Selenium hydride Dihydrogen selenide	81.0 2.80 r	Gas 1 ppm = 3.38 mg/m³	-41 -42°F	Gas		4.0* (135) 1 mg/m³ = 0.30 ppm			
251	Hydrogen sulfide CAS 7783-06-4 H_2S	H_2S	Hydrosulfuric acid Sulfuretted hydrogen Sulfane	34.1 1.18 r	Gas 1 ppm = 1.42 mg/m³	-60 -76°F	Gas	Gas	3.9 (55) 1 mg/m³ = 0.70 ppm	4.0 (57)	4.0 (57)	270 IIB T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
240			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
241			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
242		1	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
		(1.3)	Polytron 3000 N2H4	1 ppm	
			Polytron 7000 and 8000 N2H4	N2H4: 0.3 / 1 / 3 ppm / LDL = 0.02 ppm	
243			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
			Polytron 3000 H2	1000 / 3000 ppm	
			Polytron 7000 and 8000 H2	H2: 500 / 1000 / 3000 ppm / LDL = 15 ppm	
			Polytron 5000 H2	500 ppm	
244	2	3	Polytron 7000 and 8000 AC	HBr: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
	(6.7)	(10)	Polytron 7000 and 8000 HCl	HBr: 20 / 30 / 100 ppm / LDL = 1 ppm	
245	2	5c	Polytron 3000 AC	20 ppm	
	(3.0)	(7.6)	Polytron 3000 HCl	30 ppm	
			Polytron 7000 and 8000 AC	HCl: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
			Polytron 7000 and 8000 HCl	HCl: 20 / 30 / 100 ppm / LDL = 1 ppm	
246		10	Polytron 3000 HCN	50 ppm	
		(11)	Polytron 7000 and 8000 HCN	HCN: 10 / 50 / 50 ppm / LDL = 1.5 ppm	
247	1	3	Polytron 3000 AC	10 ppm	
	(0.83)	(2.5)	Polytron 7000 and 8000 AC	HF: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
248			Polytron 7000 and 8000 AC	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
249		1	Polytron 7000 and 8000 H2O2 HC	H2O2: 1000 / 4000 / 7000 ppm	LDL = 100 ppm
		(1.4)	Polytron 7000 and 8000 H2O2 LC	H2O2: 1 / 5 / 300 ppm / LDL = 0.1 ppm	
			Polytron 5000 H2O2 LC	5 / 10 / 20 / 50 / 100 ppm	
250	0.015	0.05	Polytron 7000 and 8000 Hydride	SeH2: 0.5 / 1 / 1 ppm / LDL = 0.3 ppm	
	(0.05)	(0.17)			
251	5	4	Polytron 3000 H2S	20 / 50 / 100 ppm	
	(7.1)	(5.7)	Polytron 7000 and 8000 H2S	H2S: 5 / 50 / 100 ppm / LDL = 0.5 ppm	
			Polytron 7000 and 8000 H2S HC	H2S: 100 / 500 / 1000 ppm / LDL = 10 ppm	
			Polytron 7000 and 8000 H2S LC	H2S: 10 / 50 / 100 ppm / LDL = 1 ppm	
			Polytron 5000 H2S	10 / 20 / 50 / 100 ppm	
			Polytron 5000 H2S LC	10 / 20 / 50 / 100 ppm	
			Polytron 5000 H2S HC	100 / 200 / 300 / 500 ppm	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
252	Isoflurane CAS 26675-46-7 CHF_2-O-$CHClCF_3$	$C_3H_2ClF_5O$	Chlorotrifluoroethyldifluoromethylether Forane	184.5 6.37 r	1.50 1 ppm = 7.69 mg/m³	48.5 119°F	320	n.a.	n.a. 1 mg/m³ = 0.13 ppm	n.a.	n.a.	n.a.
253	Isoprene CAS 78-79-5 CH_2=C(CH_3)CH=CH_2	C_5H_8	2-Methyl-1.3-butadiene	68.1 2.35 r 94 v	0.68 1 ppm = 2.84 mg/m³	34 93°F	604	<-20 <-4°F	1.0 (28) 1 mg/m³ = 0.35 ppm		1.5 (43)	220 IIB T3
254	Lead tetraethyl CAS 78-00-2 $Pb(C_2H_5)_4$	TEL $C_8H_{20}Pb$	Tetraethyl lead Tetraethyl plumbane	323.4 11.16 r	1.65 1 ppm = 13.48 mg/m³	180 356°F	0.3	80 176°F	1.8 (243) 1 mg/m³ = 0.07 ppm		1.8 (243)	
255	D-Limonene CAS 5989-27-5 $CH_2C(CH_3)C_6H_8CH_3$	$C_{10}H_{16}$	p-Mentha-1.8-diene 1-Methyl-4-isopropenyl-1-cyclohexene 4-Isopropenyl-1-methyl cyclohexene (R)-(+)-Limonene Carvene	136.2 4.70 r	0.84 1 ppm = 5.68 mg/m³	176 349°F	2	48 118°F	0.7 (40) 1 mg/m³ = 0.18 ppm			235 IIA T3
256	Mesityl oxide CAS 141-79-7 $(CH_3)_2C$=$CHCOCH_3$	MO $C_6H_{10}O$	4-Methyl-3-penten-2-one 4-Methylpent-3-en-2-on Methyl-i-butylene ketone Methyl-i-butenyl ketone i-Propylidene acetone Isopropylidene acetone	98.1 3.39 r 101 v	0.85 1 ppm = 4.09 mg/m³	130 266°F	11	24 75°F		1.6 (65) 1 mg/m³ = 0.24 ppm	1.4 (57)	340 IIA T2
257	Methacrylic acid CAS 79-41-4 CH_2=C(CH_3)COOH	$C_4H_6O_2$	2-Methyl-2-propenoic acid α-Methylacrylic acid	86.1 2.97 r	1.02 1 ppm = 3.59 mg/m³	161 322°F	0.87	68 154°F	2.1 (75) 1 mg/m³ = 0.28 ppm		1.6 (57)	385 T2
258	Methane CAS 74-82-8 CH_4	CH_4	Methyl hydride R 50	16.0 0.55 r	Gas 1 ppm = 0.67 mg/m³	-162 -260°F	Gas	Gas	4.4 (29) 1 mg/m³ = 1.50 ppm	4.4 (29)	5.0 (33)	595 IIA T1
259	Methanol CAS 67-56-1 CH_3OH	MeOH CH_4O	Methyl alcohol Carbinol	32.0 1.10 r 152 v	0.79 1 ppm = 1.33 mg/m³	65 149°F	129	9 48°F	6.0 (80) 1 mg/m³ = 0.75 ppm	6.0 (80)	6.0 (80)	440 IIA T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
252			Pyrolyzer Polytron 7500 PFC	20 ppm / LDL = 0.5 ppm	S = 1.3
253			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	polymerizing/sensor poison
			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	50 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	40 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
254	0.004 (0.05)	0.006 (0.08)	PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
255	20 (114)		PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
256		25 (102)	Polytron 7000 and 8000 OV1	as EtOH (100 / 200 / 300 ppm)	S = 0.6 (L)
257		20 (72)	Polytron 7000 and 8000 OV1	as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)
258			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
			PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL // 6600 ppm / 100 vol-%	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	15 / 100 %LEL // 6600 ppm / 100 vol-%	Performance Approval
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL // 13200 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	30 / 100 %LEL // 6600 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron Pulsar 2	1 // 4 / 8 LELm	
259	200 (267)	200 (267)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
			PIR 7000 type 334, P 8700 type 334	10 / 100 %LEL // 5500 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	25 / 100 %LEL // 12000 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 2500 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	5 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (!)	Performance Approval
			Polytron 7000 and 8000 OV1	MeOH: 20 / 50 / 200 ppm / LDL = 5 ppm	S = 1.2

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
260	3-Methoxybutanol CAS 2517-43-3 $CH_3CH(OCH_3)CH_2CH_2OH$	 $C_5H_{12}O_2$	3-Methoxy-1-butanol 1.3-Butyleneglycol monomethyl ether	104.2 3.60 r	0.93 1 ppm = 4.34 mg/m³	161 322°F	1.3	74 165°F	1.5* (65) 1 mg/m³ = 0.23 ppm			IIIIB
261	4-Methoxy cylochexanone CAS 13482-23-0 $CH_3OCH(CH_2)_4CO$	 $C_7H_{12}O_2$	p-Methoxy cyclohexanone	128.2 4.43 r	0.98 1 ppm = 5.34 mg/m³	189 372°F			1.2* (64) 1 mg/m³ = 0.19 ppm			
262	Methoxy dihydropyrane CAS 4454-05-1 $OCH=CH(CH_2)_2CHOCH_3$	 MDHP $C_6H_{10}O_2$	3.4-Dihydro-2-methoxypyrane 2-Methoxy-3.4-dihydropyrane	114.1 3.94 r	1.00 1 ppm = 4.75 mg/m³	127 261°F	12.4		1.0* (48) 1 mg/m³ = 0.21 ppm			
263	2-Methoxyethanol CAS 109-86-4 $CH_3OC_2H_4OH$	 EGME $C_3H_8O_2$	Ethylene glycol monomethyl ether Methyl glycol Glycol monomethyl ether Monomethyl glycol ether Methyl oxitol Methyl cellosolve	76.1 2.63 r	0.97 1 ppm = 3.17 mg/m³	124 255°F	12	39 102°F	2.5 (79) 1 mg/m³ = 0.32 ppm	1.8 (57)	1.8 (57)	285 IIB T3
264	1-Methoxy-2-propanol CAS 107-98-2 $CH_3OCH_2CH(OH)CH_3$	 PGME $C_4H_{10}O_2$	Propylene glycol monomethyl ether 1.2-Propanediol-1-monomethyl ether 1-Methyl propylene glycol-2 1-Methoxy-2-hydroxypropane	90.1 3.11 r	0.92 1 ppm = 3.75 mg/m³	120 248°F	13	32 90°F	1.8 (68) 1 mg/m³ = 0.27 ppm		1.6 (60)	270 IIB T3
265	Methoxy propoxy propanol CAS 34590-94-8 $CH_3OC_3H_6OC_3H_6OH$	 DPGME $C_7H_{16}O_3$	Dipropylene glycol monomethyl ether Dipropylene glycol methyl ether (2-Methoxymethylethoxy)-1-propanol (2-Methoxymethylethoxy)propanol Methyl dipropylene glycol	148.2 5.12 r	0.95 1 ppm = 6.18 mg/m³	184 363°F	0.7	70 158°F	1.1 (68) 1 mg/m³ = 0.16 ppm	1.1 (68)	1.1 (68)	270 IIA T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
260			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
261			PIR 7000 type 334, P 8700 type 334	55 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	100 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	35 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	45 / 100 %LEL	
262			PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
263	1	25	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(3.2)	(79)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	as MeOH (20 / 50 / 200 ppm)	S = 1.4 (L)
264	100	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(375)	(375)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 3200 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL // 3200 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 1600 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
265	50	100	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
	(309)	(618)	P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
266	1-Methoxy-2-propyl acetate		Acetic acid methoxy propylic ester	132.2	0.97	150	3.1	43	1.3		1.5	
	CAS 108-65-6	PGMEA	2-Methoxy-1-methylethyl acetate	4.56 r		302°F		109°F	(72)		(83)	IIB
	$CH_3COOC_3H_6OCH_3$	$C_6H_{12}O_3$	Propylene glycol methylether acetate		1 ppm = 5.51 mg/m³				1 mg/m³ = 0.18 ppm			
			1-Methoxy-2-acetoxypropane									
267	Methyl acetate		Acetic acid methyl ester	74.1	0.93	57	228	-13	3.1	3.1	3.1	505
	CAS 79-20-9		Methyl ethanoate	2.56 r		135°F		9°F	(96)	(96)	(96)	IIA
	CH_3COOCH_3	$C_3H_6O_2$	Ethanoic acid methyl ester	154 v	1 ppm = 3.09 mg/m³				1 mg/m³ = 0.32 ppm			T1
268	Methyl acrylate		Acrylic acid methyl ester	86.1	0.95	80	91	-3	2.0	1.95	2.8	415
	CAS 96-33-3		Methyl propenoate	2.97 r		176°F		27°F	(72)	(70)	(100)	IIB
	CH_2=CHCOOCH$_3$	$C_4H_6O_2$	Methoxycarbonylethylene	158 v	1 ppm = 3.59 mg/m³				1 mg/m³ = 0.28 ppm			T2
269	Methylallylchloride		3-Chloro-2-methylprop-1-ene	90.6	0.93	72	138	-12	2.3	2.1	3.2	476
	CAS 563-47-3		2-Methylallyl chloride	3.13 r		162°F		10°F	(87)	(79)	(121)	IIA
	CH_2=C(CH$_3$)CH$_2$Cl	C_4H_7Cl	3-Chloro-i-butene	194 v	1 ppm = 3.78 mg/m³				1 mg/m³ = 0.26 ppm			T1
			Methallyl chloride									
270	Methylamine		Aminomethane	31.1	Gas	-6	Gas	Gas	4.9	4.2	4.9	430
	CAS 74-89-5	MA	R 630	1.07 r		21°F			(63)	(54)	(63)	IIA
	CH_3NH_2	CH_5N	Monomethylamine		1 ppm = 1.30 mg/m³				1 mg/m³ = 0.77 ppm			T2
271	Methyl-i-amyl ketone		5-Methyl-2-hexanone	114.2	0.89	144	6.4	35	1.0		1.0	455
	CAS 110-12-3	MiAK	i-Amyl methyl ketone	3.94 r		291°F		95°F	(48)		(48)	IIA
	$CH_3COCH_2CH_2CH(CH_3)_2$	$C_7H_{14}O$	Isoamyl methyl ketone		1 ppm = 4.76 mg/m³				1 mg/m³ = 0.21 ppm			T1
			i-Pentyl methyl ketone									
			Isopentyl methyl ketone									
			2-Methyl-5-hexanone									
272	Methyl bromide		Bromomethane	94.9	Gas	4	Gas	Gas	8.6		10.0	535
	CAS 74-83-9		Monobromomethane	3.28 r		39°F			(340)		(395)	IIA
	CH_3Br	CH_3Br	R 40B1		1 ppm = 3.95 mg/m³				1 mg/m³ = 0.25 ppm			T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
266	50		PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 2100 ppm Gas-Library	
	(275)		P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	8 / 100 %LEL // 700 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
267	200	200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(618)	(618)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (§)	
268	5	10	PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL // 6000 ppm Gas-Library	
	(18)	(36)	P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	35 / 100 %LEL // 6000 ppm Gas-Library	
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	35 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	as Aald x 2 (50 / 100 / 200 ppm x 2)	S = 0.15 (L)
269			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
270	10	10	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
	(13)	(13)	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	5 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
			Polytron 7000 and 8000 NH3 LC	MA: 100 ppm / LDL = 5 ppm	
271	20	100	PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
	(95)	(476)	P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
272		20c	PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
		(79)	P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
			Pyrolyzer Polytron 7500 PFC	100 ppm / LDL = 1 ppm	S = 0.4

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
273	3-Methylbutanoic acid CAS 503-74-2 $(CH_3)_2CHCH_2COOH$	3MBTA $C_5H_{10}O_2$	3-Methylbutyric acid i-Pentanoic acid Isopentanoic acid i-Valeric acid Isovaleric acid	102.1 3.52 r	0.93	176 349°F 1 ppm = 4.25 mg/m³	0.5	78 172°F	1.4 (60) 1 mg/m³ = 0.24 ppm			385 IIA T2
274	2-Methyl-1-butanol CAS 137-32-6 $C_2H_5CH(CH_3)CH_2OH$	 $C_5H_{12}O$	2-Methyl butyl alcohol i-Pentanol Isopentanol sec-Butyl carbinol	88.2 3.04 r	0.82	129 264°F 1 ppm = 3.68 mg/m³	3.3	40 104°F	1.2 (44) 1 mg/m³ = 0.27 ppm	1.2 (44)		340 IIA T2
275	Methyl-tert-butyl ether CAS 1634-04-4 $CH_3OC(CH_3)_3$	MTBE $C_5H_{12}O$	tert-Butyl methyl ether 2-Methoxy-2-methyl propane 2-Methyl-2-methoxy propane	88.2 3.04 r 119 v	0.74	55 131°F 1 ppm = 3.68 mg/m³	270	<-20 <-4°F	1.6 (59) 1 mg/m³ = 0.27 ppm	1.5 (55)	1.6 (59)	435 IIA T2
276	Methyl-i-butylketone CAS 108-10-1 $(CH_3)_2CHCH_2COCH_3$	MiBK $C_6H_{12}O$	4-Methyl-2-pentanone i-Propyl acetone Isopropyl acetone Isobutyl methylketone i-Butyl methylketone Hexone	100.2 3.46 r 94 v	0.80	116 241°F 1 ppm = 4.18 mg/m³	19	14 57°F	1.2 (50) 1 mg/m³ = 0.24 ppm	1.2 (50)	1.2 (50)	475 IIA T1
277	2-Methyl-3-butyn-2-ol CAS 115-19-5 $CHCC(CH_3)_2OH$	 C_5H_8O	Dimethyl ethinyl carbinol Ethinyl dimethyl carbinol 3-Methyl butynol	84.1 2.90 r	0.86	104 219°F 1 ppm = 3.50 mg/m³	20	20 68°F	1.6 (56) 1 mg/m³ = 0.29 ppm			350 IIB T2
278	Methyl chloride CAS 74-87-3 CH_3Cl	 CH_3Cl	Chloromethyl Chloromethane Monochloromethane R 40	50.5 1.74 r	Gas	-24 -11°F 1 ppm = 2.10 mg/m³	Gas	Gas	7.6 (160) 1 mg/m³ = 0.48 ppm	7.6 (160)	8.1 (170)	625 IIA T1
279	Methyl chloroformate CAS 79-22-1 $ClCOOCH_3$	 $C_2H_3ClO_2$	Chloroformic acid methyl ester Methoxycarbonyl chloride Methyl chloromethanoate Methyl chlorocarbonate	94.5 3.26 r	1.22	72 162°F 1 ppm = 3.94 mg/m³	127	10 50°F	7.5 (295) 1 mg/m³ = 0.25 ppm	7.5 (295)		475 IIA T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
273			PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
274			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
275	50		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(184)		PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 2400 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	20 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 800 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	10 / 100 %LEL // 800 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
276	20	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(84)	(418)	PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL // 3000 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	40 / 100 %LEL // 2400 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 1200 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
277	0.9		P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
	(3.2)		PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
278	50	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	corrosive/sensor poison
	(105)	(210)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 15200 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 7600 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	15 / 100 %LEL // 7600 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL (!)	
			Pyrolyzer Polytron 7500 PFC	100 ppm / LDL = 1 ppm	S = 0.5
279	0.2		PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
	(0.79)		P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	20 / 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (§)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
280	Methylcyclohexane CAS 108-87-2 $(CH_2)_5CHCH_3$	MCH C_7H_{14}	Hexahydrotoluene Cyclohexylmethane Toluene hexahydride	98.2 3.39 r 95 v	0.77 1 ppm = 4.09 mg/m³	101 214°F	48	-4 25°F	1.1 (45) 1 mg/m³ = 0.24 ppm	1.0 (41)	1.2 (49)	260 IIA T3
281	Methyl ethyl carbonate CAS 623-53-0 $(CH_3O)CO(OC_2H_5)$	EMC $C_4H_8O_3$	Carbonic acid ethyl methyl ester Ethyl methyl carbonate	104.1 3.59 r	1.01 1 ppm = 4.34 mg/m³	107 225°F	10.7		1 mg/m³ = 0.23 ppm			
282	Methylethyl ether CAS 540-67-0 $C_2H_5OCH_3$	 C_3H_8O	Ethylmethyl ether Methoxy ethane	60.1 2.07 r	Gas 1 ppm = 2.50 mg/m³	7.4 45°F	Gas	Gas	2.0 (50) 1 mg/m³ = 0.40 ppm	2.0 (50)	2.0 (50)	190 IIB T4
283	2-Methyl-4-ethylhexane CAS 3074-75-7 $(CH_3)_2CHCH_2CH(C_2H_5)_2$	 C_9H_{20}	4-Ethyl-2-methylhexane i-Nonane Isononane	128.3 4.43 r	0.72 1 ppm = 5.35 mg/m³	134 273°F		21 70°F	0.7 (37) 1 mg/m³ = 0.19 ppm			280 IIA T3
284	Methyl ethyl ketone CAS 78-93-3 $CH_3COC_2H_5$	MEK C_4H_8O	2-Butanone Butan-2-one Methyl propanone Ethyl methyl ketone Methyl acetone	72.1 2.49 r 79 v	0.80 1 ppm = 3.00 mg/m³	80 176°F	105	-10 14°F	1.5 (45) 1 mg/m³ = 0.33 ppm	1.5 (45)	1.4 (42)	475 IIB T1
285	Methylethyl sulfide CAS 624-89-5 $CH_3SC_2H_5$	 C_3H_8S	Methylthioethane 2-Thiabutane	76.2 2.63 r	0.84 1 ppm = 3.18 mg/m³	66 151°F	198	<-15 <5°F	1.8 (57) 1 mg/m³ = 0.31 ppm			IIA
286	Methylfluoride CAS 593-53-3 CH_3F	 CH_3F	Fluoromethane R 41	34.0 1.17 r	Gas 1 ppm = 1.42 mg/m³	-78 -108°F	Gas	Gas	5.6* (79) 1 mg/m³ = 0.71 ppm			

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
280	200	500	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
	(818)	(2046)	PIR 7000 type 334, P 8700 type 334	40 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
281			PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
282			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
283			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
284	200	200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(601)	(601)	PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL // 4500 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	50 / 100 %LEL // 2800 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	25 / 100 %LEL // 3000 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	25 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 0.68 (Propane = 1)
285			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
286			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Pyrolyzer Polytron 7500 PFC	100 ppm / LDL = 5 ppm	S = 0.3

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
287	Methyl formate		Formic acid methyl ester	60.1	0.97	32	638	<-20	5.0	5.0	4.5	450
	CAS 107-31-3		Methyl methanoate	2.07 r		90°F		<-4°F	(125)	(125)	(113)	IIA
	$HCOOCH_3$	$C_2H_4O_2$	Methanoic acid methyl ester	174 v	1 ppm = 2.50 mg/m³				1 mg/m³ = 0.40 ppm			T2
			R 611									
288	Methyl hydrazine		Monomethylhydrazine	46.1	0.88	87	50	-8	2.5		2.5	190
	CAS 60-34-4	MMH		1.59 r		189°F		18°F	(48)		(48)	
	$CH_3NH\text{-}NH_2$	CH_6N_2		82 v	1 ppm = 1.92 mg/m³				1 mg/m³ = 0.52 ppm			T4
289	Methyl iodide		Iodomethane	141.9	2.28	42	441		8.5		n.a.	355
	CAS 74-88-4	MeI	Halon 10001	4.90 r		108°F			(503)			
	CH_3I	CH_3I			1 ppm = 5.91 mg/m³				1 mg/m³ = 0.17 ppm			T2
290	Methyl mercaptan		Methanethiol	48.1	Gas	6	Gas	Gas	4.1	4.1	3.9	360
	CAS 74-93-1	MeM	Mercaptomethane	1.66 r		43°F			(82)	(82)	(78)	IIA
	CH_3SH	CH_4S	Thiomethanol		1 ppm = 2.00 mg/m³				1 mg/m³ = 0.50 ppm			T2
			Methyl sulfhydrate									
291	Methyl methacrylate		Methacrylic acid methyl ester	100.1	0.94	101	40	10	1.7	1.7	1.7	430
	CAS 80-62-6	MMA	Methyl-2-methyl-2-propenoate	3.46 r		214°F		50°F	(71)	(71)	(71)	IIA
	$CH_2{=}C(CH_3)COOCH_3$	$C_5H_8O_2$	2-Methyl-2-propenoic acid methyl ester	113 v	1 ppm = 4.17 mg/m³				1 mg/m³ = 0.24 ppm			T2
292	N-Methyl morpholine		4-Methyl morpholine	101.2	0.91	116	30	13	2.2*			
	CAS 109-02-4	NMM		3.49 r		241°F		55°F	(93)			
	$(CH_2)_4ONCH_3$	$C_5H_{11}NO$			1 ppm = 4.22 mg/m³				1 mg/m³ = 0.24 ppm			
293	2-Methyl pentane		Dimethylpropylmethane	86.2	0.65	60	227	<-20	1.2	1.0	1.2	300
	CAS 107-83-5		i-Hexane	2.98 r		140°F		<-4°F	(43)	(36)	(43)	IIA
	$CH_3CH(CH_3)C_3H_7$	C_6H_{14}	Isohexane	99 v	1 ppm = 3.59 mg/m³				1 mg/m³ = 0.28 ppm			T3
294	3-Methyl pentane		i-Hexane	86.2	0.66	63	203	<-20	1.2	1.0	1.2	300
	CAS 96-14-0		Isohexane	2.98 r		145°F		<-4°F	(43)	(36)	(43)	IIA
	$CH_3CH_2CH(CH_3)CH_2CH_3$	C_6H_{14}	Diethylmethylmethane	98 v	1 ppm = 3.59 mg/m³				1 mg/m³ = 0.28 ppm			T3
			1.2.3-Trimethylpropane									

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
287	50	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(125)	(250)	PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
288		0.2c	Polytron 7000 and 8000 N2H4	MMH: 1 / 1 / 3 ppm / LDL = 0.02 ppm	
		(0.38)			
289		5	Polytron 7000 and 8000 CO	CO: 50 / 300 / 1000 ppm	S approx. 1.0
		(30)			
290	0.5	10c	Polytron 7000 and 8000 H2S LC	MeM: 20 / 50 / 100 ppm / LDL = 1 ppm	
	(1.0)	(20)			
291	50	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	polymerizing
	(209)	(417)	PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL // 4250 ppm Gas-Library	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL // 3400 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL // 3400 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV2	MMA: 20 / 50 / 100 ppm / LDL = 5 ppm	S = 0.5
292			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
293	500		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(1796)		PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	60 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 0.88 (Propane = 1)
294	500		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(1796)		PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
295	Methylpropionate CAS 554-12-1 $C_2H_5COOCH_3$	 $C_4H_8O_2$	Propanoic acid methylester Methylpropanoate	88.1 3.04 r 151 v	0.91 1 ppm = 3.67 mg/m³	80 176°F	84	-2 28°F	2.4 (88) 1 mg/m³ = 0.27 ppm		2.5 (92)	465 T1
296	Methylpropylether CAS 557-17-5 $CH_3OC_3H_7$	 $C_4H_{10}O$	1-Methoxypropane Methyl-n-propylether	74.1 2.56 r	0.73 1 ppm = 3.09 mg/m³	39 102°F	507	<-20 <-4°F	1.7 (52) 1 mg/m³ = 0.32 ppm			 IIB
297	Methyl propyl ketone CAS 107-87-9 $CH_3COC_3H_7$	 MPK $C_5H_{10}O$	2-Pentanone Pentan-2-one Propyl methyl ketone 1-Ethyl acetone	86.1 2.97 r 99 v	0.81 1 ppm = 3.59 mg/m³	102 216°F	37	7 45°F	1.5 (54) 1 mg/m³ = 0.28 ppm		1.5 (54)	445 IIA T2
298	Methyl-i-propyl ketone CAS 563-80-4 $CH_3COCH(CH_3)_2$	 MIPK $C_5H_{10}O$	3-Methyl-2-butanone 1.1-Dimethyl acetone i-Propyl methylketone Isopropyl methylketone 2-Acetyl propane	86.1 2.97 r	0.81 1 ppm = 3.59 mg/m³	94 201°F	53	-1 30°F	1.4 (50) 1 mg/m³ = 0.28 ppm			475 IIA T1
299	2-Methylpyridine CAS 109-06-8 $(C_5H_4N)CH_3$	 C_6H_7N	Picoline 2-Picoline o-Picoline	93.1 3.21 r	0.94 1 ppm = 3.88 mg/m³	128 262°F	12	27 81°F	1.4 (54) 1 mg/m³ = 0.26 ppm	1.2 (47)		535 IIA T1
300	3-Methylpyridine CAS 108-99-6 $(C_5H_4N)CH_3$	 C_6H_7N	3-Picoline m-Picoline	93.1 3.21 r	0.96 1 ppm = 3.88 mg/m³	144 291°F	6	36 97°F	1.3 (50) 1 mg/m³ = 0.26 ppm	1.4 (54)		537 IIA T1
301	N-Methyl-2-pyrrolidone CAS 872-50-4 $(CH_2)_3CONCH_3$	 NMP C_5H_9NO	1-Methyl-2-pyrrolidinone 1-Methyl-2-pyrrolidone N-Methylpyrrolidone	99.1 3.42 r	1.03 1 ppm = 4.13 mg/m³	203 397°F	0.3	86 187°F	1.5 (62) 1 mg/m³ = 0.24 ppm			265 IIA T3
302	Methylsilane CAS 992-94-9 SiH_3CH_3	 MMS CH_6Si	Silaethane Monomethylsilane	46.1 1.59 r	Gas 1 ppm = 1.92 mg/m³	-58 -72°F	Gas	Gas	1.3 (25) 1 mg/m³ = 0.52 ppm			160 T4
303	α-Methyl styrene CAS 98-83-9 $C_6H_5C(CH_3)=CH_2$	 AMS C_9H_{10}	(1-Methyl ethenyl)benzene 2-Phenyl propene i-Propenyl benzene Isopropenyl benzene 1-Methyl-1-phenylethylene	118.2 4.08 r	0.91 1 ppm = 4.93 mg/m³	166 331°F	3	40 104°F	0.9 (44) 1 mg/m³ = 0.20 ppm	0.8 (39)	1.9 (94)	445 IIB T2
304	Morpholine CAS 110-91-8 $(CH_2)_4ONH$	 C_4H_9NO	Tetrahydro-1.4-oxazine Diethylene oximide	87.1 3.01 r	1.00 1 ppm = 3.63 mg/m³	129 264°F	10.7	31 88°F	1.8 (65) 1 mg/m³ = 0.28 ppm	1.4 (51)	1.4 (51)	275 IIA T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
295			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
296			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
297		200 (718)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
298		200 (718)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
299			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
300			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	50 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	40 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	40 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
301	20 (83)		PIR 7000 type 340, P 8700 type 340	10 / 10 %LEL (§)	only for concentrations < 10 %LEL
			Polytron IR type 340	10 / 10 %LEL	only for concentrations < 10 %LEL
302			Polytron 7000 and 8000 Hydride	MMS: 5 / 20 / 20 ppm / LDL = 0.05 ppm	
			Polytron 7000 and 8000 Hydride SC	MMS: 1 / 5 / 20 ppm / LDL = 0.05 ppm	
303	50 (246)	50 (246)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	65 / 100 %LEL	
			P 5700 type 340	100 %LEL	
			Polytron IR type 340	75 / 100 %LEL	
			Polytron 7000 and 8000 OV1	as Aald (50 / 100 / 200 ppm)	S = 0.4 (L)
304	10 (36)	20 (73)	PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (§)	
			Polytron 7000 and 8000 NH3 LC	as NH3 x 4 (50 / 100 ppm x 4)	S = 0.25 (L)

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
305	Nitric acid		Hydrogen nitrate	63.0	1.52	84	56	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 7697-37-2			2.17 r		183°F						
	HNO_3	HNO_3			1 ppm = 2.63 mg/m³				1 mg/m³ = 0.38 ppm			
306	Nitrobenzene			123.1	1.20	211	0.3	88	1.4	1.7	1.8	480
	CAS 98-95-3			4.25 r		412°F		190°F	(72)	(87)	(92)	IIB
	$C_6H_5NO_2$	$C_6H_5NO_2$			1 ppm = 5.13 mg/m³				1 mg/m³ = 0.19 ppm			T1
307	Nitrogen dioxide		Nitrogen peroxide	46.0	1.44	21	1000	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 10102-44-0	NTO	Nitrogen tetroxide	1.59 r		70°F						
	NO_2	NO_2			1 ppm = 1.92 mg/m³				1 mg/m³ = 0.52 ppm			
308	Nitrogen monoxide		Nitric oxide	30.0	Gas	-152	Gas	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 10102-43-9			1.04 r		-242°F						
	NO	NO			1 ppm = 1.25 mg/m³				1 mg/m³ = 0.80 ppm			
309	Nitrogen trifluoride		Trifluoro amine	71.0	Gas	-129	Gas	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 7783-54-2		Trifluoro ammonia	2.45 r		-200°F						
	NF_3	F_3N			1 ppm = 2.96 mg/m³				1 mg/m³ = 0.34 ppm			
310	2-Nitropropane		Nitro-i-propane	89.1	0.99	120	17	26	2.2		2.6	425
	CAS 79-46-9	2-NP	Dimethylnitromethane	3.08 r		248°F		79°F	(82)		(97)	IIB
	$(CH_3)_2CHNO_2$	$C_3H_7NO_2$		146 v	1 ppm = 3.71 mg/m³				1 mg/m³ = 0.27 ppm			T2
311	n-Nonane			128.3	0.72	151	4.8	31	0.7	0.7	0.8	205
	CAS 111-84-2			4.43 r		304°F		88°F	(37)	(37)	(43)	IIA
	C_9H_{20}	C_9H_{20}			1 ppm = 5.35 mg/m³				1 mg/m³ = 0.19 ppm			T3
312	5-Nonanone		Nonan-5-on	142.2	0.82	188	0.4	65	0.8			330
	CAS 502-56-7		Dibutyl ketone	4.91 r		370°F		149°F	(47)			
	$(C_4H_9)_2CO$	$C_9H_{18}O$	Valerone		1 ppm = 5.93 mg/m³				1 mg/m³ = 0.17 ppm			T2
313	2.5-Norbornadiene		Norborna-2.5-diene	92.1	0.91	90	69	-11	1.0			350
	CAS 121-46-0	BCHD	Bicycloheptadiene	3.18 r		194°F		12°F	(38)			
	$CH_2((CH=CH)CH)_2$	C_7H_8	Bicyclo(2.2.1)hepta-2.5-diene		1 ppm = 3.84 mg/m³				1 mg/m³ = 0.26 ppm			T2
314	1.7-Octadiene		Octa-1.7-diene	110.2	0.75	117	20		0.8			230
	CAS 3710-30-3			3.80 r		243°F			(37)			IIB
	$H_2C=CH(CH_2)_4CH=CH_2$	C_8H_{14}			1 ppm = 4.59 mg/m³				1 mg/m³ = 0.22 ppm			T3
315	Octafluoro cyclobutane		Perfluoro cyclobutane	200.0	Gas	-6.4	Gas					
	CAS 115-25-3		Cyclooctafluorobutane	6.90 r		20°F						
	$(CF_2)_4$	C_4F_8	RC 318		1 ppm = 8.33 mg/m³				1 mg/m³ = 0.12 ppm			
316	Octafluoro cyclopentene		Perfluoro cyclopentene	212.0	1.58	27	818	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 559-40-0	PFC		7.32 r		81°F						
	$CF=CF(CF_2)_3$	C_5F_8			1 ppm = 8.83 mg/m³				1 mg/m³ = 0.11 ppm			

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
305		2 (5.3)	Polytron 7000 and 8000 AC	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
306	0.2 (1.0)	1 (5.1)	P 5200, P 8200, PEX 3000, SE Ex Pyrolyzer Polytron 7500 NF3	10 %LEL NF3: 50 / 50 / 50 ppm / LDL = 3 ppm	only with 10%-LEL-sensor S = 0.5
307		5c (9.6)	Polytron 3000 NO2 Polytron 7000 and 8000 NO2 Polytron 5000 NO2 GP	10 ppm NO2: 5 / 10 / 100 ppm / LDL = 0.3 ppm 5 / 10 / 20 / 50 / 100 ppm	
308		25 (31)	Polytron 3000 NO Polytron 7000 and 8000 NO Polytron 5000 NO	50 ppm NO: 30 / 50 / 200 ppm / LDL = 3 ppm 50 / 100 ppm	
309		10 (30)	Pyrolyzer Polytron 7500 NF3	NF3: 5 / 50 / 50 ppm / LDL = 0.3 ppm	
310		25 (93)	PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334	100 %LEL (§) 100 %LEL (§) 30 / 100 %LEL	
311		200 (1069)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	10 // 100 %LEL 25 / 100 %LEL // 1750 ppm Gas-Library 50 + 100 %LEL Gas-Library 35 / 100 %LEL // 1600 ppm Gas-Library 5 / 100 %LEL // 350 ppm Gas-Library 20 + 50 + 100 %LEL Gas-Library 10 / 100 %LEL // 350 ppm Gas-Library 100 %LEL	SE Ex / PEX 3000: Perf. Approval Performance Approval Performance Approval Performance Approval
312			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
313			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
314			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	35 / 100 %LEL 50 + 100 %LEL 100 %LEL (§) 15 / 100 %LEL 20 + 50 + 100 %LEL 100 %LEL (§) 100 %LEL (?)	
315			Pyrolyzer Polytron 7500 PFC	50 ppm / LDL = 1 ppm	S = 1.1
316		2 (18)	Pyrolyzer Polytron 7500 PFC	C5F8: 2 / 30 ppm / LDL = 0.5 ppm	S = 1.0

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
317	Octamethyl cyclotetrasiloxane CAS 556-67-2 $((CH_3)_2SiO)_4$	OMCTS $C_8H_{24}O_4Si_4$		296.6 10.24 r	0.96 1 ppm = 12.36 mg/m³	175 347°F	1.3	51 124°F	0.75* (93) 1 mg/m³ = 0.08 ppm			400 IIB T2
318	Octamethyl trisiloxane CAS 107-51-7 $((CH_3)_3SiO)_2Si(CH_3)_2$	OMTSO $C_8H_{24}O_2Si_3$		236.5 8.16 r	0.82 1 ppm = 9.85 mg/m³	152 306°F	5		0.9* (89) 1 mg/m³ = 0.10 ppm			
319	n-Octane CAS 111-65-9 C_8H_{18}	 C_8H_{18}		114.2 3.94 r 102 v	0.70 1 ppm = 4.76 mg/m³	126 259°F	14	12 54°F	0.8 (38) 1 mg/m³ = 0.21 ppm	0.8 (38)	1.0 (48)	205 IIA T3
320	1-Octene CAS 111-66-0 $CH_2=CHC_6H_{13}$	 C_8H_{16}	1-Octylene 1-Caprylene	112.2 3.87 r	0.71 1 ppm = 4.68 mg/m³	121 250°F	23	21 70°F	0.7 (33) 1 mg/m³ = 0.21 ppm	0.8 (37)		240 T3
321	Oxygen CAS 7782-44-7 O_2	 O_2	R 732	32.0 1.10 r	Gas 1 ppm = 1.33 mg/m³	-183 -297°F	Gas	n.a.	n.a. 1 mg/m³ = 0.75 ppm	n.a.	n.a.	n.a.
322	Ozone CAS 10028-15-6 O_3	 O_3		48.0 1.66 r	Gas 1 ppm = 2.00 mg/m³	-112 -170°F	Gas	n.a.	n.a. 1 mg/m³ = 0.50 ppm	n.a.	n.a.	n.a.
323	Paraldehyde CAS 123-63-7 $(CH_3CHO)_3$	PCHO $C_6H_{12}O_3$	Paracetaldehyde 2.4.6-Trimethyl-1.3.5-trioxane p-Acetyldehyde	132.2 4.56 r 108 v	0.99 1 ppm = 5.51 mg/m³	124 255°F	10	27 81°F	1.3 (72) 1 mg/m³ = 0.18 ppm	1.3 (72)	1.3 (72)	235 IIA T3
324	1.1.1.3.3-Pentafluoro butane CAS 406-58-6 $CF_3CH_2CF_2CH_3$	 $C_4H_5F_5$	HFC 365mfc R 365	148.1 5.11 r	1.25 1 ppm = 6.17 mg/m³	40 104°F	433	<-27 <-17°F	3.8 (234) 1 mg/m³ = 0.16 ppm	3.6 (222)		590 T1
325	Pentafluoroethane CAS 354-33-6 CF_3CHF_2	 C_2HF_5	R 125	120.0 4.14 r	Gas 1 ppm = 5.00 mg/m³	-48.5 -55°F	Gas	n.a.	n.a. 1 mg/m³ = 0.20 ppm	n.a.	n.a.	n.a.

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
317			PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	60 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	25 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	25 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
318			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	25 / 100 %LEL	
319	500	500	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(2379)	(2379)	PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL // 2000 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	35 / 100 %LEL // 2000 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 400 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	8 / 100 %LEL // 400 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 0.55 (Propane = 1)
320			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	60 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
321			Polytron 3000 O2	5 / 25 / 100 vol%	
			Polytron 3000 O2 LS	25 vol%	
			Polytron 7000 and 8000 O2	5 / 25 / 100 vol%	
			Polytron 7000 and 8000 O2 LS	5 / 10 / 25 vol%	
			Polytron 5000 O2 LS	25 vol%	
322		0.1	Polytron 3000 O3	0.5 ppm	
		(0.20)	Polytron 7000 and 8000 O3	O3: 0.5 / 1 / 5 ppm / LDL = 0.01 ppm	
323			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL (?)	
324			PIR 7000 type 334, P 8700 type 334	45 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	60 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	80 / 100 %LEL	
			P 5700 type 340	100 %LEL	
325			Pyrolyzer Polytron 7500 PFC	60 ppm / LDL = 2 ppm	S = 0.4

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
326	Pentafluoropropane CAS 460-73-1 $CF_3CH_2CHF_2$	 $C_3H_3F_5$	1.1.1.3.3-Pentafluoropropane R 245fa	134.5 4.64 r	Gas 1 ppm = 5.60 mg/m³	15.3 60°F	Gas	n.a.	n.a. 1 mg/m³ = 0.18 ppm	n.a.	n.a.	n.a.
327	2.2.4.6.6-Pentamethylheptane CAS 13475-82-6 $((CH_3)_3CCH_2)_2CHCH_3$	 iC12 $C_{12}H_{26}$	i-Dodecane Isododecane	170.3 5.88 r	0.75 1 ppm = 7.10 mg/m³	180 356°F	1	43 109°F	0.5 (35) 1 mg/m³ = 0.14 ppm			430 IIA T2
328	i-Pentane CAS 78-78-4 $CH_3CH(CH_3)C_2H_5$	 C_5H_{12}	Isopentane 2-Methylbutane Ethyl dimethyl methane Isoamyl hydride	72.2 2.49 r 102 v	0.62 1 ppm = 3.01 mg/m³	28 82°F	761	<-20 <-4°F	1.3 (39) 1 mg/m³ = 0.33 ppm	1.3 (39)	1.4 (42)	420 IIA T2
329	n-Pentane CAS 109-66-0 C_5H_{12}	 C_5H_{12}	Amyl hydride	72.2 2.49 r 107 v	0.63 1 ppm = 3.01 mg/m³	36 97°F	562	<-20 <-4°F	1.1 (33) 1 mg/m³ = 0.33 ppm	1.1 (33)	1.5 (45)	260 IIA T3
330	3-Pentanol CAS 584-02-1 $C_2H_5CH(OH)C_2H_5$	 $C_5H_{12}O$	Pentan-3-ol 3-Amyl alcohol Diethyl carbinol 1-Ethyl-1-propanol	88.2 3.04 r	0.82 1 ppm = 3.68 mg/m³	116 241°F	7.6	30 86°F	1.2 (44) 1 mg/m³ = 0.27 ppm	1.2 (44)	1.2 (44)	360 IIA T2
331	1-Pentene CAS 109-67-1 $C_3H_7CH=CH_2$	 C_5H_{10}	n-Amylene n-Pentylene Propylethylene	70.1 2.42 r 103 v	0.64 1 ppm = 2.92 mg/m³	30 86°F	704	<-20 <-4°F	1.4 (41) 1 mg/m³ = 0.34 ppm		1.5 (44)	280 T3
332	Peroxyacetic acid CAS 79-21-0 CH_3COOOH	 PAA $C_2H_4O_3$	Peracetic acid Ethaneperoxoic acid Acetyl hydroperoxide Acetic peroxide	76.1 2.63 r	1.23 1 ppm = 3.17 mg/m³	105 221°F	26		 1 mg/m³ = 0.32 ppm			

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
326			PIR 7000 type 334, P 8700 type 334	1.7 / 3.0 vol%	
			P 5700 type 334	2.0 vol%	
			Polytron IR type 334	3.0 vol% (§)	
			PIR 7000 type 340, P 8700 type 340	2.4 / 3.0 vol%	
			Polytron IR type 340	3.0 vol% (§)	
327			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
328	1000		P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(3008)		PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	5 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 0.96 (Propane = 1)
329	1000	1000	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
	(3008)	(3008)	PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL // 2750 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL // 3000 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	8 / 100 %LEL // 700 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	8 / 100 %LEL // 700 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 1.14 (Propane = 1)
330			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
331			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 2800 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	20 / 100 %LEL // 2800 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL // 1400 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (!)	
332			Polytron 7000 and 8000 O3	PAA: 0.5 / 1 / 5 ppm / LDL = 0.01 ppm	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
333	Phosgene		Carbonyl chloride	98.9	Gas	8	Gas	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 75-44-5	CG	Carbon oxychloride	3.41 r		46°F						
	$COCl_2$	CCl_2O	Chloroformyl chloride		1 ppm = 4.12 mg/m³				1 mg/m³ = 0.24 ppm			
334	Phosphine		Hydrogen phosphide	34.0	Gas	-88	Gas		1.6		1.6	
	CAS 7803-51-2		Phosphorus hydride	1.17 r		-126°F			(23)		(23)	
	PH_3	H_3P	Phosphorus trihydride		1 ppm = 1.42 mg/m³				1 mg/m³ = 0.71 ppm			
335	Phosphorus oxychloride		Phosphorus chloride	153.3	1.68	105	36	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 10025-87-3	POCL	Phosphorus oxytrichloride	5.29 r		221°F						
	$POCl_3$	Cl_3OP	Phosphoryl chloride		1 ppm = 6.39 mg/m³				1 mg/m³ = 0.16 ppm			
			Trichlorophosphorus oxide									
			Trichlorophosphine oxide									
336	Phosphorus trichloride		Phosphorus chloride	137.3	1.57	76	127	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 7719-12-2		Trichlorophosphine	4.74 r		169°F						
	PCl_3	Cl_3P			1 ppm = 5.72 mg/m³				1 mg/m³ = 0.17 ppm			
337	α-Pinene		2.6.6-Trimethylbicyclo(3.1.1)hept-2-ene	136.2	0.86	155	5	33	0.8*			255
	CAS 80-56-8			4.70 r		311°F		91°F	(45)			
	$C_{10}H_{16}$	$C_{10}H_{16}$			1 ppm = 5.68 mg/m³				1 mg/m³ = 0.18 ppm			T3
338	Piperidine		Hexahydropyridine	85.2	0.86	106	33	4	1.3			
	CAS 110-89-4	PIP	Pentamethylene imine	2.94 r		223°F		39°F	(46)			IIA
	$(CH_2)_5NH$	$C_5H_{11}N$	Azacyclohexane		1 ppm = 3.55 mg/m³				1 mg/m³ = 0.28 ppm			
339	Propane		Dimethyl methane	44.1	Gas	-42	Gas	Gas	1.7	1.7	2.1	470
	CAS 74-98-6		R 290	1.52 r		-44°F			(31)	(31)	(39)	IIA
	C_3H_8	C_3H_8			1 ppm = 1.84 mg/m³				1 mg/m³ = 0.54 ppm			T1
340	i-Propanol		Isopropanol	60.1	0.78	82	43	12	2.0	2.0	2.0	425
	CAS 67-63-0	IPA	i-Propyl alcohol	2.07 r		180°F		54°F	(50)	(50)	(50)	IIA
	$(CH_3)_2CHOH$	C_3H_8O	Isopropyl alcohol	96 v	1 ppm = 2.50 mg/m³				1 mg/m³ = 0.40 ppm			T2
			2-Propanol									
			Dimethylcarbinol									

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
333	0.1 (0.41)	0.1 (0.41)	Polytron 7000 and 8000 COCl2	Phsg: 0.1 / 1 / 20 ppm / LDL = 0.05 ppm	
334	0.1 (0.14)	0.3 (0.43)	Polytron 3000 PH3 Polytron 7000 and 8000 Hydride Polytron 7000 and 8000 Hydride SC Polytron 7000 and 8000 PH3/AsH3	0.3 / 1 / 10 ppm PH3: 0.3 / 1 / 20 ppm / LDL = 0.03 ppm PH3: 0.3 / 1 / 1 ppm / LDL = 0.01 ppm PH3: 0.3 / 1 / 20 ppm / LDL = 0.02 ppm	
335	0.2 (1.3)	0.1 (0.64)	Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	POC: 3 / 10 / 30 ppm / LDL = 0.5 ppm POC: 20 / 30 / 100 ppm / LDL = 1.5 ppm	
336	0.5 (2.9)	0.5 (2.9)	Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	PCl3: 3 / 10 / 30 ppm / LDL = 0.5 ppm PCl3: 5 / 10 / 20 ppm / LDL = 0.2 ppm	
337			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	20 / 100 %LEL 20 + 50 + 100 %LEL 40 / 100 %LEL 10 / 100 %LEL 20 + 50 + 100 %LEL 10 / 100 %LEL 100 %LEL	
338			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
339	1000 (1837)	1000 (1837)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron Pulsar 2	10 // 100 %LEL 20 / 100 %LEL // 3400 ppm Gas-Library 20 + 50 + 100 %LEL Gas-Library 25 / 100 %LEL // 4000 ppm Gas-Library 5 / 100 %LEL // 850 ppm Gas-Library 20 + 50 + 100 %LEL Gas-Library 8 / 100 %LEL // 850 ppm Gas-Library 100 %LEL 1 // 4 / 8 LELm	SE Ex / PEX 3000: Perf. Approval Performance Approval Performance Approval Performance Approval Performance Approval Performance Approval
340	200 (501)	400 (1002)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron 7000 and 8000 OV1	10 // 100 %LEL 20 / 100 %LEL // 4000 ppm Gas-Library 20 + 50 + 100 %LEL Gas-Library 25 / 100 %LEL // 4000 ppm Gas-Library 10 / 100 %LEL // 2000 ppm Gas-Library 20 + 50 + 100 %LEL Gas-Library 10 / 100 %LEL 100 %LEL IPA: 100 / 200 / 300 ppm / LDL = 10 ppm	SE Ex / PEX 3000: Perf. Approval Performance Approval Performance Approval Performance Approval Performance Approval S = 0.3

List of detectable gases and vapours 2013

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341	n-Propanol CAS 71-23-8 C_3H_7OH	NPA C_3H_8O	n-Propyl alcohol 1-Propanol Ethyl carbinol	60.1 2.07 r 103 v	0.80 1 ppm = 2.50 mg/m³	97 207°F	20	22 72°F	2.1 (53) 1 mg/m³ = 0.40 ppm	2.1 (53)	2.2 (55)	385 IIB T2
342	Propargyl alcohol CAS 107-19-7 $HCCCH_2OH$	 C_3H_4O	2-Propyn-1-ol Ethynyl carbinol 2-Propynyl alcohol	56.1 1.94 r	0.95 1 ppm = 2.34 mg/m³	115 239°F	10	33 91°F	2.8 (65) 1 mg/m³ = 0.43 ppm	2.4 (56)		365 IIB T2
343	i-Propenyl acetate CAS 108-22-5 $CH_3COOC(CH_3)=CH_2$	 $C_5H_8O_2$	1-Methylvinyl acetate 1-Propen-2-ol acetate Acetic acid i-propenyl ester Isopropenyl acetate	100.1 3.46 r	0.91 1 ppm = 4.17 mg/m³	97 207°F	23	4 39°F	1.6 (67) 1 mg/m³ = 0.24 ppm			395 IIA T2
344	Propionaldehyde CAS 123-38-6 C_2H_5CHO	 C_3H_6O	Propionic aldehyde Propanal Propyl aldehyde Methylacetaldehyde	58.1 2.01 r 118 v	0.80 1 ppm = 2.42 mg/m³	49 120°F	341	<-20 <-4°F	2.3 (56) 1 mg/m³ = 0.41 ppm	2.0 (48)	2.6 (63)	190 IIB T4
345	Propionic acid CAS 79-09-4 C_2H_5COOH	 $C_3H_6O_2$	Propanoic acid Methylacetic acid Carboxyethane Ethylformic acid Ethanecarboxylic acid	74.1 2.56 r	0.99 1 ppm = 3.09 mg/m³	141 286°F	3.5	52 126°F	2.9 (90) 1 mg/m³ = 0.32 ppm	2.1 (65)	2.9 (90)	485 IIA T1
346	2-Propoxyethanol CAS 2807-30-9 $C_3H_7OCH_2CH_2OH$	EGnPE $C_5H_{12}O_2$	Ethylene glycol monopropyl ether Propylglycol Propyl cellosolve	104.2 3.60 r	0.91 1 ppm = 4.34 mg/m³	150 302°F	1.7	51 124°F	1.45 (63) 1 mg/m³ = 0.23 ppm			230 IIB T3
347	i-Propoxyethanol CAS 109-59-1 $(CH_3)_2CHOC_2H_4OH$	EGiPE $C_5H_{12}O_2$	Ethylene glycol i-propyl ether i-Propyl glycol Isopropoxyethanol Isopropyl glycol Isopropyl oxitol 4-Methyl-3-oxa-1-pentanol	104.2 3.60 r	0.90 1 ppm = 4.34 mg/m³	142 288°F	3.5	43 109°F	1.4 (61) 1 mg/m³ = 0.23 ppm			 IIB

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
341		200 (501)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	as EtOH (100 / 200 / 300 ppm)	S = 0.85 (L)
342	2 (4.7)	1 (2.3)	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL (?)	
343	10 (42)		PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
344			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	20 / 100 %LEL	
345	10 (31)	10 (31)	PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	20 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	25 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	25 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL (§)	
346	20 (87)		PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
347	5 (22)		PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
348	i-Propyl acetate CAS 108-21-4 $CH_3COOCH(CH_3)_2$	$C_5H_{10}O_2$	Isopropyl acetate Acetic acid i-propyl ester Acetic acid 1-methylethyl ester 2-Acetoxypropane 2-Propyl acetate	102.1 3.52 r 130 v	0.88 1 ppm = 4.25 mg/m³	89 192°F	62	2 36°F	1.8 (77) 1 mg/m³ = 0.24 ppm	1.7 (72)	1.8 (77)	425 IIA T2
349	n-Propyl acetate CAS 109-60-4 $CH_3COOC_3H_7$	$C_5H_{10}O_2$	Acetic acid propyl ester Ethanoic acid propyl ester 1-Acetoxypropane	102.1 3.52 r 122 v	0.89 1 ppm = 4.25 mg/m³	102 216°F	33	10 50°F	1.7 (72) 1 mg/m³ = 0.24 ppm	1.7 (72)	1.7 (72)	455 IIA T1
350	i-Propyl amine CAS 75-31-0 $(CH_3)_2CHNH_2$	C_3H_9N	2-Aminopropane 2-Propyl amine 2-Propanamine Isopropyl amine	59.1 2.04 r 123 v	0.69 1 ppm = 2.46 mg/m³	32 90°F	633	<-20 <-4°F	2.0 (49) 1 mg/m³ = 0.41 ppm	2.3 (57)	2.3 (57)	400 IIA T2
351	n-Propylamine CAS 107-10-8 $C_3H_7NH_2$	C_3H_9N	1-Aminopropane 1-Propylamine 1-Propanamine	59.1 2.04 r 102 v	0.72 1 ppm = 2.46 mg/m³	49 120°F	339	<-20 <-4°F	2.0 (49) 1 mg/m³ = 0.41 ppm	2.0 (49)	2.0 (49)	320 IIA T2
352	n-Propylbenzene CAS 103-65-1 $C_6H_5C_3H_7$	C_9H_{12}	1-Phenylpropane	120.2 4.15 r	0.86 1 ppm = 5.01 mg/m³	159 318°F	3.5	39 102°F	0.8 (40) 1 mg/m³ = 0.20 ppm		0.8 (40)	450 IIA T2
353	i-Propyl chloride CAS 75-29-6 $(CH_3)_2CHCl$	IPC C_3H_7Cl	2-Chloropropane Isopropyl chloride	78.5 2.71 r 159 v	0.86 1 ppm = 3.27 mg/m³	35 95°F	567	<-20 <-4°F	2.8 (92) 1 mg/m³ = 0.31 ppm	2.8 (92)	2.8 (92)	590 IIA T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
348		250	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
		(1064)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
349		200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
		(851)	PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	20 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
350	5	5	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
	(12)	(12)	PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	45 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 NH3 LC	i-PA: 100 / 200 ppm / LDL = 10 ppm	
351			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 334, P 8700 type 334	100 %LEL	
			P 5700 type 334	100 %LEL	
			Polytron IR type 334	100 %LEL (§)	
			PIR 7000 type 340, P 8700 type 340	100 %LEL	
			P 5700 type 340	100 %LEL	
			Polytron IR type 340	100 %LEL (§)	
			PIR 3000, P 5310, P 8310	100 %LEL (?)	
352			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	25 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
353			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	25 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	

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No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
354	n-Propylchloride		1-Chloropropane	78.5	0.89	47	373	<-20	2.6	2.4	2.6	520
	CAS 540-54-5		R 280	2.71 r		117°F		<-4°F	(85)	(79)	(85)	IIA
	C_3H_7Cl	C_3H_7Cl		143 v	1 ppm = 3.27 mg/m³				1 mg/m³ = 0.31 ppm			T1
355	Propylene		Propene	42.1	Gas	-48	Gas	Gas	2.0	2.0	2.0	485
	CAS 115-07-1		Methylethylene	1.45 r		-54°F			(35)	(35)	(35)	IIA
	CH_2=$CHCH_3$	C_3H_6	Methylethene		1 ppm = 1.75 mg/m³				1 mg/m³ = 0.57 ppm			T1
			R 1270									
356	1.2-Propylenediamine		1.2-Diaminopropane	74.1	0.87	119	4	33	2.2*			
	CAS 78-90-0	PDA	1.2-Propanediamine	2.56 r		246°F		91°F	(68)			
	$CH_3CH(NH_2)CH_2NH_2$	$C_3H_{10}N_2$			1 ppm = 3.09 mg/m³				1 mg/m³ = 0.32 ppm			
357	Propylene oxide		1.2-Epoxy propane	58.1	0.83	34	588	<-20	1.9	1.9	2.3	430
	CAS 75-56-9	PO	1.2-Propene oxide	2.01 r		93°F		<-4°F	(46)	(46)	(56)	IIB
	CH_3CHCH_2O	C_3H_6O	Methyloxirane	100 v	1 ppm = 2.42 mg/m³				1 mg/m³ = 0.41 ppm			T2
			Methyl ethylene oxide									
358	n-Propylformate		Formic acid propylester	88.1	0.91	81	84	-3	2.2			360
	CAS 110-74-7		Methanoic acid propylester	3.04 r		178°F		27°F	(81)			IIA
	$HCOOC_3H_7$	$C_4H_8O_2$			1 ppm = 3.67 mg/m³				1 mg/m³ = 0.27 ppm			T2
359	i-Propyl mercaptan		2-Propanethiol	76.2	0.82	53	300	-20	1.8			
	CAS 75-33-2	iPM	2-Propyl mercaptan	2.63 r		127°F		-4°F	(57)			
	$(CH_3)_2CHSH$	C_3H_8S	Isopropyl mercaptan		1 ppm = 3.18 mg/m³				1 mg/m³ = 0.31 ppm			
360	n-Propyl mercaptan		1-Propanethiol	76.2	0.84	68	165	-15	1.8			
	CAS 107-03-9	nPM	1-Propyl mercaptan	2.63 r		154°F		5°F	(57)			IIA
	C_3H_7SH	C_3H_8S	1-Mercaptopropane		1 ppm = 3.18 mg/m³				1 mg/m³ = 0.31 ppm			
361	i-Propyl nitrate		Nitric acid i-propylester	105.1	1.04	101	36	11	2.0			175
	CAS 1712-64-7		Nitric acid 1-methylethylester	3.63 r		214°F		52°F	(88)			IIB
	$(CH_3)_2CHONO_2$	$C_3H_7NO_3$	Isopropyl nitrate		1 ppm = 4.38 mg/m³				1 mg/m³ = 0.23 ppm			T4
362	Propyne		Methyl acetylene	40.1	Gas	-23	Gas		1.8	1.7	1.7	340
	CAS 74-99-7		Allylene	1.38 r		-9°F			(30)	(28)	(28)	IIB
	CH_3CCH	C_3H_4	1-Propyne		1 ppm = 1.67 mg/m³				1 mg/m³ = 0.60 ppm			T2
363	Pyridine		Azine	79.1	0.98	115	20	17	1.7	1.7	1.8	550
	CAS 110-86-1		Azabenzene	2.73 r		239°F		63°F	(56)	(56)	(59)	IIA
	C_5H_5N	C_5H_5N		91 v	1 ppm = 3.30 mg/m³				1 mg/m³ = 0.30 ppm			T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
354			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
355			P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
			PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL // 4000 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	30 / 100 %LEL // 4000 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL // 3000 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	20 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	Performance Approval
			Polytron 7000 and 8000 OV1	C3H6: 30 / 50 / 100 ppm / LDL = 5 ppm	S = 0.7
			Polytron Pulsar 2	1 // 4 / 8 LELm	S = 0.68 (Propane = 1)
356			PIR 7000 type 334, P 8700 type 334	35 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	100 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
357		100 (242)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	SE Ex / PEX 3000: Perf. Approval
			PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL // 2850 ppm Gas-Library	Performance Approval
			P 5700 type 334	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 334	20 / 100 %LEL // 3800 ppm Gas-Library	Performance Approval
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL // 2850 ppm Gas-Library	Performance Approval
			P 5700 type 340	20 + 50 + 100 %LEL Gas-Library	
			Polytron IR type 340	100 %LEL (?)	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	PO: 20 / 50 / 200 ppm / LDL = 5 ppm	S = 0.8
358			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
359			Polytron 7000 and 8000 H2S LC	iPM: 20 / 50 / 100 ppm / LDL = 1 ppm	
360		0.3c (0.95)	Polytron 7000 and 8000 H2S LC	nPM: 20 / 50 / 100 ppm / LDL = 1 ppm	
361			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
362		1000 (1671)	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
363		5 (16)	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
			PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
			P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 %LEL (?)	

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364	Sevoflurane CAS 28523-86-6 CH_2F-O-$CH(CF_3)_2$	$C_4H_3F_7O$	Hexafluoro-2-(fluoromethoxy)propane Fluoromethyl hexafluoro-2-propyl ether	200.1 6.91 r	1.50 1 ppm = 8.34 mg/m³	58.5 137°F	209	n.a.	n.a. 1 mg/m³ = 0.12 ppm	n.a.	n.a.	n.a.
365	Silane CAS 7803-62-5 SiH_4	H_4Si	Monosilane Silicon tetrahydride Silicane Silicon hydride	32.1 1.11 r	Gas 1 ppm = 1.34 mg/m³	-112 -170°F	Gas				1.4 (19) 1 mg/m³ = 0.75 ppm	
366	Silicon tetrachloride CAS 10026-04-7 $SiCl_4$	Cl_4Si	Tetrachlorosilane	169.9 5.86 r	1.48 1 ppm = 7.08 mg/m³	57 135°F	260	n.a.	n.a. 1 mg/m³ = 0.14 ppm	n.a.	n.a.	n.a.
367	Silicon tetrafluoride CAS 7783-61-1 SiF_4	F_4Si	Tetrafluorosilane	104.1 3.59 r	Gas 1 ppm = 4.34 mg/m³	-65 -85°F	Gas	n.a.	n.a. 1 mg/m³ = 0.23 ppm	n.a.	n.a.	n.a.
368	Styrene CAS 100-42-5 $C_6H_5CH=CH_2$	C_8H_8	Vinyl benzene Ethenyl benzene Phenylethylene Cinnamene	104.2 3.60 r	0.91 1 ppm = 4.34 mg/m³	145 293°F	7	32 90°F	1.0 (43) 1 mg/m³ = 0.23 ppm	1.0 (43)	0.9 (39)	490 IIA T1
369	Sulfur dioxide CAS 7446-09-5 SO_2	O_2S	Sulfurous oxide R 764	64.1 2.21 r	Gas 1 ppm = 2.67 mg/m³	-10 14°F	Gas	n.a.	n.a. 1 mg/m³ = 0.37 ppm	n.a.	n.a.	n.a.
370	Terpineol CAS 8000-41-7 $(CH_3)_2C(OH)C_6H_8CH_3$	$C_{10}H_{18}O$	2(4-Methylcyclohex-3-ene-1-yl)propan-2-ol 4-Menth-1-ene-8-ol 1-Methyl-4-isopropyl-1-cyclohexene-8-ol	154.3 5.33 r	0.94 1 ppm = 6.43 mg/m³	215 419°F			0.53* (34) 1 mg/m³ = 0.16 ppm			
371	Tetrachloroethene CAS 127-18-4 C_2Cl_4	PER C_2Cl_4	Perchloroethylene Tetrachloroethylene Ethylene tetrachloride	165.8 5.72 r	1.62 1 ppm = 6.91 mg/m³	121 250°F	19	n.a.	n.a. 1 mg/m³ = 0.14 ppm	n.a.	n.a.	n.a.
372	Tetraethyl orthosilicate CAS 78-10-4 $(C_2H_5O)_4Si$	TEOS $C_8H_{20}O_4Si$	Tetraethoxysilane Silicic acid tetraethylester Tetraethyl silicate Ethyl silicate Ethyl orthosilicate	208.3 7.19 r	0.93 1 ppm = 8.68 mg/m³	169 336°F	9.2	37 99°F	0.8 (69) 1 mg/m³ = 0.12 ppm	0.45 (39)	1.3 (113)	230 IIB T3
373	1.1.1.2-Tetrafluoro ethane CAS 811-97-2 CF_3CH_2F	$C_2H_2F_4$	Norflurane R 134a	102.0 3.52 r	Gas 1 ppm = 4.25 mg/m³	-26 -15°F	Gas	n.a.	n.a. 1 mg/m³ = 0.24 ppm	n.a.	n.a.	n.a.
374	Tetrafluoro ethene CAS 116-14-3 C_2F_4	PFE C_2F_4	Perfluoroethylene	100.0 3.45 r	Gas 1 ppm = 4.17 mg/m³	-76 -105°F	Gas	Gas	10.5 (438) 1 mg/m³ = 0.24 ppm	10.0 (417)	10.0 (417)	240 IIA T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
364			Pyrolyzer Polytron 7500 PFC	10 ppm / LDL = 0.2 ppm	S = 2.4
365		5 (6.7)	Polytron 7000 and 8000 Hydride Polytron 7000 and 8000 Hydride SC	SiH4: 5 / 5 / 50 ppm / LDL = 0.05 ppm SiH4: 1 / 5 / 20 ppm / LDL = 0.05 ppm	
366			Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	TeCS: 3 / 10 / 30 ppm / LDL = 0.5 ppm TeCS: 5 / 10 / 20 ppm / LDL = 0.2 ppm	
367			Polytron 7000 and 8000 AC	SiF4: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
368	20 (87)	100 (434)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 3000, P 5310, P 8310 Polytron 7000 and 8000 OV2	10 // 100 %LEL 45 / 100 %LEL // 3850 ppm Gas-Library 50 + 100 %LEL Gas-Library 45 / 100 %LEL // 1800 ppm Gas-Library 100 %LEL Styr: 20 / 50 / 100 ppm / LDL = 5 ppm	polymerizing/sensor poison Performance Approval Performance Approval S = 0.5 (L)
369		5 (13)	Polytron 3000 SO2 Polytron 7000 and 8000 SO2 Polytron 5000 SO2 GP	10 ppm SO2: 5 / 10 / 100 ppm / LDL = 0.5 ppm 5 / 10 / 20 / 50 / 100 ppm	
370			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	70 / 100 %LEL 100 %LEL 100 %LEL (?) 15 / 100 %LEL 20 + 50 + 100 %LEL 100 %LEL (§)	
371		100 (691)	Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 1.1
372	1.4 (12)	100 (868)	PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	25 / 100 %LEL 50 + 100 %LEL 100 %LEL (§) 10 / 100 %LEL 20 + 50 + 100 %LEL 100 %LEL (§) 100 %LEL (?)	
373	1000 (4250)		PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 Pyrolyzer Polytron 7500 PFC	1.5 / 10.0 vol% // 15000 ppm Gas-Library 2.0 + 5.0 + 10.0 vol% Gas-Library 3.0 / 3.0 vol% 2.0 / 10.0 vol% // 20000 ppm Gas-Library 2.0 + 5.0 + 10.0 vol% Gas-Library 3.0 / 3.0 vol% TeFE: 50 / 50 ppm / LDL = 1 ppm	
374			Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 1.0

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375	Tetrafluoropropene		2.3.3.3-Tetrafluoro-1-propene	114.0	Gas	-29.4	Gas					
	CAS 754-12-1		2.3.3.3-Tetrafluoroprop-1-ene	3.94 r		-21°F						
	$H_2C=CF-CF_3$	$C_3H_2F_4$	Tetrafluoropropylene		1 ppm = 4.75 mg/m³				1 mg/m³ = 0.21 ppm			
			HFO-1234yf									
376	1.3.3.3-Tetrafluoroprop-1-ene trans		HFO-1234ze	114.0	Gas	-19	Gas					
	CAS 1645-83-6		HFC-1234ze	3.94 r		-2°F						
	$CF_3CH=CHF$	$C_3H_2F_4$	R 1234ze		1 ppm = 4.75 mg/m³				1 mg/m³ = 0.21 ppm			
377	Tetrahydro benzaldehyde		1.2.3.6-Tetrahydrobenzaldehyde	110.2	0.97	164	2.1	47	1.1*			
	CAS 100-50-5	THB	3-Cyclohexene-1-aldehyde	3.80 r		327°F		117°F	(51)			
	C_6H_9CHO	$C_7H_{10}O$	3-Cyclohexene-1-carboxaldehyde		1 ppm = 4.59 mg/m³				1 mg/m³ = 0.22 ppm			
			4-Formyl-1-cyclohexene									
378	Tetrahydrofuran		Diethylene monoxide	72.1	0.89	64	173	-20	1.5	1.5	2.0	230
	CAS 109-99-9	THF	Tetramethylene oxide	2.49 r		147°F		-4°F	(45)	(45)	(60)	IIB
	$(CH_2)_4O$	C_4H_8O	1.4-Epoxybutane	101 v	1 ppm = 3.00 mg/m³				1 mg/m³ = 0.33 ppm			T3
379	Tetrahydronaphthalene		1.2.3.4-Tetrahydronaphthalene	132.2	0.97	208	0.24	71	0.8		0.8	390
	CAS 119-64-2		Tetralin	4.56 r		406°F		160°F	(44)		(44)	
	$C_{10}H_{12}$	$C_{10}H_{12}$			1 ppm = 5.51 mg/m³				1 mg/m³ = 0.18 ppm			T2
380	Tetrahydrothiophene		Tetramethylene sulfide	88.2	1.00	121	19	13	1.1	1.1		200
	CAS 110-01-0	THT	Thiocyclopentane	3.04 r		250°F		55°F	(40)	(40)		IIA
	C_4H_8S	C_4H_8S	Thiophane		1 ppm = 3.68 mg/m³				1 mg/m³ = 0.27 ppm			T4
381	Tetrakisdimethylaminotitanium		Titanium tetrakis(dimethylammonium)	224.2	0.95	n.a.	0.1					
	CAS 3275-24-9	TDMAT	Titanium dimethylamide	7.74 r		32°F						
	$((CH_3)_2N)_4Ti$	$C_8H_{24}N_4Ti$			1 ppm = 9.34 mg/m³				1 mg/m³ = 0.11 ppm			
382	1.1.3.3-Tetramethyldisiloxane		2.4-Dimethyl-3-oxa-2.4-disilapentane	134.3	0.76	71	150	<-20	0.8*			240
	CAS 3277-26-7	TMDSO		4.64 r		160°F		<-4°F	(45)			IIB
	$(CH_3SiHCH_3)_2O$	$C_4H_{14}OSi_2$			1 ppm = 5.60 mg/m³				1 mg/m³ = 0.18 ppm			T3
383	Tetramethyl ethylene diamine		1.2-Bis-(dimethyl amino)-ethane	116.2	0.77	120	13.3	19	1.0			145
	CAS 110-18-9	TEMED		4.01 r		248°F		66°F	(48)			IIA
	$(CH_3)_2NC_2H_4N(CH_3)_2$	$C_6H_{16}N_2$			1 ppm = 4.84 mg/m³				1 mg/m³ = 0.21 ppm			T4
384	2.2.3.3-Tetramethylpentane		i-Nonane	128.3	0.76	140		25	0.8			430
	CAS 7154-79-2		Isononane	4.43 r		284°F		77°F	(43)			IIA
	$C_2H_5C(CH_3)_2C(CH_3)_3$	C_9H_{20}			1 ppm = 5.35 mg/m³				1 mg/m³ = 0.19 ppm			T2
385	Tetramethylsilane		Tetramethyl silicane	88.2	0.65	26	750	<-20	1.0			330
	CAS 75-76-3	TMS		3.04 r		79°F		<-4°F	(37)			IIB
	$(CH_3)_4Si$	$C_4H_{12}Si$			1 ppm = 3.68 mg/m³				1 mg/m³ = 0.27 ppm			T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
375			Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 0.6
376			PIR 7000 type 334, P 8700 type 334	80 / 100 %LEL	
			P 5700 type 334	100 %LEL	
			Pyrolyzer Polytron 7500 PFC	30 ppm / LDL = 0.5 ppm	S = 0.9
377			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
378	50	200	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(150)	(601)	PIR 7000 type 334, P 8700 type 334	15 / 100 %LEL // 2250 ppm Gas-Library	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	20 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	5 / 100 %LEL // 750 ppm Gas-Library	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL // 750 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 OV1	THF: 30 / 50 / 200 ppm / LDL = 5 ppm	S = 0.75
379			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
380	50		PIR 7000 type 334, P 8700 type 334	100 %LEL (?)	
	(184)		P 5700 type 334	100 %LEL (?)	
			Polytron IR type 334	100 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 H2S LC	THT: 20 / 50 / 100 ppm / LDL = 1 ppm	
381			Polytron 7000 and 8000 NH3 LC	TDMATI: 100 ppm / LDL = 5 ppm	
382			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
			Polytron 7000 and 8000 OV1	as IPA (100 / 200 / 300 ppm)	S = 0.4 (L)
383			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
384			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
385			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
386	Thionyl chloride		Sulfurous oxychloride	119.0	1.64	76	124	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 7719-09-7			4.11 r		169°F						
	$SOCl_2$	Cl_2OS			1 ppm = 4.96 mg/m³				1 mg/m³ = 0.20 ppm			
387	Tin tetrachloride		Tin chloride	260.5	2.23	114	24	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 7646-78-8		Stannic chloride	8.99 r		237°F						
	$SnCl_4$	Cl_4Sn			1 ppm = 10.85 mg/m³				1 mg/m³ = 0.09 ppm			
388	Titanium tetrachloride		Titanic chloride	189.7	1.73	136	13	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 7550-45-0			6.55 r		277°F						
	$TiCl_4$	Cl_4Ti			1 ppm = 7.90 mg/m³				1 mg/m³ = 0.13 ppm			
389	Toluene		Methylbenzene	92.1	0.87	111	29	6	1.0	1.0	1.1	535
	CAS 108-88-3		Phenylmethane	3.18 r		232°F		43°F	(38)	(38)	(42)	IIA
	$C_6H_5CH_3$	C_7H_8		73 v	1 ppm = 3.84 mg/m³				1 mg/m³ = 0.26 ppm			T1
390	Tributylamine		N.N-Dibutyl-1-butanamine	185.4	0.78	214	0.4	86	1.4*			
	CAS 102-82-9	TBA		6.40 r		417°F		187°F	(108)			IIA
	$(C_4H_9)_3N$	$C_{12}H_{27}N$			1 ppm = 7.73 mg/m³				1 mg/m³ = 0.13 ppm			
391	1.1.1-Trichloroethane		Methyl chloroform	133.4	1.34	74	133	n.a.	9.5		7.5	490
	CAS 71-55-6		R 140a	4.60 r		165°F			(528)		(417)	IIA
	CH_3CCl_3	$C_2H_3Cl_3$			1 ppm = 5.56 mg/m³				1 mg/m³ = 0.18 ppm			T1
392	Trichloro ethene		Trichloro ethylene	131.4	1.46	87	77.6		7.9			410
	CAS 79-01-6	TCE	1.1.2-Trichloroethylene	4.54 r		189°F			(433)			IIA
	$Cl_2C=CHCl$	C_2HCl_3	Ethylene trichloride		1 ppm = 5.48 mg/m³				1 mg/m³ = 0.18 ppm			T2
393	Trichloromethane		Chloroform	119.4	1.49	61	209	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 67-66-3		Methane trichloride	4.12 r		142°F						
	$CHCl_3$	$CHCl_3$	R 20		1 ppm = 4.98 mg/m³				1 mg/m³ = 0.20 ppm			
394	Trichloronitromethane		Nitrochloroform	164.4	1.66	112	22.5	n.a.	n.a.	n.a.	n.a.	n.a.
	CAS 76-06-2		Chloropicrin	5.67 r		234°F						
	CCl_3NO_2	CCl_3NO_2	Nitrotrichloromethane		1 ppm = 6.85 mg/m³				1 mg/m³ = 0.15 ppm			
395	1.2.3-Trichloropropane		Trichlorohydrin	147.4	1.39	156	2.8	74	3.2		3.2	
	CAS 96-18-4		Allyl trichloride	5.09 r		313°F		165°F	(197)		(197)	IIA
	$C_3H_5Cl_3$	$C_3H_5Cl_3$	Glyceryl trichlorohydrin		1 ppm = 6.14 mg/m³				1 mg/m³ = 0.16 ppm			
396	Trichlorosilane		Silyltrichloride	135.5	1.34	32	660	<-20	6.9		1.2	195
	CAS 10025-78-2	TCS	Silicochloroform	4.68 r		90°F		<-4°F	(390)		(68)	IIC
	$SiHCl_3$	HCl_3Si	Silicon chloroform	76 v	1 ppm = 5.65 mg/m³				1 mg/m³ = 0.18 ppm			T4
397	Triethoxymethane		Triethyl orthoformate	148.2	0.90	146	4	30	0.7			
	CAS 122-51-0	TEOF	Formic acid-o-triethyl ester	5.12 r		295°F		86°F	(43)			
	$CH(OC_2H_5)_3$	$C_7H_{16}O_3$			1 ppm = 6.18 mg/m³				1 mg/m³ = 0.16 ppm			

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
386		1c (5.0)	Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm SOC: 5 / 10 / 20 ppm / LDL = 0.2 ppm	
387			Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm TTC: 5 / 10 / 20 ppm / LDL = 0.5 ppm	
388			Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm TiTC: 5 / 10 / 20 ppm / LDL = 0.2 ppm	
389	50 (192)	200 (768)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	10 // 100 %LEL 30 / 100 %LEL // 2750 ppm Gas-Library 50 + 100 %LEL Gas-Library 35 / 100 %LEL // 2200 ppm Gas-Library 45 / 100 %LEL // 4400 ppm Gas-Library 50 + 100 %LEL Gas-Library 50 / 100 %LEL // 3600 ppm Gas-Library 100 %LEL	SE Ex / PEX 3000: Perf. Approval Performance Approval Performance Approval Performance Approval Performance Approval
390			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
391	200 (1112)	350 (1945)	PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334	100 %LEL (§) 100 %LEL (§) 80 / 100 %LEL	
392	11 (60)	25 (137)	Pyrolyzer Polytron 7500 PFC	20 ppm / LDL = 0.5 ppm	S = 1.5
393	0.5 (2.5)	50c (249)	Pyrolyzer Polytron 7500 PFC	TCM: 100 / 100 ppm / LDL = 1 ppm	
394	0.1 (0.69)	0.1 (0.69)	Pyrolyzer Polytron 7500 PFC	20 ppm / LDL = 0.5 ppm	S = 1.3
395		50 (307)	PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	70 / 100 %LEL 100 %LEL 100 %LEL (§) 60 / 100 %LEL 100 %LEL 100 %LEL (§)	
396			Polytron 7000 and 8000 AC Polytron 7000 and 8000 HCl	Acid: 3 / 10 / 30 ppm / LDL = 0.5 ppm TrCS: 5 / 10 / 20 ppm / LDL = 0.5 ppm	
397			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
398	Triethylamine CAS 121-44-8 $(C_2H_5)_3N$	TEA $C_6H_{15}N$	N.N-Diethylethanamine	101.2 3.49 r 104 v	0.73 1 ppm = 4.22 mg/m³	89 192°F	70	-7 19°F	1.2 (51) 1 mg/m³ = 0.24 ppm	1.2 (51)	1.2 (51)	215 IIA T3
399	1.1.1-Trifluoroethane CAS 420-46-2 CF_3CH_3	$C_2H_3F_3$	Methylfluoroform R 143a	84.0 2.90 r	Gas 1 ppm = 3.50 mg/m³	-48 -54°F	Gas	Gas	6.8 (238) 1 mg/m³ = 0.29 ppm			714 IIA T1
400	Trifluoro methane CAS 75-46-7 CHF_3	CHF_3	Fluoroform R 23	70.0 2.42 r	Gas 1 ppm = 2.92 mg/m³	-82.2 -116°F	Gas	n.a.	n.a. 1 mg/m³ = 0.34 ppm	n.a.	n.a.	n.a.
401	Trifluoro methoxy benzene CAS 456-55-3 $C_6H_5OCF_3$	TFMB $C_7H_5F_3O$	Trifluoroanisene Phenyl trifluoromethyl ether	162.1 5.60 r	1.23 1 ppm = 6.75 mg/m³	102 216°F			1 mg/m³ = 0.15 ppm			
402	Trifluoromethyl benzene amine CAS 98-16-8 CF_3-C_6H_4-NH_2	$C_7H_6F_3N$	Trifluoromethylanilin 3-Aminobenzo trifluoride	161.1 5.56 r	1.30 1 ppm = 6.71 mg/m³	187 369°F	1	85 185°F	1 mg/m³ = 0.15 ppm			IIA
403	Trimethoxymethane CAS 149-73-5 $CH(OCH_3)_3$	TMOF $C_4H_{10}O_3$	Trimethyl orthoformate Formic acid-o-trimethyl ester	106.1 3.66 r	0.97 1 ppm = 4.42 mg/m³	104 219°F	31.3	13 55°F	1.4* (62) 1 mg/m³ = 0.23 ppm			255 IIB T3
404	Trimethoxysilane CAS 2487-90-3 $(CH_3O)_3SiH$	TMOS $C_3H_{10}O_3Si$	Trimethoxy silylhydride	122.2 4.22 r	0.96 1 ppm = 5.09 mg/m³	81 178°F	9.6		1.0* (51) 1 mg/m³ = 0.20 ppm			
405	Trimethyl-o-acetate CAS 1445-45-0 $CH_3C(OCH_3)_3$	TMOA $C_5H_{12}O_3$	1.1.1-Trimethoxyethane Trimethoxyethane Acetic acid-o-trimethyl ester Trimethyl orthoacetate	120.2 4.15 r	0.96 1 ppm = 5.01 mg/m³	108 226°F	20		1.5* (75) 1 mg/m³ = 0.20 ppm			
406	Trimethylamine CAS 75-50-3 $(CH_3)_3N$	TMA C_3H_9N	N.N-Dimethylmethanamine	59.1 2.04 r	Gas 1 ppm = 2.46 mg/m³	3 37°F	Gas	Gas	2.0 (49) 1 mg/m³ = 0.41 ppm	2.0 (49)	2.0 (49)	190 IIA T4

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
398	1	25	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
	(4.2)	(105)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 NH3 LC	TEA: 100 ppm / LDL = 5 ppm	
399			PIR 7000 type 334, P 8700 type 334	45 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	50 / 100 %LEL	
			Pyrolyzer Polytron 7500 PFC	40 ppm / LDL = 1 ppm	S = 0.8
400			Pyrolyzer Polytron 7500 PFC	100 ppm / LDL = 2 ppm	S = 0.3
401			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	50 / 100 %LEL	
402			Pyrolyzer Polytron 7500 PFC	60 ppm / LDL = 1 ppm	S = 0.5
403			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (?)	
			P 5700 type 340	100 %LEL (?)	
			Polytron IR type 340	100 %LEL (?)	
404			PIR 7000 type 334, P 8700 type 334	25 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	30 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	15 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	15 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
405			PIR 7000 type 334, P 8700 type 334	100 %LEL (§)	
			P 5700 type 334	100 %LEL (§)	
			Polytron IR type 334	20 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	100 %LEL (§)	
			P 5700 type 340	100 %LEL (§)	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
406		10	P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	corrosive/sensor poison
		(25)	PIR 7000 type 334, P 8700 type 334	20 / 100 %LEL	
			P 5700 type 334	20 + 50 + 100 %LEL	
			Polytron IR type 334	40 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	10 / 100 %LEL	
			P 5700 type 340	20 + 50 + 100 %LEL	
			Polytron IR type 340	10 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
			Polytron 7000 and 8000 NH3 LC	TMA: 100 ppm / LDL = 5 ppm	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
407	1.2.4-Trimethylbenzene CAS 95-63-6 $C_6H_3(CH_3)_3$	 C_9H_{12}	Pseudocumene	120.2 4.15 r	0.88 1 ppm = 5.01 mg/m³	169 336°F	2.1	50 122°F	0.8 (40) 1 mg/m³ = 0.20 ppm		0.9 (45)	485 IIA T1
408	1.3.5-Trimethylbenzene CAS 108-67-8 $C_6H_3(CH_3)_3$	 C_9H_{12}	Mesitylene	120.2 4.15 r	0.87 1 ppm = 5.01 mg/m³	165 329°F	2.7	44 111°F	1.0 (50) 1 mg/m³ = 0.20 ppm	0.8 (40)		550 IIA T1
409	Trimethyl borane CAS 593-90-8 $B(CH_3)_3$	 TMB C_3H_9B	Boron trimethyl	55.9 1.93 r	Gas 1 ppm = 2.33 mg/m³	-20 -4°F	Gas	Gas	 1 mg/m³ = 0.43 ppm			
410	2.2.4-Trimethyl hexane CAS 16747-26-5 $C_2H_5CH(CH_3)CH_2C(CH_3)_3$	 C_9H_{20}	i-Nonane Isononane	128.3 4.43 r	0.71 1 ppm = 5.35 mg/m³	126 259°F	16	15 59°F	0.7 (37) 1 mg/m³ = 0.19 ppm			 IIA
411	2.2.4-Trimethylpentane CAS 540-84-1 $CH_3CH(CH_3)CH_2C(CH_3)_3$	 C_8H_{18}	i-Octane Isooctane	114.2 3.94 r 114 v	0.69 1 ppm = 4.76 mg/m³	99 210°F	53	-12 10°F	1.0 (48) 1 mg/m³ = 0.21 ppm	0.7 (33)	1.1 (52)	410 IIA T2
412	2.4.4-Trimethyl-1-pentene CAS 107-39-1 $CH_2=C(CH_3)CH_2C(CH_3)_3$	 C_8H_{16}	α-Diisobutylene Di-i-butylene	112.2 3.87 r 78 v	0.72 1 ppm = 4.68 mg/m³	101 214°F	46	-6 21°F	0.8 (37) 1 mg/m³ = 0.21 ppm	1.1 (51)	0.8 (37)	415 IIA T2
413	Trimethyl silane CAS 993-07-7 $SiH(CH_3)_3$	 TMS $C_3H_{10}Si$	2-Methyl-2-silapropane	74.2 2.56 r	Gas 1 ppm = 3.09 mg/m³	7 45°F	Gas	Gas	1.3 (40) 1 mg/m³ = 0.32 ppm			235 T3
414	1.3.5-Trioxane CAS 110-88-3 $(CH_2)_3O_3$	 $C_3H_6O_3$	Trioxymethylene 1.3.5-Trioxacyclohexane Metaformaldehyde	90.1 3.11 r	1.17 1 ppm = 3.75 mg/m³	115 239°F	11	45 113°F	3.6 (135) 1 mg/m³ = 0.27 ppm	3.2 (120)	3.6 (135)	410 IIB T2

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
407	20 (100)		P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	10 // 100 %LEL 100 %LEL (§) 100 %LEL (§) 50 / 100 %LEL 100 %LEL (§) 100 %LEL (§) 25 / 100 %LEL 100 %LEL	
408	20 (100)		P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	10 // 100 %LEL 30 / 100 %LEL 50 + 100 %LEL 65 / 100 %LEL 20 / 100 %LEL 20 + 50 + 100 %LEL 25 / 100 %LEL 100 %LEL	
409			Polytron 7000 and 8000 Hydride		on request
410			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	100 %LEL 15 / 100 %LEL 20 + 50 + 100 %LEL 50 / 100 %LEL 10 / 100 %LEL 20 + 50 + 100 %LEL 15 / 100 %LEL 100 %LEL	
411			P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	100 %LEL 25 / 100 %LEL 50 + 100 %LEL 65 / 100 %LEL 10 / 100 %LEL 20 + 50 + 100 %LEL 10 / 100 %LEL 100 %LEL	
412			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310 Polytron 7000 and 8000 OV1	20 / 100 %LEL 20 + 50 + 100 %LEL 55 / 100 %LEL 15 / 100 %LEL 20 + 50 + 100 %LEL 15 / 100 %LEL 100 %LEL as EtOH (100 / 200 / 300 ppm)	 S = 0.6 (L)
413		5 (15)	Polytron 7000 and 8000 Hydride Polytron 7000 and 8000 Hydride SC	TMS: 5 / 20 / 20 ppm / LDL = 0.3 ppm TMS: 1 / 5 / 20 ppm / LDL = 0.2 ppm	
414			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	solid - melting point 62 °C

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
415	Tri-n-propylamine CAS 102-69-2 $(C_3H_7)_3N$	 $C_9H_{21}N$	N.N-Dipropyl-1-propanamine Tripropyl amine	143.3 4.95 r	0.75 1 ppm = 5.97 mg/m³	156 313°F	3.5	35 95°F	0.7 (42) 1 mg/m³ = 0.17 ppm		0.7 (42)	180 T4
416	Tungsten hexafluoride CAS 7783-82-6 WF_6	 F_6W		297.8 10.28 r	Gas 1 ppm = 12.41 mg/m³	17 63°F	Gas	n.a.	n.a. 1 mg/m³ = 0.08 ppm	n.a.	n.a.	n.a.
417	n-Undecane CAS 1120-21-4 $C_{11}H_{24}$	 C11 $C_{11}H_{24}$	Hendecane	156.3 5.40 r	0.74 1 ppm = 6.51 mg/m³	196 385°F	0.5	61 142°F	0.6 (39) 1 mg/m³ = 0.15 ppm			195 IIA T4
418	Vinyl acetate CAS 108-05-4 $CH_3COOCH=CH_2$	 VAM $C_4H_6O_2$	Acetic acid vinyl ester Acetic acid ethenyl ester 1-Acetoxyethylene	86.1 2.97 r 150 v	0.93 1 ppm = 3.59 mg/m³	72 162°F	120	-8 18°F	2.6 (93) 1 mg/m³ = 0.28 ppm	2.6 (93)	2.6 (93)	385 IIA T2
419	Vinylacetylene CAS 689-97-4 $CH_2=CHCCH$	 C_4H_4	Butenyne Butenine 1-Buten-3-yne 3-Butenyne-1	52.1 1.80 r	Gas 1 ppm = 2.17 mg/m³	5 41°F	Gas	Gas	2.0 (43) 1 mg/m³ = 0.46 ppm		2.1 (46)	
420	Vinyl chloride CAS 75-01-4 $CH_2=CHCl$	 VCM C_2H_3Cl	Chloroethene Chloroethylene R 1140	62.5 2.16 r	Gas 1 ppm = 2.60 mg/m³	-13 9°F	Gas	Gas	3.8 (99) 1 mg/m³ = 0.38 ppm	3.6 (94)	3.6 (94)	415 IIA T2
421	4-Vinyl cyclohexene CAS 100-40-3 $C_6H_9CH=CH_2$	 C_8H_{12}	1.2.5.6-Tetrahydrostyrene 4-Ethenyl-1-cyclohexene Cyclohexenylethylene	108.2 3.73 r 81 v	0.83 1 ppm = 4.51 mg/m³	128 262°F	14	15 59°F	0.6 (27) 1 mg/m³ = 0.22 ppm	0.8 (36)	1.0 (45)	265 IIA T3
422	Vinyl fluoride CAS 75-02-5 $CH_2=CHF$	 VF C_2H_3F	Fluoroethene Fluoroethylene R 1141	46.0 1.59 r	Gas 1 ppm = 1.92 mg/m³	-72 -98°F	Gas	Gas	2.9 (56) 1 mg/m³ = 0.52 ppm		2.6 (50)	375 T2
423	Vinylmethyl ether CAS 107-25-5 $CH_2=CHOCH_3$	 VME C_3H_6O	Methoxyethene Ethenyl methylether Methylvinyl ether	58.1 2.01 r	Gas 1 ppm = 2.42 mg/m³	6 43°F	Gas	Gas	2.2 (53) 1 mg/m³ = 0.41 ppm		2.6 (63)	220 IIB T3
424	Vinylmethylketone CAS 78-94-4 $CH_3COCH=CH_2$	 MVK C_4H_6O	Methylvinylketone 1-Buten-3-one Methylene acetone	70.1 2.42 r 111 v	0.83 1 ppm = 2.92 mg/m³	81 178°F	100	-7 19°F	 1 mg/m³ = 0.34 ppm		2.1 (61)	
425	Vinyltrimethoxysilane CAS 2768-02-7 $CH_2=CHSi(OCH_3)_3$	 VTMOS $C_5H_{12}O_3Si$	Ethenyltrimethoxysilane Trimethoxy vinylsilane Trimethoxy silylethene	148.2 5.12 r	0.97 1 ppm = 6.18 mg/m³	124 255°F		23 73°F	0.7 (43) 1 mg/m³ = 0.16 ppm			235 IIB T3

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
415			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	25 / 100 %LEL 50 + 100 %LEL 25 / 100 %LEL 5 / 100 %LEL 20 + 50 + 100 %LEL 10 / 100 %LEL 100 %LEL	
416			Polytron 7000 and 8000 AC	WF6: 3 / 10 / 30 ppm / LDL = 0.5 ppm	
417			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340	100 %LEL (?) 100 %LEL (?) 100 %LEL (?)	
418	5 (18)	4c (14)	P 5200, P 8200, PEX 3000, SE Ex PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 Polytron 7000 and 8000 OV1	10 // 100 %LEL 60 / 100 %LEL 100 %LEL 60 / 100 %LEL VAc: 20 / 50 / 100 ppm / LDL = 5 ppm	polymerizing/sensor poison S = 0.8
419			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL (?)	polymerizing/sensor poison
420	3 (7.8)	1 (2.6)	P 5200, P 8200, PEX 3000, SE Ex Polytron 7000 and 8000 OV1	10 // 100 %LEL VC: 20 / 50 / 100 ppm / LDL = 5 ppm	corrosive/sensor poison S = 0.8
421			PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 Polytron 7000 and 8000 OV1	100 %LEL (?) 100 %LEL (?) 100 %LEL (?) as EtOH (100 / 200 / 300 ppm)	 S = 0.5 (L)
422		1 (1.9)	Polytron 7000 and 8000 OV1	as VC (20 / 50 / 100 ppm)	
423			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	30 / 100 %LEL 50 + 100 %LEL 30 / 100 %LEL 15 / 100 %LEL 20 + 50 + 100 %LEL 15 / 100 %LEL 100 %LEL	
424			P 5200, P 8200, PEX 3000, SE Ex	100 %LEL	
425			PIR 7000 type 334, P 8700 type 334 P 5700 type 334 Polytron IR type 334 PIR 7000 type 340, P 8700 type 340 P 5700 type 340 Polytron IR type 340 PIR 3000, P 5310, P 8310	20 / 100 %LEL 20 + 50 + 100 %LEL 35 / 100 %LEL 15 / 100 %LEL 20 + 50 + 100 %LEL 15 / 100 %LEL 100 %LEL	

List of detectable gases and vapours 2013

No.	Substance Chemical formula	Shortn. S-formula	Further synonyms	Molw. g/mol	Dens. g/ml	Boil. °C	p_{20} mbar	Flpt. °C	LEL Germ.	LEL IEC	LEL USA	AIT °C
426	m-Xylene CAS 108-38-3 $C_6H_4(CH_3)_2$	C_8H_{10}	1.3-Dimethylbenzene	106.2 3.67 r 85 v	0.86 1 ppm = 4.43 mg/m³	139 282°F	8.3	25 77°F	1.0 (44) 1 mg/m³ = 0.23 ppm	1.0 (44)	1.1 (49)	540 IIA T1
427	o-Xylene CAS 95-47-6 $C_6H_4(CH_3)_2$	C_8H_{10}	1.2-Dimethylbenzene	106.2 3.67 r	0.88 1 ppm = 4.43 mg/m³	144 291°F	6.7	30 86°F	1.0 (44) 1 mg/m³ = 0.23 ppm	1.0 (44)	0.9 (40)	465 IIA T1
428	p-Xylene CAS 106-42-3 $C_6H_4(CH_3)_2$	C_8H_{10}	1.4-Dimethylbenzene	106.2 3.67 r 85 v	0.86 1 ppm = 4.43 mg/m³	138 280°F	8.9	25 77°F	1.0 (44) 1 mg/m³ = 0.23 ppm	0.9 (40)	1.1 (49)	540 IIA T1

No.	TLV Germ.	TLV USA	Detectable with	Suitable measuring ranges	Important remarks
426	100	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(443)	(443)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	35 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	30 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	
427	100	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(443)	(443)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL // 2500 ppm Gas-Library	Performance Approval
			P 5700 type 334	50 + 100 %LEL Gas-Library	
			Polytron IR type 334	35 / 100 %LEL // 1800 ppm Gas-Library	
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL // 2500 ppm Gas-Library	Performance Approval
			P 5700 type 340	50 + 100 %LEL Gas-Library	
			Polytron IR type 340	30 / 100 %LEL // 2000 ppm Gas-Library	
			PIR 3000, P 5310, P 8310	100 %LEL	
428	100	100	P 5200, P 8200, PEX 3000, SE Ex	10 // 100 %LEL	
	(443)	(443)	PIR 7000 type 334, P 8700 type 334	30 / 100 %LEL	
			P 5700 type 334	50 + 100 %LEL	
			Polytron IR type 334	45 / 100 %LEL	
			PIR 7000 type 340, P 8700 type 340	30 / 100 %LEL	
			P 5700 type 340	50 + 100 %LEL	
			Polytron IR type 340	35 / 100 %LEL	
			PIR 3000, P 5310, P 8310	100 %LEL	

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