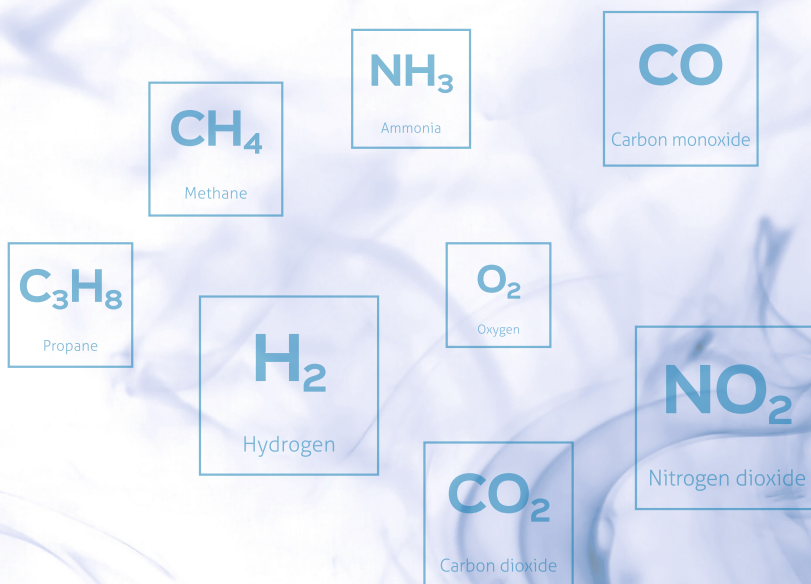


Gas Detection.



Portfolio

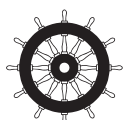
Applications according to gases



Applications according to gases

Gas		Applications
Acetone	C_3H_6O	Chemical industry: paint remover, degreasing
Ammonia	NH_3	Fertiliser production, agriculture, alternative fuel
Benzene	C_6H_6	Synthesis of many compounds
Butadiene	C_4H_6	Aerospace, fuel in hybrid rockets, Chemical industry: synthetic rubber
Butyl acetate	$C_6H_{12}O_2$	Paint industry: paint solvents, cosmetics industry
Carbon dioxide	CO_2	Refrigeration systems, food industry
Carbon monoxide	CO	Garages, buildings
Cyclohexane	C_6H_{12}	Chemical industry: solvents, production of synthetic fibres such as nylon
Cyclopentane	C_5H_{10}	Chemical industry: Foaming of refrigerators, propellant
Ethane	C_2H_6	Refrigerant R170, heating gas
Ethyl alcohol	C_2H_5OH	Chemical industry, food industry: beverage industry, disinfection
Ethyl acetate	$C_3H_8O_2$	Pharmaceutical industry: pharmaceuticals, extraction agents
Ethylene	C_2H_4	Ripening of fruit and vegetables, production of plastics
Ethylene oxide	C_2H_4O	Medicine: production of plastics, disinfection, sterilisation
Hydrogen	H_2	Electrical and pharmaceutical industry, ammonia production, steel production
Hydrogen chloride	HCl	Production of hydrochloric acid, chlorides, PVC
Hydrogen cyanide	HCN	Plastics industry, chemical industry
Hydrogen sulphide	H_2S	Industry: used to extract sulphur from crude oil, main source of sulphuric acid
Iso/n-butane	C_4H_{10}	Basic material for the chemical industry
Iso/n-pentane	C_5H_{12}	Chemical industry: solvent for fats and oils
Isobutyl alcohol	C_4H_{10}	Solvent for paints, beverage industry, cosmetics industry
Isopropyl alcohol	C_3H_8O	Laboratory, cleaning agent, defoaming agent, diluent
Liquid petroleum gas	LPG	Fuel, autogas, heating gas
Methane	CH_4	Biogas: Heating gas, livestock farming, landfill
Methanol	CH_3OH	Chemical industry, extraction agent in the petroleum industry, alternative fuel
Methyl acetate	$C_3H_6O_2$	Laboratory, pharmaceutical industry, food industry: hard/brittle acrylic paints, solvents
Methyl ethyl ketone	C_4H_8O	Artificial flavouring agent, solvent for plastics, resins and paints
n-heptane	C_7H_{16}	Pharmaceutical industry (octane number determination)
n-hexane	C_6H_{14}	Solvent, thinner Paints, printing inks
Nitrogen monoxide	NO	Production of nitric acid
Nonane	C_9H_{20}	Petrochemical industry

Gas		Applications
Octane	C_8H_{18}	Chemical industry: cleaning agents, in car and aircraft petrol
Oxygen, 2 years	O_2	Oxygen displacement, measurement of inert gas concentrations
Propane	C_3H_8	Refrigeration industry, welding equipment, LPG, heat pumps
Propene	C_3H_6	Chemical industry: used in the production of plastics
Refrigerant gas/R1234yf	R1234yf	Industrial refrigeration technology / cold stores / supermarkets / Air conditioning chambers / automotive industry / transport refrigeration /
Toluene	C_7H_8	Chemical industry, pharmaceutical industry



Sensor portfolio

Toxic gases	Formula	Range	SIL Certificate*	Marine Cert*
Electrochemical Sensor				
Ammonia	NH ₃ /R717	0-1000 ppm	x	x
Ammonia	NH ₃	0-100 ppm	x	x
Ammonia	NH ₃	0-300 ppm	x	x
Ammonia	NH ₃	0-500 ppm	x	x
Ammonia	NH ₃	0-5000 ppm	x	x
Chlorine	Cl ₂	0-10 ppm	x	
Chlorine	Cl ₂	0-20 ppm	x	
Hydrogen chloride	HCl	0-20 ppm	x	x
Hydrogen cyanide	HCN	0-50 ppm	x	x
Hydrogen cyanide	HCN	0-100 ppm	x	x
Ethylene	C ₂ H ₄	0-10 ppm	x	
Ethylene	C ₂ H ₄	0-200 ppm	x	
ETO (ethylene oxide)	C ₂ H ₄ O	0-10 ppm	x	
Formaldehyde	CH ₂ O	0-10 ppm	x	
Carbon monoxide	CO	0-50 ppm	x	x
Carbon monoxide	CO	0-150 ppm	x	x
Carbon monoxide	CO	0-250 ppm	x	x
Carbon monoxide	CO	0-300 ppm	x	x
Carbon monoxide	CO	0-500 ppm	x	x
Methanol	CH ₃ OH	0-250 ppm	x	x
Ozone	O ₃	0-1 ppm	x	
Ozone	O ₃	0-5 / 0-10 ppm	x	
Oxygen, 2 years	O ₂	0-25 % vol	x	x
Oxygen, 3 years	O ₂	0-25 % vol	x	
Oxygen, 5 years	O ₂	0-25 % vol	x	
Oxygen, 7 years	O ₂	0-25 % vol	x	
Sulfur dioxide	SO ₂	0-20 ppm	x	
Hydrogen sulfide	H ₂ S	0-50 ppm	x	x
Hydrogen sulfide	H ₂ S	0-100 ppm	x	x
Hydrogen sulfide	H ₂ S	0-200 ppm	x	x
Hydrogen sulfide	H ₂ S	0-500 ppm	x	x
Hydrogen sulfide	H ₂ S	0-1500 ppm	x	x
Nitrogen dioxide	NO ₂	0-100 ppm	x	x
Nitrogen dioxide	NO ₂	0-5 ppm	x	
Nitrogen dioxide	NO ₂	0-10 ppm	x	
Nitrogen dioxide	NO ₂	0-20 ppm	x	
Nitrogen dioxide	NO ₂	0-30 ppm	x	
Nitric oxide	NO	0-100 ppm	x	
VOC	VOC	0-5 ppm	x	x
VOC	VOC	0-10 ppm	x	x
VOC	VOC	0-200 ppm	x	
Hydrogen	H ₂	0-1000 ppm	x	x
Hydrogen peroxide	H ₂ O ₂	0-10 ppm	x	
Hydrogen peroxide	H ₂ O ₂	0-1500 ppm	x	

Toxic gases	Formula	Range	SIL Certificate*	Marine Cert*
Infrared Sensor				
Carbon dioxide	CO ₂	0-2 % vol		
Carbon dioxide	CO ₂	0-5 % vol		
Carbon dioxide	CO ₂	0-5000 ppm		
Carbon dioxide	CO ₂	0-10000 ppm		
Carbon dioxide	CO ₂	0-20000 ppm		
Premium Infrared Sensor				
Carbon dioxide	CO ₂	0-2 % vol		
Carbon dioxide	CO ₂	0-5 % vol		
Carbon dioxide	CO ₂	0-10 %vol		
Carbon dioxide	CO ₂	0-5000 ppm		
Semiconductor Sensor				
Ammonia	NH ₃	0-1000 ppm		
Ammoniak	NH ₃	0-10000 ppm		
Ethylen	C ₂ H ₄	20-2000 ppm		

*Please check the data sheet of the respective sensor for certification.

Sensor portfolio

Combustible gases	Formula	Range	SIL Certificate*	Marine Cert.*
Cat Bead Sensor				
Acetone	C_3H_6O	0-100 % LEL	x	
Ammonia	NH_3	0-100 % LEL	x	
Ammonia	NH_3	0-20 % LEL	x	
Benzene	C_6H_6	0-100 % LEL	x	
Butadiene	C_4H_6	0-100 % LEL	x	
Butyl acetate	$C_6H_{12}O_2$	0-100 % LEL	x	
Cyclohexane	C_6H_{12}	0-100 % LEL	x	
Cyclopentane	C_5H_{10}	0-100 % LEL	x	
Ethane	C_2H_6	0-100 % LEL	x	
Ethyl alcohol	C_2H_5OH	0-100 % LEL	x	
Ethyl acetate	$C_3H_8O_2$	0-100 % LEL	x	
Ethylene	C_2H_4	0-100 % LEL	x	
Hydrogen	H_2	0-100 % LEL	x	x
Iso/n-butane	C_4H_{10}	0-100 % LEL	x	
Iso/n-pentane	C_5H_{12}	0-100 % LEL	x	
Isobutyl alcohol	C_4H_{10}	0-100 % LEL	x	
Isopropyl alcohol	C_3H_8O	0-100 % LEL	x	x
LPG LPG	LPG	0-100 % LEL	x	
Methane	CH_4	0-100 % LEL	x	x
Methanol	CH_3OH	0-100 % LEL	x	
Methyl acetate	$C_3H_6O_2$	0-100 % LEL	x	
Methyl ethyl ketone	C_4H_8O	0-100 % LEL	x	
n-Heptane	C_7H_{16}	0-100 % LEL	x	
n-Hexane	C_6H_{14}	0-100 % LEL	x	x
Nonane	C_9H_{20}	0-100 % LEL	x	
Octane	C_8H_{18}	0-100 % LEL	x	
Petrol vapours	--	0-100 % LEL	x	
Propa	C_3H_8	0-100 % LEL	x	x
Propane	C_3H_8	0-30 % LEL	x	
Propane	C_3H_8	0-5000 ppm	x	
Propene	C_3H_6	0-30 % LEL	x	
Toluene	C_7H_8	0-100 % LEL	x	
Xylene	C_8H_{10}	0-100 % LEL	x	

Combustible gases	Formula	Range	SIL Certificate*	Marine Cert.*
Infrared sensor				
Methane	CH ₄	0-100 % LEL		
Propane	C ₃ H ₈	0-100 % LEL		
Premium infrared sensor				
Methane	CH ₄	0-100 % LEL		
Methane	CH ₄	0-100 % vol		
Propane	C ₃ H ₈	0-100 % LEL		
MPS sensor				
Acetylene	C ₂ H ₂	0-100 % LEL		
Ammonia	NH ₃	0-30 % LEL		
DMC	C ₃ H ₆ O ₃	0-30 % LEL		
Hydrogen	H ₂	0-100 % LEL		
Methane	CH ₄	0-100 % LEL		
Propane	C ₃ H ₈	0-100 % LEL		

*Please check the data sheet of the respective sensor for certification.

Sensor portfolio

Refrigerant gases	Range
Semiconductor sensor	
R23	2000 ppm
R508b	2000 ppm
R1234yf	2000 ppm
R1234yf	0-50 % LEL
R452a	2000 ppm
R454b	2000 ppm
R454b	0-50 % LEL
R454c	2000 ppm
R455a	2000 ppm
R455a	0-50 % LEL
R513a	2000 ppm
R1233zd	2001 ppm
R515b	2002 ppm
R1234ze	2000 ppm
R1234ze	0-50% LEL
R22	2000 ppm
R401a	2000 ppm
R401b	2000 ppm
R402a	2000 ppm
R402b	2000 ppm
R403a	2000 ppm
R408a	2000 ppm
R409a	2000 ppm
R411a	2000 ppm
R134a	2000 ppm
R407a	2000 ppm
R407f	2000 ppm
R416a	2000 ppm
R417a	2000 ppm
R422a	2000 ppm
R422d	2000 ppm
R427a	2000 ppm
R437a	2000 ppm
R438a	2000 ppm
R449a	2000 ppm
R450a	2000 ppm
R125	2000 ppm
R143a	2000 ppm
R32	2000 ppm
R32	0-50 % LEL
R404a	2000 ppm
R407c	2000 ppm

Refrigerant gases	
Range	
Semiconductor sensor	
R410a	2000 ppm
R434a	2000 ppm
R448a	2000 ppm
R452b	2000 ppm
R507a	2000 ppm
Premium Infrared sensor	
R32	0-50 % LEL

The overview of available gases is constantly being expanded.
Please contact us if the gas you are looking for is not listed.

Global Experts in Gas Detection.

With a worldwide partner network and its own branches around the globe.

.MSR
ARBA

.MSR
ASIA

.MSR
AUSTRIA

.MSR
FRANCE

.MSR
IBERIA

.MSR
ITALY

.MSR
NORDIC

.MSR
UK

.MSR
USA



Photos: MSR-Electronic, Adobe Stock. 33/26

 **MSR SHOP**
Unser Webshop

 **MSR VIDEO**
Our YouTube Channel

 **MSR Partner**
Partner in your Region

 **MSR LinkedIn**
Find out all the news.

www.msr-electronic.de

We are part of the MSR-Group.