

# List of Poisonous Gases and Harmful Chemicals

Chemical Name	Chemical Symbol	Where It's Likely Found	Gas Detector Needed	Potential Risks	Industry
Arsenic pentafluoride	AsF <sub>5</sub>	Semiconductor manufacturing	Multi-gas detector	Toxic, corrosive, causes respiratory issues	Electronics
Arsine	AsH <sub>3</sub>	Metal refining, semiconductor	Arsine detector	Highly toxic, hemolysis, can be fatal	Semiconductor, metal processing
Bis(trifluoromethyl) peroxide	(CF <sub>3</sub> O) <sub>2</sub>	Chemical synthesis	Multi-gas detector	Highly toxic, explosive	Chemical industry
Boron tribromide	BBr <sub>3</sub>	Chemical manufacturing	Multi-gas detector	Corrosive, causes burns	Chemical industry
Boron trichloride	BCl <sub>3</sub>	Chemical manufacturing	Multi-gas detector	Corrosive, causes burns	Chemical industry
Boron trifluoride	BF <sub>3</sub>	Semiconductor manufacturing	Boron trifluoride detector	Toxic, corrosive, causes respiratory issues	Electronics, chemical industry
Bromine	Br <sub>2</sub>	Water treatment, chemical industry	Bromine detector	Corrosive, causes burns, eye irritation	Water treatment, chemical industry
Bromine chloride	BrCl	Water treatment, chemical industry	Multi-gas detector	Corrosive, causes burns, eye irritation	Water treatment, chemical industry
Bromomethane	CH <sub>3</sub> Br	Fumigation, chemical synthesis	Bromomethane detector	Highly toxic, causes respiratory issues	Agriculture, chemical industry
Carbon monoxide	CO	Incomplete combustion	Carbon monoxide	Highly toxic, fatal	Various, including

			detector		automotive, industrial
Chlorine	Cl <sub>2</sub>	Water treatment, chemical industry	Chlorine detector	Highly toxic, corrosive, causes respiratory issues	Water treatment, chemical industry
Chlorine pentafluoride	ClF <sub>5</sub>	Chemical manufacturing	Multi-gas detector	Highly toxic, corrosive, causes burns	Chemical industry
Chlorine trifluoride	ClF <sub>3</sub>	Chemical manufacturing	Multi-gas detector	Highly toxic, corrosive, causes burns	Chemical industry
Chloropicrin	CCl <sub>3</sub> NO <sub>2</sub>	Pesticide, chemical manufacturing	Multi-gas detector	Highly toxic, eye irritation, respiratory issues	Agriculture, chemical industry
Cyanogen	(CN) <sub>2</sub>	Chemical synthesis	Cyanogen detector	Highly toxic, fatal	Chemical industry
Cyanogen chloride	CNCl	Chemical warfare	Cyanogen chloride detector	Highly toxic, causes respiratory issues	Military, chemical industry
Diazomethane	CH <sub>2</sub> N <sub>2</sub>	Chemical synthesis	Multi-gas detector	Explosive, highly toxic	Chemical industry
Diborane	B <sub>2</sub> H <sub>6</sub>	Semiconductor manufacturing	Diborane detector	Highly toxic, flammable	Electronics, chemical industry
Dichloroacetylene	C <sub>2</sub> Cl <sub>2</sub>	Chemical synthesis	Multi-gas detector	Highly toxic, explosive	Chemical industry
Dichlorosilane	SiH <sub>2</sub> Cl <sub>2</sub>	Semiconductor manufacturing	Dichlorosilane detector	Highly toxic, flammable	Electronics, chemical industry
Dimethylmercury	(CH <sub>3</sub> ) <sub>2</sub> Hg	Chemical synthesis, laboratory	Mercury vapor detector	Highly toxic, causes neurological damage	Chemical industry, research
Ethylene oxide (anhydrous)	C <sub>2</sub> H <sub>4</sub> O	Sterilization, chemical synthesis	Ethylene oxide detector	Highly toxic, explosive	Healthcare, chemical industry

Fluorine	F2	Chemical manufacturing	Fluorine detector	Highly toxic, corrosive	Chemical industry
Formaldehyde (anhydrous)	CH2O	Chemical manufacturing, laboratories	Formaldehyde detector	Carcinogenic, respiratory issues	Chemical industry, research
Germane	GeH4	Semiconductor manufacturing	Germane detector	Highly toxic, flammable	Electronics, chemical industry
Hydrogen azide	HN3	Chemical synthesis, laboratories	Multi-gas detector	Explosive, highly toxic	Chemical industry, research
Hydrogen cyanide	HCN	Metal refining, fumigation	Hydrogen cyanide detector	Highly toxic, fatal	Agriculture, metal processing
Hydrogen Fluoride	HF	Chemical manufacturing	Hydrogen fluoride detector	Highly toxic, corrosive, causes burns	Chemical industry
Hydrogen selenide	H2Se	Semiconductor manufacturing	Hydrogen selenide detector	Highly toxic, causes respiratory issues	Electronics, chemical industry
Hydrogen sulfide	H2S	Petroleum refining, natural gas, Farming	Hydrogen sulfide detector	Highly toxic, explosive, causes respiratory issues	Oil and gas, waste management, Slurry
Hydrogen telluride	H2Te	Semiconductor manufacturing	Multi-gas detector	Highly toxic, causes respiratory issues	Electronics, chemical industry
Nickel tetracarbonyl	Ni(CO)4	Chemical manufacturing, metal refining	Multi-gas detector	Highly toxic, carcinogenic	Chemical industry, metal processing
Nitrogen dioxide	NO2	Combustion	Nitrogen dioxide	Highly toxic, respiratory issues	Various, including

		processes, welding	detector		industrial and automotive
Osmium tetroxide	OsO <sub>4</sub>	Chemical manufacturing, laboratories	Multi-gas detector	Highly toxic, corrosive, causes eye and skin damage	Chemical industry, research
Oxygen difluoride	OF <sub>2</sub>	Chemical manufacturing	Multi-gas detector	Highly toxic, corrosive, explosive	Chemical industry
Perchloryl fluoride	ClO <sub>3</sub> F	Chemical manufacturing	Multi-gas detector	Highly toxic, respiratory issues	Chemical industry
Perfluoroisobutylene	(CF <sub>3</sub> ) <sub>2</sub> C=CF <sub>2</sub>	Chemical manufacturing	Multi-gas detector	Highly toxic, respiratory issues	Chemical industry
Phosgene	COCl <sub>2</sub>	Chemical manufacturing, pesticides	Phosgene detector	Highly toxic, causes respiratory issues	Chemical industry, agriculture
Phosphine	PH <sub>3</sub>	Semiconductor manufacturing, fumigation	Phosphine detector	Highly toxic, flammable	Electronics, agriculture
Phosphorus pentafluoride	PF <sub>5</sub>	Chemical manufacturing	Multi-gas detector	Highly toxic, causes respiratory issues	Chemical industry
Selenium hexafluoride	SeF <sub>6</sub>	Chemical manufacturing	Multi-gas detector	Highly toxic, causes respiratory issues	Chemical industry
Silicon tetrachloride	SiCl <sub>4</sub>	Chemical manufacturing	Multi-gas detector	Highly toxic, corrosive	Chemical industry

Silicon tetrafluoride	SiF4	Chemical manufacturing	Multi-gas detector	Highly toxic, corrosive	Chemical industry
Stibine	SbH3	Semiconductor manufacturing	Stibine detector	Highly toxic, flammable	Electronics, chemical industry
Disulfur decafluoride	S2F10	Chemical manufacturing	Multi-gas detector	Highly toxic, causes respiratory issues	Chemical industry
Sulfur tetrafluoride	SF4	Chemical manufacturing	Multi-gas detector	Highly toxic, corrosive	Chemical industry
Tellurium hexafluoride	TeF6	Chemical manufacturing	Multi-gas detector	Highly toxic, causes respiratory issues	Chemical industry
Tetraethyl pyrophosphate	C8H20O7 P2	Pesticides, chemical manufacturing	Multi-gas detector	Highly toxic, causes respiratory issues	Agriculture, chemical industry
Sulfotep	C8H20O7 P2	Pesticides, chemical manufacturing	Multi-gas detector	Highly toxic, causes respiratory issues	Agriculture, chemical industry
Trifluoroacetyl chloride	C2ClF3O	Chemical manufacturing	Multi-gas detector	Highly toxic, causes respiratory issues	Chemical industry
Tungsten hexafluoride	WF6	Semiconductor manufacturing	Tungsten hexafluoride detector	Highly toxic, corrosive	Electronics, chemical industry