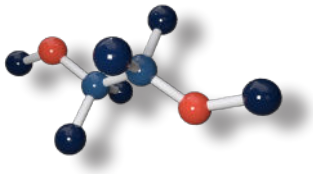
Gas Factsheet

Ethylene glycol



Formula: $C_2H_6O_2$
CAS: 107-21-1
Source: Antifreeze, De-icer, Inks & Solar Energy Systems
Detection Method: Tiger, Tiger^{LT}, Cub, Falco, TVOC 2, GasClam 2 & GasCheck G

Ethylene glycol is a chemical commonly used in many commercial and industrial applications including antifreeze and coolant. Ethylene glycol helps keep your car's engine from freezing in the winter and acts as a coolant to reduce overheating in the summer. Other important uses of ethylene glycol include heat transfer fluids used as industrial coolants for gas compressors, heating, ventilating, and air-conditioning systems, and ice skating rinks.

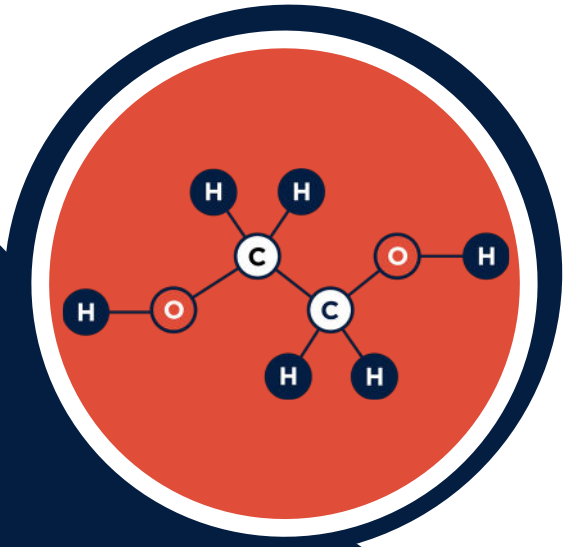
$C_2H_6O_2$ - SEVERE POISONING IS POTENTIALLY FATAL IF TREATMENT IS DELAYED.

Exposure to Ethylene Glycol

Inhalation: Toxic inhalation of ethylene glycol is unlikely at room temperature because of the chemical's low volatility, but can occur when the liquid is heated, agitated, or sprayed. Ethylene glycol is odourless and thus, odour does not provide any warning of hazardous concentrations. Ethylene glycol vapour is lighter than air. Children exposed to the same levels of ethylene glycol as adults may receive larger doses because they have greater lung surface area:body weight ratios and increased minute volumes:weight ratios.

Skin/Eye Contact: Ethylene glycol is only mildly irritating to mucous membranes or skin and is slowly and poorly absorbed through the skin.

Ingestion: Ethylene glycol is rapidly absorbed following ingestion, which is the predominant route of exposure. Ingestion of ethylene glycol leads to systemic toxicity beginning with CNS effects, followed by cardiopulmonary effects, and finally renal failure.



Ethylene Glycol Uses & Benefits

Industrial Applications
The primary use of ethylene glycol is for polyethylene terephthalate (PET) plastic resin used to make beverage containers for soda, water and juice, and polyester fibre for clothes, upholstery, carpet, and pillows. It has a variety of other industrial uses, including:
- The manufacture of fibreglass used to make products such as jet skis, bathtubs and bowling balls.
- The manufacture of ink for ballpoint pens and other inks. Ethylene glycol helps increase ink viscosity and makes it less likely to evaporate.
- Heat transfer fluids such as industrial coolants for gas compressors, heating, ventilating, and air-conditioning systems and ice skating rinks. Ethylene glycol gives industrial coolants properties that help them flow through cooling systems while withstanding extreme hot and cold temperatures.

Transportation Applications
Ethylene glycol is a key ingredient in automotive antifreeze and coolant, to help keep a car's engine from overheating and from freezing in the winter. Ethylene glycol is a major component of de-icing solutions used in a variety of transportation applications, including cars, boats and aircraft, as well as on airport runways during the cold winter months. Ethylene glycol also is an ingredient in hydraulic brake fluid products.

Ethylene glycol Detection Instruments

Fixed Instruments


Semi-Portable Instruments


Portable Instruments


Personal Instruments

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