Product Safety Assessment

Polyglycol 112-2


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Names
- CAS No. 9082-00-2
- Polyglycol 112-2
- Voranol™ 4702
- Glycerol
- Propylene oxide
- Ethylene oxide polymer

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Product Overview
- Polyglycol 112-2 is a defoaming product supplied as a clear liquid with a sweet odor.¹ For further details, see Product Description.
- Polyglycol 112-2 is used as a defoaming agent in various industrial applications.² For further details, see Product Uses.
- Worker exposure to Polyglycol 112-2 is possible during manufacture, transport, or use. Exposure is minimized by engineering controls and personal protective equipment. This product is not sold directly to consumers, but it is used in manufacturing processes for products such as paints, paper, and hydraulic fluids.² For further details, see Exposure Potential.
- Contact may cause slight temporary eye irritation and slight temporary corneal injury. Prolonged skin exposure is not likely to cause significant irritation, but may cause more severe response if skin is abraded. Contact with heated product may cause thermal burns. Exposure to vapor is minimal due to low volatility, but vapor from heated product may cause respiratory irritation. This product has low toxicity if swallowed, and is unlikely to be an aspiration hazard.¹ For further details, see Health Information and the relevant Safety Data Sheet.
- Polyglycol 112-2 is considered inert in the environment and is unlikely to accumulate in the food chain. Although this product is nonbiodegradable, it would be removed by adsorption to sediment, suspended solids, and organic matter. This product is practically nontoxic to aquatic organisms on an acute basis.¹ For further details, see Environmental Information.
- Polyglycol 112-2 is stable under recommended storage and normal use conditions. Product can oxidize at elevated temperatures. Avoid contact with oxidizing materials, strong acids, and strong bases. Avoid unintended contact with isocyanates.¹ For further details, see Physical Hazard Information.

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Manufacture of Product

- **Locations** – The Dow Chemical Company and its global affiliates produce Polyglycol 112-2 in facilities in the United States.
- **Process** – Polyglycol 112-2 is produced by reacting ethylene oxide and propylene oxide with glycerol.\(^3\)

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Product Description\(^1\)
Polyglycol 112-2 is supplied as a clear liquid with a sweet odor. It is characterized as a narrow molecular weight distribution, excellent color stability, and low ash content.

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Product Uses\(^2\)
Polyglycol 112-2 is used as a defoaming/antifoam agent for the following products and applications:

- Paints
- Metalworking solutions
- Wood and paper processing
- Lubricants
- Hydraulic fluids
- Mold releases
- Fatty acid ester intermediates
- Urethane resins and coatings
- Plasticizers

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Exposure Potential\(^1\)
Polyglycol 112-2 is used in the production of industrial and consumer products. Based on the uses for this product, individuals could be exposed through:

- **Workplace exposure** – Exposure can occur either in facilities that manufacture Polyglycol 112-2 or in the various industrial or manufacturing facilities that use this product. It is produced, distributed, stored, and consumed in closed systems. Those working with Polyglycol 112-2 in manufacturing operations could be exposed during maintenance, sampling, testing, or other procedures. Each manufacturing facility should have a thorough training program for employees and appropriate work processes, ventilation, and safety equipment in place to limit exposure. See Health Information.

- **Consumer exposure to products containing Polyglycol 112-2** – Dow does not sell Polyglycol 112-2 for direct consumer use. This product is used at low levels as an antifoaming agent in industrial manufacturing processes for products such as paint, paper, and hydraulic fluids. These applications are not expected to pose an exposure risk to customers. See Health Information.

- **Environmental releases** – In the event of a spill, the focus is on containing the spill to prevent contamination of soil, surface water, or groundwater. Respiratory protection is necessary for cleaning up spills and leaks. Eliminate all sources of ignition immediately. For small spills, Polyglycol 112-2 should be absorbed with materials such as dirt, sand, or sawdust. This product is practically nontoxic to aquatic organisms on an acute basis. See Environmental, Health, and Physical Hazard Information.

- **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, the product should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements. Isolate the area. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Prevent from entering into soil, ditches, sewers, waterways, and/or groundwater. Contain spilled material if possible. Absorb with materials such as dirt, sand, or sawdust. Collect in suitable and properly labeled containers. Wash the spill site with water. See Environmental, Health, and Physical Hazard Information.

- **In case of fire** – Keep people away. Isolate the fire and deny unnecessary entry. Use water spray or fog, carbon-dioxide or dry-chemical extinguishers, or foam to fight the fire. Alcohol-resistant foams are preferred. Do not use a direct water stream, which may spread the fire. Fight the fire from a protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Use water spray to cool fire-exposed containers and the fire-affected zone until the fire is out and the danger of reignition has passed. Move containers away from the fire area if this is possible without hazard. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Firefighters should wear positive-pressure,
self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Avoid contact with this product during firefighting operations. If contact is likely, change to full chemical resistant firefighting clothing with SCBA. If this is not available, fight the fire from a remote location. Keep fire water out of waterways and sewers to minimize the potential for environmental damage. Follow emergency procedures outlined in the Safety Data Sheet carefully. See Environmental, Health, and Physical Hazard Information.

For more information, see the relevant Safety Data Sheet.

**Health Information**

**Eye contact** – Contact may cause slight temporary eye irritation and slight temporary corneal injury.

**Skin contact** – Prolonged exposure is not likely to cause significant skin irritation. Product may be handled at elevated temperatures; contact with heated material may cause thermal burns. Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Inhalation** – At room temperature, exposure to vapor is minimal due to low volatility; single exposure to mists is not likely to be hazardous. Vapor from heated product or mist may cause respiratory irritation.

**Ingestion** – This product has low toxicity if swallowed. Swallowing small amounts incidental to normal handling operations is not likely to cause injury; however, swallowing larger amounts may cause injury.

For more information, see the relevant Safety Data Sheet.

**Environmental Information**

Polyglycol 112-2 is slightly soluble in water. Although this product is not considered readily biodegradable, it would likely degrade slowly in the environment, including degradation by physical action or upon exposure to sunlight. This product is expected to be removed by wastewater-treatment facilities by adsorption to biosolids. If released to surface water, the product would initially remain dispersed in water and eventually adsorb onto suspended solids and sediments.

Because of its relatively high molecular weight, Polyglycol 112-2 is not likely to accumulate in the food chain (bioconcentration potential is low). This product is practically nontoxic (EC<sub>50</sub>/LC<sub>50</sub> > 100 mg/L in the most sensitive species tested) to aquatic organisms on an acute basis. This product is not persistent, bioaccumulative and toxic (not PBT) or very persistent and very bioaccumulative (not vPvB).

For more information, see the relevant Safety Data Sheet.

**Physical Hazard Information**

Polyglycol 112-2 is thermally stable under recommended storage and normal use conditions. This product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure build-up in closed systems. Decomposition products depend on temperature, air supply, and the presence of other materials. Decomposition can include, and are not limited to carbon dioxide, alcohols, ethers, hydrocarbons, ketones, and polymer fragments. Avoid contact with oxidizing materials, strong acids, and strong bases. Avoid unintended contact with isocyanates, as the reaction of polyols and isocyanates generates heat.

For more information, see the relevant Safety Data Sheet.
Regulatory Information
Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of Polyglycol 112-2. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant Safety Data Sheet or Contact Us.

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Additional Information
- Safety Data Sheet (www.dow.com/webapps/msds/msdssearch.aspx)
- Contact Us (https://dow-answer.custhelp.com/app/contact/session/L3RpbWUvMTQwODY0Mzk2Ni9zaWQvMVPved1FwKmw%3D)

For more business information about Polyglycol 112-2, visit the Dow Polypropylene Glycols and Copolymers web site at www.dow.com/polyglycols/ppgc/index.htm.

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References
1 Polyglycol 112-2 Material Safety Data Sheet, The Dow Chemical Company.

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NOTICES

As part of its 2015 Sustainability Goals, Dow has committed to make publicly available safety assessments for its products globally. This product safety assessment is intended to give general information about the chemical (or categories of chemicals) addressed. It is not intended to provide an in-depth discussion of health and safety information. Additional information is available through the relevant Safety Data Sheet, which should be consulted before use of the chemical. This product safety assessment does not replace required communication documents such as the Safety Data Sheet.

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