Product Safety Assessment

*Polyglycol EP Series Polymers/FLUENT Brand Polyglycols/SYNALOX™ Fluids*


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**Names**

- CAS No. 53637-25-5
- CAS No. 9003-11-6
- FLUENT-CANE™ 120 Polyglycol
- FLUENT-CANE 149 Polyglycol
- FLUENT-CANE 150 Polyglycol
- FLUENT-CANE 152 Polyglycol
- FLUENT-CANE 155 Polyglycol
- FLUENT-CANE 170 Polyglycol
- FLUENT-FAX™ 226 Polyglycol
- FLUENT-FAX 252 Polyglycol
- FLUENT-LUB™ 341 Polyglycol
- FLUENT-LUB 366 Polyglycol
- Polyglycol EP Series Polymers
- Polyalkylene glycol (PAG)
- Propylene oxide, ethylene oxide copolymer
- Poloxalene
- Polyglycol EP-436
- Polyglycol EP-436E
- Polyglycol EP-530
- Polyglycol EP-1660
- Polyglycol EP-1730
- SYNALOX™ 300 Fluid
- SYNALOX 301 Demoulding Fluid

**Product Overview**

- Polyglycol EP Series Polymers are liquid polyalkylene glycol block copolymers that are colorless to yellow in appearance and odorless or with a mild, ether odor.¹ For further information, see Product Description.
- Polyglycol EP Series Polymers are used as foam-control agents, low-foam surfactants, emulsifiers, co-solvents, and as intermediates in reactions with urethane and other chemicals.²,³ For further information, see Product Uses.
- Polyglycol EP Series Polymers are produced, distributed, and stored in closed systems. Personnel working with these products in manufacturing operations could be exposed during maintenance, sampling, testing, or other procedures.¹ For further information, see Exposure Potential.
- Eye contact may cause slight temporary irritation. Prolonged skin contact is not likely to cause significant irritation or result in absorption of harmful amounts. At room temperature,
inhalation exposure is minimal. This product has low toxicity if swallowed.\(^1\) For further information, see Health Information.

- Polyglycol EP Series Polymers are non-volatile (do not evaporate) and vary in water solubility with molecular weight and degree of ethoxylation. These products are expected to biodegrade slowly and completely under environmental conditions, and will be efficiently removed during treatment in biological wastewater-treatment facilities. These products are not likely to accumulate in the food chain and are practically non-toxic to aquatic organisms on an acute basis.\(^4,5\) For further information, see Environmental Information.
- Polyglycol EP Series Polymers are thermally stable at recommended storage and normal use conditions. Exposure to elevated temperature can cause these products to decompose, creating pressure build-up in closed systems. Avoid contact with strong acids, strong bases, and strong oxidizers.\(^1\) For further information, see Physical Hazard Information.

**Manufacture of Product**

- **Locations** – The Dow Chemical Company and its foreign affiliates manufacture Polyglycol EP Series Polymers in facilities in the USA and in Europe.
- **Process** – The polyalkylene glycols that are the main components of Polyglycol EP Series Polymers are made by reacting propylene glycol or polypropylene glycols with ethylene oxide and propylene oxide.

**Product Description\(^1\)**

The polyalkylene glycols that are the main components of Polyglycol EP Series Polymers are linear block copolymers of ethylene oxide and propylene oxide. Polyglycol EP Series Polymers are liquid polyalkylene glycol block copolymers that are colorless to yellow in appearance. They are odorless or have a mild, ether odor. These products vary in water solubility, are soluble in many organic solvents, and function over a wide pH range.

**Product Uses\(^2,3\)**

Polyglycol EP Series Polymers are used as foam-control agents, low-foam surfactants, emulsifiers, co-solvents, and as intermediates in reactions with urethanes and other chemicals.

**Exposure Potential\(^1\)**

Polyglycol EP Series Polymers are 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 EP Series Polymers or in the various industrial or manufacturing facilities that use these products. They are produced, distributed, stored, and consumed in closed systems. Those working with Polyglycol EP Series Polymers 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 EP Series Polymers** – Dow does not sell Polyglycol EP Series Polymers for direct consumer use, so consumer exposure is unlikely. Polyglycol EP Series Polymers used for food contact comply with applicable standards set by the U.S. Food and Drug Administration (FDA) and European Union (EU) Directives concerning food contact. See Health Information.
• **Environmental releases** – In the event of a spill, the focus is on containing the spill to prevent spread of contamination to soil, surface water, or groundwater. For small spills, Polyglycol EP Series Polymers should be absorbed with materials such as sand or dirt. Polyglycol EP Series Polymers are non-volatile (don’t evaporate easily) and vary in water solubility. When introduced to water, Polyglycol EP Series Polymers will tend to remain in, and be transported with, the surface or ground water to which they are emitted, and will be adsorbed to soil and sediment particles. These products are expected to biodegrade slowly and completely under environmental conditions, and will be efficiently removed during treatment in biological wastewater-treatment facilities. See Environmental, Health, and Physical Hazard Information.

• **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, these products should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements. Spilled material may cause a slipping hazard. See Environmental, Health, and Physical Hazard Information.

• **In case of fire** – Deny any unnecessary entry into the area and consider the use of unmanned hose holders. Use water spray or fog, carbon-dioxide or dry-chemical extinguishers, or foam to fight the fire. Firefighters should wear positive-pressure, self-contained breathing apparatus (SCBA) and protective firefighting clothing. Follow emergency procedures carefully. See Environmental, Health, and Physical Hazard Information.

For more information, request the Safety Data Sheet from the Dow Customer Information Group.

**Health Information**

Health information for Polyglycol EP Series Polymers is summarized on the relevant Safety Data Sheets. It is important to note that health risks associated with individual products may vary based on their formulation or intended use. The Safety Data Sheet is the preferred source for specific health information. These products may also contain minor components or additives that have additional health risks. An overview of health information for these products appears below.

**Eye contact** – Contact may cause slight, temporary irritation. Corneal injury is unlikely.

**Skin contact** – Prolonged exposure is not likely to cause significant skin irritation or to result in absorption of harmful amounts. Contact with heated product may cause thermal burns.

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

**Ingestion** – These products have low toxicity if swallowed. Harmful effects are not anticipated from swallowing small amounts.

**Repeated exposure** – In laboratory testing, similar materials have been shown to affect the lungs.

For more information, request the Safety Data Sheet from the Dow Customer Information Group.

**Environmental Information**

Polyglycol EP Series Polymers are non-volatile (do not evaporate) and vary in water solubility. If released to water or soil, they would tend to remain in and be transported with the surface or ground water to which they are emitted, and will be adsorbed to soil and sediment particles. Polyglycol EP Series Polymers are unlikely to persist in the environment, as all products are known or expected to be either readily biodegradable (>65% biodegraded in 28 days per OECD 301F test) or inherently biodegradable according to Organisation for Economic and Co-operation
and Development (OECD) test guidelines. As such, these products will be efficiently removed during treatment in biological wastewater-treatment facilities.

These products are not expected to accumulate in the food chain (low bioconcentration potential) and are practically non-toxic to aquatic organisms (LC$_{50}$/EC$_{50}$ >100 mg/L for the most sensitive species tested) on an acute basis. Thus, the Polyglycol EP Series Polymers are not regarded as exhibiting persistent, bioaccumulative, and toxic (PBT) or very persistent and very bioaccumulative (vPvB) properties.

For more information, request the Safety Data Sheet from the Dow Customer Information Group.

**Physical Hazard Information**

Polyglycol EP Series Polymers are thermally stable under recommended storage and normal use conditions, but can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure build-up in closed systems. Decomposition products may include aldehydes, alcohols, ethers, hydrocarbons, ketones, organic acids, and polymer fragments.

Avoid contact with oxidizing materials, strong acids, and strong bases. Avoid unintended contact with isocyanates.

Spilled product may cause a slipping hazard.

For more information, request the Safety Data Sheet from the Dow Customer Information Group.

**Regulatory Information**

Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of Polyglycol EP Series Polymers. 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.

**Additional Information**

- Request the relevant Safety Data Sheet from the Dow Customer Information Group (www.dow.com/assistance/dowcig.htm)
- Contact Us (www.dow.com/ucon/contact/index.htm)

For more business information about Polyglycol EP Series Polymers, visit the web site for Dow Polypropylene Glycols and Copolymers at www.dow.com/polyglycols/ppgc/.
References

5. Polyglycol EP 1730 Polymer Material Safety Data Sheet, The Dow Chemical Company

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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