

Global Product Strategy (GPS) Safety Summary

Dipropylene Glycol

This GPS Safety Summary is a high-level summary intended to provide the general public with an overview of product safety information on this chemical substance. It is not intended to provide emergency response, medical or treatment information, nor to provide an overview of all safety and health information. This summary is not intended to replace the Safety Data Sheet. For detailed guidance on the use or regulatory status of this substance, please consult the Safety Data Sheet and the Product Stewardship Bulletin (PSB).

Chemical Identity

Name: Dipropylene Glycol
Brand names: Dipropylene Glycol
Chemical name (IUPAC): Oxydipropanol
CAS number: 25265-71-8
EC number: 246-770-3
Molecular formula: C₆H₁₄O₃

Uses and Applications

Dipropylene Glycol has a wide variety of uses, both in industrial applications and consumer products. It exhibits good cosolvency with water, soap bases, oils, and hydrocarbons. Dipropylene Glycol is available in two grades: an Industrial grade (DPG) and a Fragrance grade (DPG-F), which is also known as low-odor grade.

Common uses of Dipropylene Industrial grade include its application as a raw material for the production of polymers such as unsaturated polyester and alkyd resins, or as a raw material for plasticizers in other polymers. Dipropylene Glycol Industrial can also be used in formulations such as lubricants and cleaners where low odor is not as critical.

Dipropylene Glycol Fragrance grade is commonly used as a carrier for fragrances and in personal care products.

Physical / Chemical Properties

Dipropylene Glycol is a colorless, viscous, and odorless liquid. It is highly hygroscopic and miscible in all ratios with water and most organic solvents. The substance is considered non-flammable with a flash point between 128°C and 132°C (262°F - 270°F). The boiling point of Dipropylene Glycol is 227°C (441°F). Dipropylene Glycol is not classified as hazardous under the Globally Harmonized System on classification and labeling (GHS) for its physical or chemical properties.

Health Effects

Dipropylene Glycol has low acute toxicity by oral, dermal and inhalation routes of exposure and is not classified as hazardous under GHS for its health effects.

The table below gives an overview of the health effects assessment results for Dipropylene Glycol.

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Acute toxicity is low after oral, dermal, or inhalation exposure
Irritation / corrosion Skin / eye/ respiratory tract	Not irritating to skin, eyes, or respiratory tract
Sensitization	Not sensitizing
Toxicity after repeated exposure Oral / inhalation / dermal	Effects noted in oral repeated-exposure studies in rodents reveal target organ effects specific to rodents that are not relevant to human health or that occurred only following very high doses, which are of low relevance to human exposures
Genotoxicity / Mutagenicity	Not mutagenic
Carcinogenicity	Not carcinogenic
Toxicity for reproduction	Not toxic for reproduction

Environmental Effects

Dipropylene Glycol is not classified as environmentally hazardous under GHS.

The table below gives an overview of the environmental assessment results for Dipropylene Glycol.

Effect Assessment	Result
Aquatic Toxicity	Low toxicity to water organisms

Fate and behaviour	Result
Biodegradation	Readily biodegradable in both freshwater and seawater
Bioaccumulation potential	Not bioaccumulative
PBT / vPvB conclusion	Not considered to be either PBT nor vPvB.

PBT = Persistent, Bio-accumulative and Toxic in the environment.
vPvB = very Persistent and very Bio-accumulative in the environment.

Exposure

Human health

Consumer exposure can occur as a result of the use of products formulated with Dipropylene Glycol, such as cleaning agents, cosmetics, and other personal care products. None of these

applications are expected to pose risks to human health due to Dipropylene Glycol under normal use.

Exposure to Dipropylene Glycol of personnel in manufacturing facilities is considered very low because the process, storage and handling operations are enclosed. However, worker exposure can potentially occur during operations such as product transfer, product sampling, or maintenance / repair activities on product containing systems. The risk of accidental exposure should be controlled by selecting and applying the appropriate Risk Management Measures.

Environment

Due to its many uses in formulations, Dipropylene Glycol has many indoor and outdoor environmental release possibilities. None of these applications are expected to pose risks to the environment due to Dipropylene Glycol under normal use.

Risk Management Measures

For detailed guidance on the use of Dipropylene Glycol, the Safety Data Sheet should be consulted.

When using a Dipropylene Glycol containing consumer product at home, all provided instructions and precautions from the supplier should be read, understood and followed. It should never be used near open flames or other ignition sources.

Human health

Although Dipropylene Glycol is not classified as hazardous for its health effects, good Industrial Hygiene practices should always be applied when using chemicals in industrial and professional facilities.

When using chemicals make sure that there is adequate ventilation. Always use appropriate chemical-resistant gloves to protect your hands and skin, always wear eye protection, such as chemical goggles, and always wear flame-retardant clothing. Do not eat, drink, or smoke where chemicals are handled, processed, or stored. Wash hands and skin following contact. If the substance gets into your eyes, rinse eyes thoroughly for at least 15 minutes with tap water and seek medical attention.

In the case of transfer or maintenance operations, always clear transfer lines prior to decoupling and flush/drain to a closed system for recycle prior to opening equipment.

In cases where engineering controls cannot maintain airborne substance concentrations below exposure limits, or in cases with a risk of accidental exposure, additional risk management measures may be necessary for safe use, such as the use of a respirator.

Environmental

In case of accidental release or spill, do not allow the product to enter sewers, surface, or ground water.

Regulatory Information / Classification and Labeling

This substance has been registered under REACH by relevant companies of LyondellBasell in the European Union.

For a detailed overview of the regulatory status of this substance, please refer to the Product Stewardship Bulletin which is available from the LyondellBasell corporate website.

Under GHS (Globally Harmonized System on Classification and Labeling) substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels on the product packaging and the Safety Data Sheet. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use.

For a detailed overview of the classification and labeling of this substance, please refer to the regional Safety Data Sheet, which can be found on the LyondellBasell corporate website.

Conclusion Statements

- Dipropylene Glycol has a wide variety of uses, both in industrial applications and consumer products. It is available in two grades: an Industrial grade and a Fragrance or low-odor grade, which is recommended for use in fragrances and personal care products.
- Dipropylene Glycol is not classified as hazardous under GHS.
- Risks to human health and the environment from Dipropylene Glycol are considered low or negligible when it is properly handled.

Contact Information within Company

For further information on this product in general, please consult the LyondellBasell corporate website (www.lyb.com).

Date of issue

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Disclaimer

Before using a product sold by a company of the LyondellBasell family of companies, users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally.

SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT.

This product(s) may not be used in:

(i) any U.S. FDA Class I, Health Canada Class I, and/or European Union Class I medical devices, without prior notification to Seller for each specific product and application; or
(ii) the manufacture of any of the following, without prior written approval by Seller for each specific product and application: U.S. FDA Class II Medical Devices; Health Canada Class II or Class III Medical Devices; European Union Class II Medical Devices; film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices; packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration; tobacco related products and applications, electronic cigarettes and similar devices, and pressure pipe or fittings that are considered a part or component of a nuclear reactor. Additionally, the product(s) may not be used in: (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices; (ii) applications involving permanent implantation into the body; (iii) life-sustaining medical applications; and (iv) lead, asbestos or MTBE related applications. All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

Users should review the applicable Safety Data Sheet before handling the product.

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