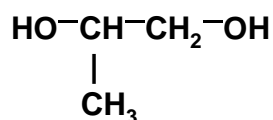


Technical Bulletin**Propylene Glycol – USP
For the Personal Care Industry**

Generic: 1,2 propanediol

STRUCTURE**DESCRIPTION**

A relatively nontoxic liquid that is practically colorless, odorless, and tasteless.

APPLICATIONS

A solvent for flavors, extracts, drugs, personal care products, and food antioxidants; a heat transfer medium; an emollient, humectant, and plasticizer for personal care creams and gels, tobacco products, baked goods, coconut, cellophane, cork, adhesives, and paper products; a lubricant and mold inhibitor for food processing equipment; a humectant for pet food.

Propylene glycol and some of its derivatives, including esters and polypropylene glycols, are used extensively in the personal care products industry. As a raw material, propylene glycol offers the advantages of price stability and ready availability in all parts of the United States.

Because of its excellent freezing point depressing, humectant, and mold inhibiting properties, propylene glycol finds widespread use as a moisturizer, co-solvent, and plasticizer for antiseptic gels, hair dressings, sun screens, moisturizing creams, cream bases, and hair sprays.

Propylene glycol is an outstanding solvent for many organic compounds. It is colorless and odorless and has a very slight characteristic taste which is not objectionable. These properties make propylene glycol particularly suitable as a solvent for flavorings and dyes in cosmetics, toothpastes, shampoos, and mouthwashes.

Propylene glycol is non-allergenic and may be used in cosmetics and other toilet goods specifically formulated for sensitive skin.

Propylene glycol used in toiletries must be of the highest quality. The Board of Standards of the Cosmetic, Toiletries, and Fragrances Association, Inc. (1133 15th St., NW, Washington, D.C. 20005) has published the CTFA Specification for Propylene Glycol to establish critical quality standards.

Huntsman's propylene glycol, USP grade, meets all these requirements. It is also available in stainless steel tank wagons and 20,000-gallon lined tank cars. Samples can be obtained from the nearest Huntsman sales office.

ADDITIONAL INFORMATION

| Regulatory Information | |
|------------------------|------------------|
| DOT Classification | Not regulated |
| Freight Classification | Propylene Glycol |
| HMIS Code | 0-1-0 |
| CAS Number | 57-55-6 |

| Chemical Control Laws | |
|-----------------------|---------------------|
| TSCA Inventory | Listed on or exempt |
| WHMIS Classification | Not regulated |
| Canadian DSL | Listed on or exempt |
| European EINECS | Listed on or exempt |
| Australian AICS | Listed on or exempt |
| Japanese MITI | Listed on or exempt |

| Physical Properties | |
|--------------------------------|----------------------------|
| Arsenic, ppm | 1 max. |
| Boiling range ASTM, °C, IBP | 185 min. |
| ASTM, °C, DP | 189 max. |
| Flash point, PMCC, °F | 212 |
| Freezing point, °C | < -76 |
| Molecular weight | 76 |
| Refractive index, 20°C | 1.4300 min. 1.4324 max. |
| Specific gravity, 25/25°C | 1.0350 min. 1.0370 max. |
| Vapor pressure, 20°C, mm Hg | < 1 |
| Viscosity, 20°C, cp | 60 |
| Water solubility, % | Complete |
| Weight, 20°C, lb/gal | 8.64 |

PRODUCT SAFETY POLICY

It is the product safety policy of Huntsman Corporation to provide our customers with information on the safe handling and use of our products. The Material Safety Data Sheet (MSDS) should always be read and understood thoroughly before handling the product, and adequate safety procedures should be followed. Information on the toxicity, environmental, and industrial hygiene aspects of our products may be found in the MSDS. Precautionary measures include: use only with adequate ventilation; avoid breathing vapor, mist or gas; avoid contact with eyes, skin and clothing; keep container closed; wash thoroughly after handling.

HANDLING, STORAGE, AND SHIPPING

Propylene Glycol USP is a high-purity material which must be handled with special precautions to avoid contamination. Under ordinary conditions, mild steel is a satisfactory material of construction; however, for long term storage and where iron contamination and color are objectionable, stainless steel or aluminum vessels are recommended. For additional information on handling and storage of Propylene Glycol, please contact the Huntsman Technical Service Section. Product is available in barges, lined tank cars and dedicated tank trucks. Certain government regulations may apply at the time of shipment.

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For Your Protection**HEALTH AND SAFETY**

*The Safety and Health information in this data sheet does not contain sufficient detail for safe handling in all cases. For detailed safety and health information refer to the **Material Safety Data Sheet** for this product.*

EMERGENCY CALLS: Huntsman Emergency Response Center: 800-328-8501, 409-722-8381 / CHEMTREC - Spills, Leak, Fire 800-424-9300 (in USA and Canada)

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