Material Safety Data Sheet

HUNTSMAN
Enriching lives through innovation

1 . Product and company identification

Product name **PROPYLENE GLYCOL - INDUSTRIAL** **MSDS # 00033939**

Product use Solvent.

Huntsman Petrochemical Corporation
P.O. Box 4980
The Woodlands, TX 77387-4980

TELEPHONE NUMBERS
Transportation Emergency
Company: (800) 328-8501
CHEMTREC: (800) 424-9300
Medical Emergency: (409) 722-9673 (24 Hour)
General MSDS Assistance: (281) 719-6000
Technical Information: (281) 719-7780
E-MAIL: MSDS@huntsman.com

Validation date : 11/17/2009.

In case of emergency

Spills Leaks Fire or Exposure Call Chemtrec: (800) 424-9300
Medical Emergency Information: (800) 328-8501
In Mexico: 01 800 00 214 00
In Columbia: 01 800 91 6012

2 . Hazards identification

Physical state : Liquid. [Liquid.]

Odor : Characteristic.

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Emergency overview : ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. THIS PRODUCT IS NOT TO BE USED TO PRODUCE FOGS OR MISTS IN THEATRICAL, MUSICAL, OR OTHER ENTERTAINMENT PERFORMANCES.

Aspiration hazard if swallowed. Can enter lungs and cause damage.

GENERAL INFORMATION : Read the entire MSDS for a more thorough evaluation of the hazards.

3 . Composition/information on ingredients

Name	CAS number	%
Propylene glycol	57-55-6	60 - 100

4 . First aid measures

Eye contact — Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

Skin contact — Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Inhalation — Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Get medical attention if symptoms occur.

Ingestion — Wash out mouth with water. Move exposed person to fresh air. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. Get medical attention. Never give anything by mouth to an unconscious person.

Notes to physician : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

5 . Fire-fighting measures

Flash point : Closed cup: 99°C (210.2°F)

Flammable limits : Lower: 2.6%
Upper: 12.6%

Products of combustion : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : In a fire or if heated, a pressure increase will occur and the container may burst.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Preventive Measures : Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering controls : Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to publications such as the ACGIH current edition of 'Industrial Ventilation, a manual of Recommended Practice.'

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

9 . Physical and chemical properties

General information

Appearance

Physical state : Liquid. [Liquid.]

Color : Colorless.

Odor : Characteristic.

Odor threshold : Not available.

Important health, safety and environmental information

pH : 6

Boiling point : 186 to 189°C (366.8 to 372.2°F)

Melting point : -59°C (-74.2°F)

Flash point : Closed cup: 99°C (210.2°F)

9 . Physical and chemical properties

Oxidizing properties	: Not available.
Vapor pressure	: 0.011 kPa (0.08 mm Hg)
Relative density	: 1.04
Octanol/water partition coefficient	: -1
Viscosity	: Kinematic: <0.2 cm^2/s (<20 cSt at 40°C)
Vapor density	: 2.6 [Air = 1]
Auto-ignition temperature	: 421°C (789.8°F)
VOC content	: 28% by ASTM D 2369 (110°C, 60 minutes)

10 . Stability and reactivity

Stability and reactivity	: The product is stable.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.
Hazardous decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide

11 . Toxicological information

Toxicity data

Acute toxicity

Product/ingredient name	test	Species	Result	Exposure
Propylene glycol	LD50 Oral	Rat	22000 to 31000 mg/kg	-
	LD50 Dermal	Rabbit	21000 mg/kg	-

Irritation/Corrosion

Potential acute health effects

Ingestion	: Aspiration hazard if swallowed. Can enter lungs and cause damage.
Inhalation	: No known significant effects or critical hazards.
Eyes	: No known significant effects or critical hazards.
Skin	: No known significant effects or critical hazards.

Potential chronic health effects

Target organs	: None known.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.

12 . Ecological information

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Propylene glycol	-1	-	low

Environmental effects : This product shows a low bioaccumulation potential.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

Transportation Emergency Number 1-800-424-9300 (CHEMTREC).

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
DOT Classification	Not regulated.					-
TDG Classification	Not regulated.					-
IMDG Class	Not regulated.		-	-		-
IATA-DGR Class	Not regulated.		-	-		-

■

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Not regulated.

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

CERCLA: Hazardous substances. : No ingredients listed.

SARA 313 : No ingredients listed.

This product does not contain nor is it manufactured with ozone depleting substances.

California Prop 65 : This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

15 . Regulatory information

CEPA (DSL) : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations) and this MSDS (Material Safety Data Sheet) contains all the information required by the CPR.

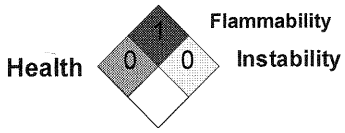
16 . Other information

Label requirements : ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. THIS PRODUCT IS NOT TO BE USED TO PRODUCE FOGS OR MISTS IN THEATRICAL, MUSICAL, OR OTHER ENTERTAINMENT PERFORMANCES.

Hazardous Material Information System (U.S.A.) :

Health	0
Fire hazard	1
Reactivity	0

National Fire Protection Association (U.S.A.) :



Date of printing : **12/2/2009.**

Date of issue : **17 November 2009**

Date of previous issue : 8/5/2008

Notice to reader

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.
IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.
THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.
NO PERSON OR ORGANIZATION EXCEPT A DULY AUTHORIZED HUNTSMAN EMPLOYEE IS AUTHORIZED TO PROVIDE OR MAKE AVAILABLE DATA SHEETS FOR HUNTSMAN PRODUCTS. DATA SHEETS FROM UNAUTHORIZED SOURCES MAY CONTAIN INFORMATION THAT IS NO LONGER CURRENT OR ACCURATE. NO PART OF THIS DATA SHEET MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM, OR BY ANY MEANS, WITHOUT PERMISSION IN WRITING FROM HUNTSMAN. ALL REQUESTS FOR PERMISSION TO REPRODUCE MATERIAL FROM THIS DATA SHEET SHOULD BE DIRECTED TO HUNTSMAN, MANAGER, PRODUCT SAFETY AT THE ABOVE ADDRESS.

Indicates information that has changed from previously issued version.