SAFETY DATA SHEET
99.8%
PROPYLENE GLYCOL

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. PRODUCT IDENTIFIER

Product name:	Propylene Glycol
Product No.:	PG
CAS-No.:	57-55-6
EC No.:	200-338-0
REACH:	01-2119456809-23
Synonym:	Mono Propylene Glycol, PG, MPG, Propane-1,2-diol, 1,2-propanediol
Chemical Formula:	$C_3H_8O_2$

1.2. RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended use: As a carrier for fragrance oils,

As a coolant in liquid cooling/refrigeration systems,

For making polyester compounds and as a solvent in the paint and plastics industries,

As a solvent for many substances, both natural and synthetic,

As a humectant (E1520),

In veterinary medicine as an oral treatment for hyperketonaemia in ruminants,

In the cosmetics industry,

For trapping and preserving insects (including as a DNA preservative),

As a antifreeze,

In various edible items such as coffee-based drinks, liquid sweeteners, ice cream, whipped dairy products and soda,

Propylene glycol is often used in electronic cigarettes.

1.3. DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

HD Chemicals LTD
UNIT 9 Scott Business Park
PL2 2PB Plymouth UK

Contact Person responsible for SDS: Mr Peter Konefal, e-mail: contact@hdchemicals.co.uk

SECTION 2: HAZARDS IDENTIFICATION

2.1. CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Classification 67/548/EEC: Not classified

Classification – EC 1272/2008: Not classified

2.2. LABEL ELEMENTS

No labelling requirements

SIGNAL WORDS

Not classified

RISK PHRASES

Not classified

HAZARD PHRASES

Not classified

PROTECTION PHRASES

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

SAFETY PHRASES

Not classified

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

67/548/EEC/1999/45/EC

Composition information – main constituents						
Substance name	**Mol. Formula**	**REACH**	**Typical conc. (%w/w)**	**EINECS No.**	**CAS-No.**	**Classification**
Propylene Glycol	$C_3H_8O_2$	01-2119456809-23	99.8%	200-338-0	57-55-6	Not classified

EC 1272/2008

Composition information – main constituents						
Substance name	**Mol. Formula**	**REACH**	**Typical conc. (%w/w)**	**EINECS No.**	**CAS-No.**	**Classification**
Propylene Glycol	$C_3H_8O_2$	01-2119456809-23	99.8%	200-338-0	57-55-6	Not classified

SECTION 4: FIRST AID MEASURES

4.1. DESCRIPTION OF FIRST AID MEASURES

First-aid measures general: Consult a physician when you fell unwell. Show this safety data sheet to the doctor in attendance.

Inhalation: Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Get medical attention if any discomfort continues. Do not induce vomiting.

Skin contact: Wash off immediately with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

4.2. MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Inhalation: Causes dry and sore throat, breathing difficulties.

Ingestion: Nausea, abdominal pain, dizziness, headache and vomiting.

Skin contact: Causes slight irritation, red and dry skin.

Eye contact: Causes slight irritation and redness of the eye tissue.

4.3. INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. EXTINGUISHING MEDIA

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Adjust extinguishing media to the surrounding fire. Use alcohol resistant foam, dry powder, carbon dioxide or water spray.

Unsuitable extinguishing media: Do not use water jet.

5.2. SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Keep product and empty container away from heat and sources of ignition. Thermal decomposition can lead to release of irritating gases and vapours: carbon monoxide (CO), carbon dioxide (CO_2).

5.3. ADVICE FOR FIRE-FIGHTERS

Wear full protective clothing must be worn in case of fire and self-contained positive pressure breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Wear suitable protective equipment (splash goggles, protective suit, boots, gloves and self-contained breathing apparatus) to prevent any contamination of skin, eyes and personal clothing. Ensure adequate ventilation of the working area. Avoid contact with skin and eyes. Avoid breathing vapours, mist or gas. Avoid formation of dust. Keep unprotected persons away. Evacuate personnel to a safe area.

For personal protection see section 8.1.

6.2. ENVIRONMENTAL PRECAUTIONS

Avoid release to the environment. Do not allow to enter sewers/ surface or ground water. Do not allow to enter into soil/subsoil. Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination.

6.3. METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Take up liquid spill into a non combustible material e.g.: sand, earth, vermiculite. Scoop absorbed substance into closing containers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: HANDLING AND STORAGE

7.1. PRECAUTIONS FOR SAFE HANDLING

Handle in accordance with good industrial hygiene and safety practice. Avoid formation of dust and spilling. Do not inhale dust/smoke/mist. Ensure adequate ventilation of the working area. Wear personal protective equipment. Avoid contact with eyes and skin. Do not eat or drink during the process, washing hands afterwards with suitable cleaning products. Remove contaminated clothing and shoes. Wash clothing before re-using. Avoid the formation or spread of mists in the air.

7.2. CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Keep in a cool, dry, well ventilated area. Keep in original tightly closed containers. Keep away from food, drink and animal feeding stuffs. Avoid water, moisture, heat and other sources of ignition. Keep away from oxidizing agents, reducing agents, strong acids.

7.3. SPECIFIC END USE(S)

See section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. CONTROL PARAMETERS/EXPOSURE GUIDELINES

Occupational Exposure Limit Values (Propylene Glycol):

CAS NO	Exposure limit	Value	Name of Agent
57-55-6	TWA – 8 Hrs	10 mg/m^3	inhalation
57-55-6	STEL – 15 Min	30 mg/m^3	inhalation

Engineering controls: Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before breaks and at the end of the working day.


EYE PROTECTION


FACE SHIELD


RESPIRATOR


PROTECTION WEAR


HAND PROTECTION

Protective equipment: Use protective tightly fitting safety goggle (European standard - EN 166), face shield, gloves (European standard - EN 374), long sleeved clothing to prevent skin, body and eyes exposure. Dust/aerosol mask.

Respiratory equipment: Respiratory protection not required in normal conditions, but when workers are facing concentrations above the exposure limit they must use appropriate certified respirators, which are NIOSH/MSHA or European Standard EN 149 approved respirator.

Skin and body protection: Wear appropriate protective gloves and clothing to prevent skin exposure. Wear impervious protective clothing. Wear appropriate protective work gloves when handling material to prevent skin contact. The glove material has to be impermeable and resistant to the product: Butyl rubber, natural rubber, polyethylene, PVC. Protective gloves should be replaced at first signs of wear. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Wash and dry hands.

Eye/Face protection: Tight sealing safety goggles. Face protection shield.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid
Colour:	Colourless
Odour:	Odourless
Initial boiling point (°C):	No data available
Melting point (°C):	-60 °C
Freezing point:	No data available
Relative density:	1.036 g/cm^3
Specific gravity / density:	Not available
Vapour density:	Not available
Vapour pressure:	Not available
Flash point (°C):	Not available

Molecular mass: 76.095 g/mol

Auto-ignition temperature: Not applicable

Oxidizing properties: Not available

Decomposition temperature: Not available

Molecular formula: $C_3H_8O_2$

SECTION 10: STABILITY AND REACTIVITY

10.1. REACTIVITY

Propylene Glycol is stable under normal conditions of use, storage and transport.

10.2. CHEMICAL STABILITY

This product is stable under normal conditions and under recommended usage and storage.

10.3. POSSIBILITY OF HAZARDOUS REACTIONS

When heated can decompose. May liberate toxic gases.

10.4. CONDITIONS TO AVOID

Keep away from food, drink and animal feeding stuffs. Avoid water, moisture, heat and other sources of ignition.

10.5. INCOMPATIBLE MATERIALS

May liberate toxic gases. Keep away from incompatibles such as oxidizing agents, reducing agents, strong acids.

10.6. HAZARDOUS DECOMPOSITION

Thermal decomposition can lead to release of irritating gases and vapours: carbon monoxide (CO), carbon dioxide (CO_2).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. INFORMATION ON TOXICOLOGICAL EFFECTS

TOXIC DOSE **LD50 Oral – Rat – 20000 mg/kg**

LD50 Dermal – Rabbit – 20800 mg/kg

Inhalation: Causes dry and sore throat, breathing difficulties.

Ingestion: Nausea, abdominal pain, dizziness, headache and vomiting.

Skin contact: Causes slight irritation, red and dry skin.

Eye contact: Causes slight irritation and redness of the eye tissue.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Aquatic Toxicity:

Toxicity to freshwater fish:	LC50: 40613 mg/l, 96h (Onchorhynchus mykiss (Rainbow trout))
Toxicity to water flea:	EC50: > 10000 mg/l, 24h (Daphnia magna)
Toxicity to freshwater algae:	EC50: 19000 mg/l, 96h (Pseudokirchneriella subcapitata)
Toxicity to microtox:	EC50: 710 mg/l, 30min (Photobacterium phosphoreum)

12.2. Persistence and degradability

The product is easily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely.

12.4. Mobility

Will likely be mobile in the environment due to its water solubility.

12.5. Results of PBT and vPvB assessment

This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Disposal of Propylene Glycol should be in accordance with local and national legislation. Processing, use or contamination of this product may change the waste management options. Should not be released into the environment. Do not discharge into waterways or sewer systems. Mixing with other materials or other alterations to pure product may significantly change the characteristics of the material. Empty packaging can have residues and are subject to proper waste disposal. Do not re-use empty containers.

Uncleaned packaging: Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION

IMDG

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

ADR/RID

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

IATA

UN number	N/A
UN proper shipping name	N/A
Transport hazard class(es)	N/A
Packing group	N/A

SECTION 15: REGULATORY INFORMATION

15.1. SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2 CHEMICAL SAFETY ASSESSMENT

A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: OTHER INFORMATION

General information

The information contained in this safety data sheet is provided in accordance with the requirements of the regulations. The product should not be used for purposes other than those shown in section 1 without first referring to the supplier and obtaining written handling instruction. As the specific conditions of use of the product are outside the suppliers control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

Revision Comments

This information is provided in a revised format to that previously produced.

Revision Date: 01/10/2018

Revision: 01

Safety Data Sheet Status Approved.

Date printed 01/10/2018

Signature Initials P.K.

DISCLAIMER:

If this product is re-distributed and re-formulated for sale, details of its hazards and recommended methods for safe handling must be passed to customers. Customers are urged to ensure that the product is entirely suitable for their own purpose. It is the customer's responsibility to ensure that a suitable and sufficient assessment of the risks created by a work activity using this product is undertaken before this product is used.

NOTE:

The information contained in this Safety Data Sheet does not constitute the users own assessment of workplace risk as required by other Health & Safety Legislation (e.g. the Health and Safety at Work Act,1974;the control of Substances Hazardous to Health Regulations,1988). The data given here is based on current knowledge and experience. The purpose of this data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the product's properties.