



<b>MATERIAL SAFETY DATA SHEET</b>	 		
<b>MSDS No. 03-02-14</b> According to Regulation(EC) No.1907/2006			
<b>PROPYLENEGLYCOL EPh, pharmaceutical grade</b>			
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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### 1.1. Identification of the substance/preparation

Trade Name	<b>Propyleneglycol EPh, pharmaceutical grade</b>
Chemical Name	Propane 1,2-diol
Family	Glycols
Common Synonyms	1,2-dihydroxypropane, methylethylene glycol
Chemical Formula	CH <sub>2</sub> CH <sub>2</sub> CH <sub>2</sub> / C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>
	I I
	OH OH
Molecular Weight	76.09

### 1.2. Uses of the substance/preparation

Intermediate in pharmaceutical, cosmetics and food industries

### 1.3. Company/undertaking identification

Company Name	<b>OLTCHIM SA</b>
Adress	1, Uzinei Street, 240050, Ramnicu Valcea, Romania
Phone	+40 / 250 / 701200
Fax	+40 / 250 / 735446
e-mail	oltchim@oltchim.ro

### 1.4. Emergency telephone number +40 / 250/738141

## 2. HAZARD IDENTIFICATION

**Health effects:** Not normally considered a health hazard due to the low vapor pressure. May cause skin and eye irritations.

**Environmental effects:** No critical hazard to the environment in the ordinary sense of valid regulations. This product is readily biodegradable. No bioaccumulation is to be expected. No ecological problems are to be expected when the product is handled and used with due care and attention.

**Emergency overview:** Slight fire hazard when exposed to heat or flame. Heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapor can burn in open or explode if confined. The vapor is heavier than air and will accumulate in low area.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components /constituents	Concentration % ,wt.	CAS No.	EC No.	Annex I Index	Hazard Symbol	Risk phrases
Propyleneglycol	99.5	57-55-6	200-338-0	-	-	-

### 4 . FIRST - AID MEASURES

*Seek medical attention immediately in all cases of exposure!*

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

**Skin contact:** May cause slight irritation. Wash the contaminated skin with plenty of soap or mild detergent and water for at least 15 minutes while removing contaminated clothing and shoes. If irritation persists after washing, get medical attention.

**Eye contact:** May cause slight temporary eye irritation. Direct contact with the liquid. Direct contact with the liquid or exposure to vapor or mists may cause stinging, tearing and redness. Wash the eyes immediately with large amount of water lifting the upper and lower lids, until no evidence of chemical remains at least 15 minutes. If irritation persists after washing get medical attention. Contact lenses should not worn with this product.

**Ingestion:** Relatively non-toxic. Ingestion of sizable amount (over 100 ml) may cause some gastrointestinal upset and temporary central nervous system depression. No expected to require first aid measures. Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advise.

**Note to Physician:** In case of ingestion, monitor for acidosis and central nervous system changes. Exposed persons with previous kidney disfunction may require special treatment

### 5. FIRE - FIGHTING MEASURES

**Suitable extinguishing media:** Dry chemical, foam or carbon dioxide and water spray.

**Unsuitable extinguishing media:** None

**Exposure hazards:** Slight fire hazard when exposed to heat or flame. Heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapor can burn in open or explode if confined. The vapor is heavier than air and will accumulate in low area. Carbon monoxide

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and dioxide may form when heated to decomposition. Aldehydes or lactic, pyruvic or acetic acids may also be formed.

**Protection of fire-fighters:** Wear full protective clothing and self contained breathing apparatus with full face piece operated in positive pressure mode.

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## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Ventilate area of leak or spill. Persons performing clean-up work should wear adequate personal protective equipment and a self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Keep unnecessary and unprotected personnel from entering. Slippery walking. Spread granular cover. Remove all sources of ignition.

**Environmental precautions:** Prevent from contamination the ground and the surface water by isolating the hazard area. Contain and recover liquid when possible. Keep closed containers and dispose according to all applicable federal, state or local environment regulations

**Methods of cleaning up:** Absorb spills with dry sand, earth or similar non-combustible absorbent material then collect into drums for later disposal. Incinerate or bury in a licensed facility if permitted. For large, dike and pump into suitable containers for disposal. Flush area with plenty of water. Waste water will be treated in biological treatment plant.

**Special precautions:** Do not use combustible materials, such as saw dust. Do not flush to sewer!

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## 7. HANDLING AND STORAGE

**Handling:** No special measures required. It is not considered a hazardous material in most industrial operations. Protect containers from physical damage. Sources of ignition such as smoking and open flames prohibited where propyleneglycol is handled.

**Storage:** Store in a tightly closed containers in a cool, dry, well ventilated area away from sources of heat, moisture and incompatible substances at 15-25<sup>0</sup>C temperatures. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid).

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## 8 . EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure limits** Not established

**Engineering control :** A system of local and/or general exhaust is recommended to keep employee exposure as low as possible. Local exhaust ventilation is generally preferred because it can control the emission of the contaminant at its sources, preventing dispersions of it into the general work

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area. Ventilation equipment should be explosion- proof if explosive concentration of dust, vapor or fume are present.

**Respiratory protection:** No special respirator protection is recommended under anticipated conditions of normal use with adequate ventilation. Where excessive vapor or aerosol may result from use, use respiratory protection equipment for organic substances.

**Hand protection:** Wear chemical protective gloves.

**Eye / Face protection:** Use chemical safety goggles and/or full face shield where splashing is possible. Maintain eye wash and quick-drench facilities in work area.

**Skin protection:** Not normally considered a skin hazard. Wear impervious protective clothing including boots, lab coat, apron or coveralls as appropriate to prevent skin contact. Wash hands and other exposed area with soap and water before eating, drinking, smoking and leaving work.

**Other precautions:** Maintain shower, eye wash fountain and quick-drench facilities in work area.

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**9. PHYSICAL AND CHEMICAL PROPERTIES****General informations**

Appearance	Clear oil liquid
Odor	Characteristic odour

**Important health, safety and environmental informations**

pH of 100g/l solution	6-8
Boiling point	184-189°C at 760 mmHg pressure
Flash point	99°C
Flammability	non flammable
Explosive properties	may form explosive vapor/air mixture explosive limits in air: 2.4-17.4%.
Oxidizing properties	no oxidizing properties
Vapor pressure, Pa at 20 °C	10.6
Specific gravity (water=1)	1.035-1.04 at 20°C
Water solubility	Soluble
Partition coefficient (log K <sub>ow</sub> )	1.4
Vapor relative density (air=1)	2.6 at 20°C
Dynamic viscosity	45 mPas at 20°C
Refraction index	n <sub>D</sub> <sup>20</sup> : 1.431-1.433

**Other informations**

Melting point	-59°C
Autoignition temperature	371°C

## 10. STABILITY AND REACTIVITY

**Chemical stability:** Stable under ordinary conditions of use and storage. Product is very hygroscopic.

**Conditions to avoid:** Heat, flame, light, sources of ignition and incompatibles.

**Materials to avoid:** Strong oxidizers.

**Hazardous decomposition products:** Carbon monoxide and dioxide may form when heated to decomposition. Aldehydes or lactic, pyruvic or acetic acids may also be formed.

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## 11. TOXICOLOGICAL INFORMATION

### Animal toxicity data:

LD<sub>50</sub>/Oral, rat >20000 mg/kg

LC<sub>50</sub>/Dermal, rat >20800 mg/kg

### Acute toxicity

- **Inhalation:** While this material has a low volatility, exposure to vapor is unlikely, however, vapor or mists produced under certain conditions of use may cause signs of nervous system depression (headache, drowsiness, loss of coordination and fatigue).
- **Skin contact:** May cause slight irritation. Prolonged or repeated contact may cause redness, burning, drying and craking of the skin. Persons with pre-existing skin disorder may be more susceptible to the effects of this material.
- **Eye contact:** May cause slight temporary eye irritation. Direct contact with the liquid. Direct contact with the liquid or exposure to vapor or mists may cause stinging, tearing and redness.
- **Ingestion:** Relatively non-toxic. Ingestion of sizable amount (over 100 ml) may cause some gastrointestinal upset and temporary central nervous system depression. Effects appear more severe in individuals with kidney problems.

**Chronic effect:** Lactic acidosis, stupor and seizures have been reported following chronic ingestion. No teratogenic effect in animal experiments. Noncarcinogenic in animal experiments. No mutagenic effect in animal experiments.

**CMR effects (Carcinogenity, Mutagenicity, toxicity for Reproduction):** It has no CMR effects.

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

Fish	<i>P. promelas</i>	LC <sub>50</sub> =54.9mg/l/96 hours
	<i>Onchorhynchus mykiss</i>	LC <sub>50</sub> =51.6g/l/96 hours
Daphnia	<i>Daphnia magna</i>	LC <sub>50</sub> =34,4g/l/48 hours
Algae	<i>Selenastrum capricornutum</i>	IC <sub>50</sub> =19g/l/96 hours
Bacteria	<i>Photobacterium phosphoreum</i>	EC <sub>50</sub> =26,8g/l/30minutes
Activated sludge		EC <sub>50</sub> >1g/l/3 hours

**Mobility:** Propyleneglycol may enter the environment from industrial discharges, plant discharges or spills. When released into the air, this material may be readily degraded by reaction with photochemically produced hydroxyl radicals. Propylene glycol is completely miscible in water, with a log K<sub>ow</sub> of 0.92, indicating high mobility in the environment.

**Persistence and degradability:** Since it may be used directly as a food source by most microorganisms, it is readily biodegraded where such microorganisms are present (soil, groundwater and water courses). The halftime in air is 1-10 days.

**Bioaccumulative potential:** No bioaccumulation is to be expected (log K<sub>ow</sub><1).

**PBT assessment:** Not applicable.

**Other adverse effects:** No ecological problems are to be expected when the product is handled and used with due care and attention.

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## 13. DISPOSAL CONSIDERATIONS

**Waste treatment:** What ever cannot be saved for recovery or recycling should be handled as non-hazardous waste and sent to an approved incinerator or disposed in an approved waste facility. Dispose of contaminated product, container residues and spill clean up materials in accordance with federal, state and local requirements.

**Packaging treatment:** The empty containers, tank cars and tank trucks are treated with steam and rinsed with plenty of water. The resulted effluent are treated in the same way as waste. The empty and clean containers are to be reused in conformity with regulations.

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## 14. TRANSPORT INFORMATION

According to RID/ADR, IMDG-IMO, IATA/IT-ICAO norms for shipping of dangerous goods, PROPYLENE GLYCOL EPh have not specific regulations for any mode of transportation.

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## 15. REGULATORY INFORMATION

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PROPYLENEGLYCOL EPh is not classified and labeled as hazardous material according to Directive 67/548/EC. As a result, risk phrases-does not exist.

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## **16. OTHER INFORMATION**

**Precautions to be taken in handling and storing:** Keep well ventilated the areas where propyleneglycol is stored and handled.

**Work hygienic practices:** Avoid direct contact of substance with skin/eyes.

**Interdictions:** **Do not drink or eat** in working area.

**Do not smoke** in or near working area.

**The use of open flame** in working areas is prohibited.

**MSDS Revisions:** This Material Safety Data Sheet is made in accordance to Regulation (EC) no.1907/2006 and will replace the previous version 5 dated February 05, 2008.

**Uses and Restrictions:** Advice in this document relates only to product as originally supplied. Other derivative chemicals will have different properties and hazard.

### **Revised information:**

TÜV mark for Quality-Environmental Integrated System was replaced with the new one, remitted by TÜV Management GmbH.

Sources of key data uses to compile the data sheet:

EC Directive 67/548/EC resp. 99/45/EC as amended in each case.

EC Directive 2001/58/EC as amended in each case.

EC Directive 2000/39/EC as amended in each case.

National Threshold Limit Values of corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

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*This MSDS has been elaborated in accordance with Regulation (EC) No.1907/2006 REACH. The information contained here in is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.*

*This MSDS cannot cover all possible situations which the user may experience during handling and processing. Each aspect of the user's operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained within this MSDS should be provided to the user's employees or customers.*

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