

SAFETY DATA SHEET: POLYETHYLENE GLYCOL 200

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:

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1. IDENTIFICATION

PRODUCT NAME: POLYETHYLENE GLYCOL 200

CAS #: 25322-68-3

SYNONYM: PEG 200

CHEMICAL FORMULA: $H(OCH_2CH_2)_nOH$

2. HAZARDS IDENTIFICATION

APPEARANCE:
COLORLESS

PHYSICAL STATE:
LIQUID

ODOR:
CHARACTERISTIC

HAZARDS OF PRODUCT:
MAY BE HARMFUL IF ABSORBED THROUGH SKIN.
MAY BE HARMFUL IF SWALLOWED

POTENTIAL HEALTH EFFECTS

EFFECTS OF SINGLE ACUTE OVEREXPOSURE
INHALATION:

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. No adverse effects are anticipated from single exposure to mist.

EYE CONTACT:
May cause slight temporary eye irritation. Corneal injury is unlikely.

SKIN CONTACT:
Prolonged contact may cause slight skin irritation with local redness.

SKIN ABSORPTION:
Prolonged skin contact is unlikely to result in absorption of harmful amounts. For the minor component(s): Diethylene Glycol: Repeated skin contact may result in absorption of harmful amounts. Massive contact with damaged skin of material sufficiently hot to burn skin may result in absorption of potentially lethal amounts.

SWALLOWING:

Oral toxicity is expected to be moderate in humans due to diethylene glycol even though tests with animals show a lower degree of toxicity. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. The lethal component(s): Diethylene Glycol: Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. May cause nausea or vomiting. May cause abdominal discomfort or diarrhea.

CHRONIC, PROLONGED OR REPEATED OVEREXPOSURE

Effects of Repeated Overexposure:

In animals, effects have been reported on the following organs: kidney. These effects were only observed at exaggerated doses. May be more toxic to humans than to animals. Reports of kidney failure and death in burn patients suggest that diethylene glycol may have been a factor.

Other Effects of Overexposure:

No information currently available

3. COMPOSITION

COMPONENT	CAS NO	AMOUNT (%W/W)
Polyethylene Glycol	25322-68-3	>96%

Toxicological Data on Ingredients: Polyethylene glycol 200: ORAL (LD50): Acute: 4000 mg/kg [Rat]. 20000 mg/kg [Mouse]. DERMAL (LD50): Acute: 20000 mg/kg [Rabbit].

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used.

Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

Serious Skin Contact: Not available.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation: Not available.

Ingestion:

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

NOTES TO PHYSICIAN

Due to structural analogy and clinical data, this material may have a mechanism of intoxication similar to ethylene glycol. On that basis, treatment similar to ethylene glycol intoxication may be of benefit.

5. FIRE FIGHTING MEASURES

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO₂)

Fire Hazards in Presence of Various Substances: Flammable in presence of oxidizing materials.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Explosive in presence of oxidizing materials.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

6. ACCIDENTAL RELEASE MEASURES

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

7. HANDLING AND STORAGE

Precautions:

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. If ingested, seek medical advice immediately and show the container or the label.

Storage:

Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection: Safety glasses. Lab coat.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Liquid.

Odor: characteristic

Taste: Not available.

Molecular Weight: 190-210 g/mol

Color: colorless

pH (1% soln/water): 6 [Acidic.]

Boiling Point: (760 mmHg): >200°C 392°F Decomposes

Melting Point: -65°C (-85°F)

Flash Point - Closed cup: 185°C 365°F Pensky-Martens Closed Cup ASTM D93

Critical Temperature: Not available.

Specific Gravity: 1.1239 (Water = 1)

Vapor Pressure: <0.01 mmHg 20°C

Vapor Density: (air = 1) 7

Volatility: Not available

Odor Threshold: Not available.

Solubility in water (by weight) 100% 20°C

Solubility:

Easily soluble in cold water, hot water, methanol. Soluble in diethyl ether.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, diethyl ether.

10. STABILITY AND REACTIVITY

Thermally stable at typical use temperatures

Conditions to Avoid: Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials: Avoid contact with: Strong acids. Strong bases. Strong Oxidizers

Thermal Decomposition: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon dioxide. Alcohols. Ethers. Hydrocarbons. Ketones. Polymer fragments.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Not available.

Toxicity to Animals:

Acute oral toxicity (LD50): 4000 mg/kg [Rat]. Acute dermal toxicity (LD50): 20000 mg/kg [Rabbit].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans: Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

13. DISPOSAL CONSIDERATIONS

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

14. TRANSPORT INFORMATION

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

15. REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Polyethylene glycol 200

Other Regulations: Not available.

Other Classifications:

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

R16- Explosive when mixed with oxidizing substances.

HMIS (U.S.A.):

Health Hazard: 0

Fire Hazard: 1 Reactivity: 0

Personal Protection: a

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

Health: 0

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Not applicable. Lab coat. Not applicable. Safety glasses.

16. OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no

warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

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