

Material Safety Data Sheet (MSDS) for Polyethylene Glycol 8000

Manufacturer: Shandong Ruisheng Pharmaceutical Excipients Co., Ltd.

Packaging Specification: 25KG/drum

Manufacturer's Address: Middle Section of West Ring Road, Dong'e County,
Liaocheng City, Shandong Province

Contact Number: 0635-5018008

Section 1: Chemical Product and Company Identification

Chemical Name: Polyethylene Glycol 8000

This product is a mixture formed by the polycondensation of ethylene oxide and water. The synthesis of low molecular weight polyethylene glycol mainly uses refined ethylene oxide and ethylene glycol as raw materials, with sodium hydroxide or potassium hydroxide as catalysts, and is obtained by addition polymerization in a polymerization kettle.

English Name: Polyethylene Glycol 8000

Section 2: Composition/Information on Ingredients

Molecular Formula: $\text{HO}(\text{CH}_2\text{CH}_2\text{O})_n\text{H}$ (where n represents the average number of oxyethylene groups)

Molecular Weight: The average molecular weight shall be 7000 ~ 9000.

Polyethylene Glycol 8000 is a white solid.

Section 3: Hazards Identification

Hazard Class: Not a hazardous substance or mixture

Routes of Exposure: Ingestion

Health Hazards: Harmful to the body if ingested in excess

Environmental Hazards: Slightly hazardous to water

Section 4: First-Aid Measures

Inhalation: If inhaled, remove the victim to fresh air. Administer artificial respiration if breathing stops.

Skin Contact: Wash with soap and plenty of water.

Eye Contact: Rinse eyes with water as a precautionary measure.

Ingestion: Drink plenty of clean water, induce vomiting and seek medical advice.

Section 5: Fire-Fighting Measures

Property: Not a flammable substance

Extinguishing Media: Water mist, alcohol-resistant foam, dry chemical powder or carbon dioxide

Special Hazards: In case of fire, the release of other toxic gases cannot be ruled out, e.g., Carbon Monoxide (CO)

Special Extinguishing Procedures: Avoid inhalation of dust/smoke/gases/fumes/vapors/spray

Special Protective Equipment for Firefighters: Wear appropriate respiratory protection in case of insufficient ventilation.

Section 6: Accidental Release Measures

Protective Measures

Wear protective clothing and use respiratory protection to avoid exposure to smoke/dust/aerosols.

Environmental Precautions

Do not allow the product to enter sewage systems or any water sources.

Spill/Leakage Handling

Absorb with sand or other inert materials, or rinse with plenty of clean water, dilute and discharge into the wastewater collection system.

Section 7: Handling and Storage

Store in a cool, dry, well-ventilated environment in a sealed container.

Section 8: Exposure Controls/Personal Protection

Engineering Controls: Operate in a closed system with adequate ventilation.

Respiratory Protection: Wear self-priming filter type gas mask (half-mask) when the concentration in the air exceeds the limit; wear air respirator during emergency evacuation or first aid.

Eye Protection: Wear chemical safety goggles.

Body Protection: Wear chemical protective clothing resistant to poison penetration.

Hand Protection: Wear rubber gloves.

Other Protection: None

Section 9: Physical and Chemical Properties

Physical State: White solid

Color: White

Freezing Point: 55 ~ 62°C

Viscosity: 470 ~ 900 mm²/s at 100°C

Acidity (pH): 4.5 ~ 7.5

Water Content: Not more than 0.8%

Section 10: Stability and Reactivity

Reactivity: All grades of polyethylene glycol have a certain oxidizing property due to the presence of peroxides and impurities generated by auto-oxidation in the product; therefore, polyethylene glycols are incompatible with certain pigments, phenols and strong oxidizing agents.

Meanwhile, polyethylene glycol can reduce the preservative effect of paraben preservatives and the antibacterial activity of antibiotics (especially penicillin and bacitracin) through complexation. Phenol, tannic acid and salicylic acid can soften and liquefy polyethylene glycol; sulfonamides and dithranol can cause discoloration upon reaction with it; and compatibility with sorbitol can result in precipitation.

Stability: Relatively stable at room temperature.

Section 11: Toxicological Information

There are no documented toxicological tests for Polyethylene Glycol 8000. As the product has long been used as a pharmaceutical excipient and no related toxicological reactions have been collected, no such studies have been conducted.

Polyethylene glycol is non-toxic and non-irritating, and is widely used in various pharmaceutical preparations.

Polyethylene Glycol 8000 has low skin irritation, but when used as a suppository base, it may cause local stinging due to its hypertonic property; such side effects may be enhanced when drugs are dissolved in PEG. [1]

There are no documented genetic toxicity and reproductive toxicity tests for Polyethylene Glycol 8000. As the product has long been used as a pharmaceutical excipient and no related toxicological reactions have been collected, no such studies have been conducted.

There are no documented carcinogenicity tests for Polyethylene Glycol 8000. As the product has long been used as a pharmaceutical excipient and no related toxicological reactions have been collected, no such studies have been conducted. This substance is not classified as a carcinogen.

Reference

【1】 Translated by Zheng Junmin. *Handbook of Pharmaceutical Excipients (4th Edition)*. Beijing: Chemical Industry Press.

Section 12: Ecological Information

Persistence and Degradability: Not readily biodegradable

Other Information:

Potential for Bioaccumulation: No expected accumulation in organisms.

Mobility in Soil: No detailed data available.

Additional Ecological Information: Do not allow undiluted or large quantities of the product to contact groundwater, water courses or sewage systems; Water Hazard Class: Slightly hazardous to water.

Other Adverse Effects: No detailed data available.

Section 13: Disposal Considerations

Waste Disposal Method: It is recommended to dispose of the product in strict accordance with government regulations.

Contaminated Containers and Packaging: It is recommended to discard in accordance with official regulations.

Section 14: Transport Information

Transport Hazard Class: Not specified

Environmentally Hazardous: No

Marine Pollutant: No

Special Precautions for Users: Not applicable

Section 15: Regulatory Information

Hazardous Chemicals List: The substance is not listed.

Chemical Safety Assessment: Not yet conducted.

Section 16: Other Information

None

Shandong Ruisheng Pharmaceutical Excipients Co., Ltd.

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