

SAFETY DATA SHEET



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1, 5-PENTANEDIOL

SDS No. M0166

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 1, 5-Pentanediol

Synonyms: Pentamethylene Glycol

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. HAZARDS IDENTIFICATION

Not a hazardous substance under GHS rules of classification.

Emergency Overview

May cause irritation by all exposure routes. Target Organs: Skin, eyes, and respiratory system.

HMIS Rating:

Health – 0 Flammability – 1 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
1, 5-Pentanediol	111-29-5	>99%	Yes

4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Ingestion: Do not induce vomiting unless directed to by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward. Get medical aid immediately.

Skin Contact: Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation persists.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.

Notes to Physician: Treat symptomatically and supportively.

Clear focus. Consistent results. Complete confidence.

5. FIRE FIGHTING MEASURES

Flammability: Not expected to be a fire hazard.

Flash Point: 136° C (276° F)

Products of Combustion: May decompose into irritating and highly toxic gases under fire conditions (carbon monoxide, carbon dioxide).

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Specific Explosion Hazards: No information available.

Fire Fighting Media: Use water spray, dry chemical, chemical foam, or alcohol-resistant foam.

National Fire Protective Association: Health - 0, Flammability - 1, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Use spark-proof tools. Provide ventilation to the affected area and remove all ignition sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Ground or bond containers before transferring material. Empty containers contain product residue (liquid and vapor) and can be dangerous. Use with adequate ventilation. Avoid breathing vapor or mist.

Storage: Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles or other appropriate eye protection. Use butyl rubber gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits: None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Oily liquid.

Odor: Not available

Molecular Formula: HO(CH₂)₅OH

Molecular Weight: 104.15

Auto-ignition Temperature: Not available.

Flash Point: 136° C (276° F)

Flammable Limits: Not available.

pH: Not available
Boiling Point: 242° C @ 760 mm Hg
Freezing/Melting Point: Not available
Decomposition Temperature: Not available.
Specific Gravity: 0.99 g/cm³
Vapor Density (Air=1): Not available.
Vapor Pressure: Not available.
Evaporation Rate (Butyl acetate = 1): Not available.
Viscosity: 21 cP @ 20° C.
Solubility: Not available

10. STABILITY AND REACTIVITY

Stability: Stable at room temperature in closed container under normal handling and storage conditions.
Conditions to Avoid: Excess heat.
Incompatibility With Various Substances: Acid chlorides, acid anhydrides, chloroformates, oxidizing agents, reducing agents.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: Causes respiratory tract irritation.

INGESTION HAZARD: Causes gastrointestinal tract irritation.

SKIN CONTACT HAZARD: Causes skin irritation. May be harmful if absorbed through the skin.

EYE CONTACT HAZARD: Causes eye irritation.

Chronic Exposure Hazards: No information found.

Animal Toxicity:

Oral, rat: LD50 = 2000 mg/kg;

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.

Environmental Fate: No information available.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

Not regulated for transportation.

15. REGULATORY INFORMATION

US Federal Regulations:

CERCLA Hazardous Substances: CAS# 111-29-5 does not have a final RQ

SARA Section 302: Does not have a TPQ

Section 313: 1, 5-Pentanediol (CAS# 111-29-5) is subject to SARA Title III Section 313 40 CFR 373 reporting requirements.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

This chemical is on state right-to-know lists in Pennsylvania and Massachusetts.

California Prop 65: This product does not contain any chemical known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Originally Prepared: 6/30/2006

Last Revised: 11/18/2014 – Updated Section 2 and incompatibilities with various substances in Section 10.

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