

Material Safety Data Sheet

Revision: 11/09/2004



Hazard information is provided for compliance with both the UK Chemicals (Hazard Information and Packaging) (CHIP) Regulations and the US Hazard Communication Standard (HCS)

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

PRODUCT NAME:
Klenow, Low Concentration

PRODUCT CODE:
27-0929-01/02

EEC NUMBER:
None

SUPPLIER:

USB Corporation, 26111 Miles Road, Cleveland, Ohio 44128 Phone: (216) 765-5000
Please visit our website at www.usbweb.com for contact information on USB product distributors within your area.

Emergency Contact:

Chemtrec (800) 424-9300
Outside USA & Canada 703 527 3887

COMPOSITION/HAZARDOUS COMPONENTS

<u>HAZARD</u>	<u>CAS NO.</u>	<u>%WT</u>	<u>TLV</u>	<u>CHIP R & S Phrases</u>
Glycerol	56-81-5	~ 50.0%	ACGIH TLV - TWA: 10mg/m3 (total particulate) OSHA TWA: 15mg/m3 (total dust)	R:36/37/38 Irritating to eyes, respiratory system and skin. S:26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S:36/37 Wear suitable protective clothing and gloves.

HAZARDS IDENTIFICATION

CHIP
Irritant
HCS
Irritant

FIRST-AID MEASURES

EYES: Flush with water for 15 minutes. Seek medical advice if irritation persists.
SKIN: Flush with water, then wash thoroughly with soap and water. Remove contaminated clothing and wash before reuse. Seek medical attention if irritation persists.
INHALATION: Remove the victim from exposure and move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Seek immediate medical attention.
INGESTION: Drink water and seek immediate medical attention. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

FIRE-FIGHTING INFORMATION

Use media suitable to extinguish the supporting or surrounding fire. Wear NIOSH (or equivalent) approved self contained breathing apparatus. For small fires only: use carbon dioxide, dry powder or foam. Contact with strong oxidizing agents may produce an explosion.
Explosion Limits for Glycerol = Lower - 1.1; Upper - Not available.
Flash point for Glycerol = 193°C (379.4°F); Autoignition temperature for Glycerol = 400°C (752°F).

ACCIDENTAL RELEASE MEASURES

Wear suitable protective clothing including lab coat, safety glasses and gloves to clean small releases. Ventilate the area and stop the leak if it can be done without risk, dilute with water before mopping or take up with sand, earth, or other absorbing material. Place material in a suitable dry, leak-proof waste container. Avoid contact of material with skin or eyes. Use adequate ventilation.

HANDLING AND STORAGE

Wash thoroughly after handling. Use with adequate ventilation. Wash clothing before reuse. Store -20°C. Containers (even empty) may retain product vapors and residue. Store away from ignition sources and excess heat. Store away from incompatible materials including strong oxidizers, mixtures with hydrogen peroxide, potassium permanganate, calcium hypochlorite, nitric acid, sulfuric acid, perchloric acid and lead oxide.

PERSONAL PROTECTION

Wear appropriate personal protective equipment and clothing including lab coat, safety glasses, gloves and NIOSH-approved respirator. A qualified industrial hygienist should evaluate the need for respiratory protection. Use respiratory protection approved by NIOSH (or equivalent) and appropriate to the hazard. Avoid contact of material with skin or eyes. Mechanical ventilation or local exhaust as needed to control exposure to dust, vapors or mists. Access to a safety shower and eye-wash.

PHYSICAL AND CHEMICAL PROPERTIES

For Glycerol:

Boiling Point = 288°C

Melting Point = 20°F

Vapor Pressure = .0025 mm Hg@ 5

Vapor Density = 3.17 (H₂O = 1)

Evaporation Rate = No data available

Appearance = Clear viscous solution

Solubility = Miscible in water

Decomposition Temp. = 290°C

Specific Gravity = 1.26

Percent Volatile = No data available

Formula = C₃H₈O₃

STABILITY AND REACTIVITY

Product is stable under normal conditions. Avoid strong oxidizing agents including mixtures with hydrogen peroxide, potassium permanganate, calcium hypochlorite, nitric acid, sulfuric acid, perchloric acid and lead oxide. Contact with Sodium Hypochlorite and Hypochlorous acid may cause an explosion.

TOXICOLOGICAL INFORMATION

EFFECTS OF OVEREXPOSURE TO GLYCEROL:

EYES: Contact may cause irritation and slight corneal injury.

SKIN: Prolonged contact may cause irritation and/or allergic reaction.

INHALATION: No known toxicity, but excessive fumes may cause irritation if inhaled.

INGESTION: May cause irritation of gastrointestinal tract and diarrhea.

ADDITIONAL INFORMATION:

May cause slight or transient irritation to eyes and skin. Has caused moderate irritation in dermal (rabbit) studies. Low single and repeated dose toxicity. Ingesting large quantities may cause nausea and vomiting.

Irritation, mutation, reproductive effects and toxicity data for Glycerol listed in RTECS under MA8050000. See RTECS for complete information.

Toxicity data for Glycerol: Oral Mouse LD₅₀ = 4090 mg/kg; Oral rat LD₅₀ = 12600 mg/kg.

ECOLOGICAL INFORMATION

No information available.

DISPOSAL CONSIDERATIONS

Dispose of material in accordance with applicable local, state, and federal regulations.

TRANSPORTATION INFORMATION

US DOT / IATA: No information available.

REGULATORY INFORMATION

RCRA - No applicable information.

SARA 302 - This material does not have an RQ or TPO.

SARA 313 - This material is not reportable under 313.

EPA TSCA Section 8(b) - For Glycerol: Chemical Inventory.

Exposure Limits Glycerol - ACGIH TLV TWA: 10mg/m³ (total particulate).

OSHA PEL TWA: 15mg/m³ (total dust).

California Proposition 65 - No applicable information.

This data sheet is based upon information believed to be reliable. The Company makes no statement or warranty as to the accuracy or completeness of the information contained herein which is offered for your consideration, investigation and verification. Any use of the information contained in this data sheet must be determined by the user to be in accordance with appropriate applicable regulations.