

SAFETY DATA SHEET



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1-OCTANOL

SDS No. M0163

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: 1-Octanol

Synonyms: Octyl Alcohol; Caprylic alcohol; Heptyl Carbinol; 1-Hydroxyoctane

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



Classification:

Flammable Liquids: GHS Category 4

Label Elements

Signal Word: WARNING!

Hazard Statements:

- H227 – Combustible liquid and vapor.
- H315 – Causes skin irritation.
- H320 – Causes eye irritation.
- H335 – may cause respiratory irritation.
- H336 – May cause drowsiness and dizziness.

Precautionary Statements:

- P210 – Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
- P280 – Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Emergency Overview

Causes irritation to eyes, skin, and respiratory tract. May cause central nervous system depression. Combustible liquid and vapor. Target Organs: Central nervous system, eyes, and skin.

HMIS Rating:

Health – 1 Flammability – 2 Physical Hazard – 0 PPE – User supplied

Clear focus. Consistent results. Complete confidence.

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-Octanol	111-87-5	>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.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Skin Contact: Remove any contaminated clothing. Wash skin with water for at least 15 minutes. Wash clothing before reuse.

Eye Contact: 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.

5. FIRE FIGHTING MEASURES

Flammability: Combustible liquid and vapor (GHS Category 4)

Auto-ignition Temperature: 273° C (523° F)

Flash Point: 81° C (178° F)

Flammable Limits: Not available

Products of Combustion: May decompose into irritating and highly toxic gases under fire conditions (carbon monoxide and 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. Vapors may form an explosive mixture with air. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire.

Fire Fighting Media: Use water spray, dry chemical, carbon dioxide, or appropriate foam.

National Fire Protective Association: Health - 1, Flammability - 2, 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. Do not use sawdust or any combustible material. 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. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain

product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist.

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

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: Clear, colorless liquid.

Odor: Penetrating, sweetish odor.

Molecular Formula: CH₃(CH₂)₇OH

Molecular Weight: 130.23

Auto-ignition Temperature: 273° C (523° F)

Flash Point: 81° C (178° F)

Flammable Limits: Not available

pH: Not available.

Boiling Point: 195° C @ 760 mm Hg

Freezing/Melting Point: -16.5° C

Decomposition Temperature: Not available

Specific Gravity: 0.824 g/cm³

Vapor Density (Air=1): 4.5

Vapor Pressure: 0.08 mm Hg @ 25° C.

Evaporation Rate (Butyl acetate = 1): 0.007

Viscosity: Not available

Solubility: Insoluble

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature and pressure.

Conditions to Avoid: Ignition sources, excess heat.

Incompatibility With Various Substances: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: May cause respiratory tract irritation.

INGESTION HAZARD: May cause digestive tract disturbances. Severe exposure to similar alcohols may cause various systemic effects including, digestive tract irritation, central nervous system depression, and heart, liver, and kidney abnormalities.

SKIN CONTACT HAZARD: May cause mild skin irritation. May be absorbed through the skin. Prolonged or repeated contact may dry/defat the skin and cause irritation.

EYE CONTACT HAZARD: Causes eye irritation. May cause transient corneal damage.

Chronic Exposure Hazards: Prolonged or repeated skin contact may cause dermatitis.

Animal Toxicity:

- Dermal, guinea pig: LD50 = >1 gm/kg;
- Draize test, rabbit, skin: 500 mg/24H Mild;
- Oral, mouse: LD50 = 1790 mg/kg;
- Oral, mouse: LD50 = 15000 mg/kg;
- Oral, rat: LD50 = >3200 mg/kg;
- Oral, rat: LD50 = 20000 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.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

- Fish: Fathead Minnow: LC50 = 13.5 mg/L; 96 Hr.; Flow-through Condition
- Fish: Rainbow trout: LC50 = 18.0 mg/L; 96 Hr.; Unspecified
- Water flea Daphnia: EC50 = 23.0 mg/L; 96 Hr.; Unspecified
- Bacteria: Phytobacterium phosphoreum: EC50 = 3.7-7.3 mg/L; 30 minutes; Microtox test No data available.

Environmental Fate: Biodegrades at a moderate rate. If spilled into U.S. waters, it may be reportable under 33 CFR Part 153 if it produces a sheen.

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 shipping.

15. REGULATORY INFORMATION

US Federal Regulations:

- TSCA: CAS# 111-87-5 is listed on the TSCA Inventory.
- Health and Safety Reporting List: Not listed.
- Chemical Test Rules: CAS# 111-87-5: Not listed.
- Section 12b: Not listed.
- TSCA Significant New Use Rule 111-87-5: No SNUR under TSCA.
- CERCLA Hazardous Substances: CAS# 111-87-5; Does not have an RQ
- SARA Section 302: Does not have a TPQ
- SARA Codes: CAS# 111-87-5 – fire
- Section 313: 1-Octanol (CAS# 111-87-5) is not subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

Clean Air Act: CAS# 111-87-5 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Water Act: CAS# 111-87-5 is not listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 111-87-5 is on the following state right-to-know lists: Pennsylvania, and Minnesota
California Prop 65: California No Significant Risk Level: Not listed

Canada:

DSL/NDSL: CAS# 111-87-5 is listed on Canada's DSL list.

WHMIS: The material has a WHMIS category of B3, D2B. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

Ingredient Disclosure List: CAS# 111-87-5 is listed on Canada's Ingredient Disclosure List.

DSCL (EEC):

Hazard Symbols: Xi

Risk Phrases: R36/38 – Irritating to eyes and skin.

Safety Phrases: S26 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice;
S37/39 Wear suitable gloves and eye/face protection.

WGK (Water Danger/protection): CAS# 111-87-5: 1

16. OTHER INFORMATION

Originally Prepared: 1/1/2006

Last Revised: 12/28/2011 – Converted to GHS format.

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

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