

n-Propanol

Version 1.03

Revision Date 22.03.2018

Material Safety Data Sheet

SECTION 1 Identification of the substance/mixture and of the company/undertaking

| | | | |
|-----------------------|--|----------------|--|
| Trade name | n-Propanol | | |
| Synonyms | 1-Propanol, Hydroxypropane, 1-Propyl alcohol, Ethyl carbinol, n-Propan-1-ol, n-Propyl alcohol. | | |
| Use | Solvent. For industrial use only. | | |
| Company | Sasol Chemicals, a division of Sasol South Africa (Pty) Ltd Sasol Place, 50 Katherine Street Sandton 2090 South Africa +27103445000 | | |
| Telephone | CHEMTREC North America Transport Emergency (24-hr) | (800) 424-9300 | |
| | CHEMTREC World Wide Transport Emergency (24-hr) | (703) 527-3887 | |
| | MSDS and Product Information (8:00am-4:30pm CST) | (281) 588-3315 | |
| | Sasol LCCC Main Gate Guard | (337) 494-5142 | |
| E-mail address | SasolElectronicSDS@us.sasol.com | | |

SECTION 2 Hazards identification

Classification of the substance or mixture

| Classification | South Africa. GHS Classification and Labelling of Chemicals - SANS 10234 | |
|----------------|--|------------|
| | Flammable liquids | Category 2 |
| | Eye damage/irritation | Category 1 |
| | Specific target organ toxicity - single exposure | Category 3 |

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Label elements

Pictogram



Signal word

Danger

Hazard statements

H225: Highly flammable liquid and vapour.
 H318: Causes serious eye damage.
 H336: May cause drowsiness or dizziness.

Precautionary statements

Prevention

P210: Keep away from heat. - No smoking.
 P240: Ground/bond container and receiving equipment.
 P241: Use explosion-proof electrical/ ventilating/ lighting equipment.
 P242: Use only non-sparking tools.
 P243: Take precautionary measures against static discharge.
 P261: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P271: Use only outdoors or in a well-ventilated area.
 P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P303 + P361 + P353: IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P370 + P378: In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
 P310: Immediately call a POISON CENTER/doctor.

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P312: Call a POISON CENTER/doctor if you feel unwell.

Storage

P403 + P233 + P235: Store in a well-ventilated place. Keep container tightly closed. Keep cool.

P405: Store locked up.

Disposal

Dispose of as hazardous waste in compliance with local and national regulations.

Other hazards

No data available

SECTION 3 Composition/information on ingredients

| <u>Components</u> | <u>CAS-No.</u> | <u>Weight percent</u> |
|-------------------|----------------|-----------------------|
| n-Propanol | 71-23-8 | 99.90 |

Exposure limit(s): See chapter 8

Classification and hazard labelling: See chapter 15

SECTION 4 First aid measures

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before re-use. If skin irritation persists, call a physician.

Inhalation Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. Call a physician immediately.

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Ingestion If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

SECTION 5 Firefighting measures

Fire/explosion Flash back possible over considerable distance. Vapours may form explosive mixtures with air.

Hazardous combustion products Carbon oxides.

Suitable extinguishing media Water spray.
Alcohol-resistant foam.
Dry chemical.
Carbon dioxide (CO₂).

Unsuitable extinguishing media No information available.

Protection measures and instructions Wear self-contained breathing apparatus and protective suit.

Further information Cool containers/tanks with water spray.

SECTION 6 Accidental release measures

Personal precautions Keep people away from and upwind of spill/leak. Remove all sources of ignition. Do not breathe vapours or spray mist. Ensure adequate ventilation.

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Environmental precautions Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up Soak up with inert absorbent material and dispose of as hazardous waste.

Exposure controls/personal protection: See chapter 8

SECTION 7 Handling and storage

Safe handling advice Provide sufficient air exchange and/or exhaust in work rooms. Wear personal protective equipment. Take precautionary measures against static discharges. Ensure all equipment is electrically grounded before beginning transfer operations.

Advice on protection against fire and explosion Keep away from open flames, hot surfaces and sources of ignition. Use explosion-proof equipment.

Storage Keep container tightly closed in a dry and well-ventilated place. Keep away from heat. Keep away from direct sunlight.

Further information on storage conditions Keep containers tightly closed in a cool, well-ventilated place.

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SECTION 8 Exposure controls/personal protection

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Eyes Safety glasses with side-shields

Skin Protective suit. Safety shoes.

Inhalation In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection Gloves suitable for permanent contact:

Material: butyl-rubber

Break through time: 4 h

Material thickness: 0.5 mm

Hygiene measures Wash hands before breaks and immediately after handling the product. Take off all contaminated clothing immediately.

Protective measures Wear suitable protective equipment.

Exposure Guidelines

Components Exposure limit(s)

PEL= Permissible Exposure Limits
TLV= Threshold Limit Value
EL= Excursion Limit

TWA= Time Weighted Average (8 hr.)
STEL= Short Term Exposure Limit (15 min.)
WEEL= Workplace Environmental Exposure Level

SECTION 9 Physical and chemical properties

State of matter Liquid

Colour Colourless

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| | |
|------------------------------------|-----------------------------------|
| Odour | Alcohol-like |
| Form | Liquid |
| Boiling point/boiling range | 97.2 ° C |
| Flash point | 26 ° C closed cup |
| Lower explosion limit | 02.1 %(V) |
| Upper explosion limit | 13.5 %(V) |
| Vapour pressure | 27.998 hPa at 25 ° C |
| Solubility(ies) | Completely miscible |
| Viscosity, dynamic | 2.170 mPa.s at 40 ° C |
| Melting point/range | -126.2 ° C |
| Density | 0.805 g/cm ³ at 20 ° C |
| pH | 7 |

SECTION 10 Stability and reactivity

| | |
|---|---|
| Reactivity | Stable under recommended storage conditions. |
| Chemical stability | Stable under recommended storage conditions. |
| Conditions to avoid | Extremes of temperature and direct sunlight. Heat, flames and sparks. |
| Hazardous decomposition products | Carbon oxides. |
| Materials to avoid | Strong oxidizing agents Incompatible with acids. Halogenated |

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compounds

Hazardous polymerisation Hazardous polymerisation does not occur.

SECTION 11 Toxicological information

| | |
|----------------------------------|---|
| Acute oral toxicity | n-Propanol: LD50 Oral Rat: > 2,000 mg/kg; (literature value) |
| Acute oral toxicity | Butan-2-ol: LD50 Oral Rat: > 2,000 mg/kg; (literature value) |
| Acute inhalation toxicity | n-Propanol: LC50 Rat: 4 h; > 20 mg/l; (literature value) |
| Acute dermal toxicity | n-Propanol: LD50 Dermal Rabbit: > 2,000 mg/kg; (literature value) |
| Skin irritation | n-Propanol: Rabbit: Not irritating; Draize Test; (literature value) |
| Eye irritation | n-Propanol: Rabbit: Risk of serious damage to eyes. Draize Test; (literature value) |
| Sensitisation | n-Propanol: Maximisation Test; Guinea pig: Not sensitizing; (literature value) |
| Mutagenicity | n-Propanol: Ames test: Salmonella typhimurium; with and without; Not mutagenic; (literature value) |

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SECTION 12 Ecological information

Ecotoxicity effects

| | |
|--|---|
| Toxicity to fish | n-Propanol: semi-static test; <i>Leuciscus idus</i> ; 96 h; LC50; > 100 mg/l; (literature value) |
| Toxicity to daphnia and other aquatic invertebrates | n-Propanol: static test; <i>Daphnia magna</i> (Water flea); 48 h; EC50; > 100 mg/l(literature value) |
| Toxicity to algae | n-Propanol: static test; <i>Pseudokirchneriella subcapitata</i> (green algae); EC50; > 100 mg/l; literature value |
| Biodegradability | n-Propanol: aerobic; Readily biodegradable.; (literature value) |
| Mobility in soil | No data available |
| Results of PBT and vPvB assessment | This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB). |

SECTION 13 Disposal considerations

Waste Classification

| | |
|--|--|
| Waste from residues / unused products | In accordance with local and national regulations. Do not contaminate ponds, waterways or ditches with chemical or used container. The product should not be allowed to enter drains, water courses or the soil. |
| Uncleaned empty packaging | Do not burn, or use a cutting torch on, the empty drum. Triple rinse containers. Can be offered for recycling, re-conditioning or puncture. |

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Handling and storage: See chapter 7

Exposure controls/personal protection: See chapter 8

SECTION 14 Transport information

DOT/49CFR UN 1274 n-PROPANOL, 3, III

IMDG UN 1274 n-PROPANOL, 3, III; EmS F-E, S-D

ICAO/IATA UN 1274 n-PROPANOL, 3, III

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code n-Propanol
 Pollution Category: Y
 Ship Type: 3
Marine pollutant Not a Marine Pollutant

SECTION 15 Regulatory information

U.S. Federal Classifications:

OSHA Hazards Flammable liquid, Severe eye irritant, Mild respiratory irritant

SARA 311/312 No SARA Hazards

U.S. Regulated Ingredients:

Spill reporting

Components

Not listed

CAS-No.

Reportable Quantity

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Health

Components

CAS-No.

No component of this product present at levels greater than or equal to 0.1% is on OSHA' s list of regulated carcinogens.

Inventories

| | |
|--|---|
| USA TSCA Inventory | All chemical constituents are listed in: USA TSCA Inventory (See chapter 3) |
| Canadian Domestic Substances List (DSL) | All chemical constituents are listed in: Canadian Domestic Substances List (DSL) (See chapter 3) |
| Australian Inv. of Chem. Substances (AICS) | All chemical constituents are listed in: Australian Inv. of Chem. Substances (AICS) (See chapter 3) |
| New Zealand Inventory of Chemicals (NZIoC) | All chemical constituents are listed in: New Zealand Inventory of Chemicals (NZIoC) (See chapter 3) |
| Jap. Inv. of Exist. & New Chemicals (ENCS) | All chemical constituents are listed in: Jap. Inv. of Exist. & New Chemicals (ENCS) (See chapter 3) |
| Japan. Industrial Safety & Health Law (ISHL) | All chemical constituents are listed in: Japan. Industrial Safety & Health Law (ISHL) (See chapter 3) |
| Korea. Existing Chemicals Inventory (KECI) | All chemical constituents are listed in: Korea. Existing Chemicals Inventory (KECI) (See chapter 3) |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS) | All chemical constituents are listed in: Philippines Inventory of Chemicals and Chemical Substances (PICCS) (See chapter 3) |
| China Inv. Existing Chemical Substances (IECSC) | All chemical constituents are listed in: China Inv. Existing Chemical Substances (IECSC) (See chapter 3) |

Other international regulations

WHMIS Classification B2: Flammable liquid
 Toxic Material Causing Other Toxic Effects

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SECTION 16 Other information

All reasonable efforts were exercised to compile this SDS in accordance with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The SDS only provides information regarding the health, safety and environmental hazards at the date of issue, to facilitate the safe receipt, use and handling of this product in the workplace and does not replace any product information or product specifications. Since Sasol and its subsidiaries cannot anticipate or control all conditions under which this product may be handled, used and received in the workplace, it remains the obligation of each user, receiver or handler to, prior to usage, review this SDS in the context within which this product will be received, handled or used in the workplace. The user, handler or receiver must ensure that the necessary mitigating measures are in place with respect to health and safety. This does not substitute the need or requirement for any relevant risk assessments to be conducted. It further remains the responsibility of the receiver, handler or user to communicate such information to all relevant parties that may be involved in the receipt, use or handling of this product.

Although all reasonable efforts were exercised in the compilation of this SDS, Sasol does not expressly warrant the accuracy of, or assume any liability for incomplete information contained herein or any advice given. When this product is sold, risk passes to the purchaser in accordance with the specific terms and conditions of sale.

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