n-Propanol

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Trade name	n-Propanol	
Synonyms	1-Propanol, Hydoxypropane, 1-Propyl alcohol, Ethyl carbinol, n-Propan-1-ol, Propylic alcohol.	
Use	Industrial use, Intermediate, Process/Extraction Solvent, Raw material for chemical processes, Raw material for industry, Solvent	
Company	Sasol Chemicals (USA) LLC (an affiliate of Sasol Chemicals North America LLC)	
Address	12120 Wickchester Lane, Houston, TX 77079	
Telephone	CHEMTREC North America Transportation Emergency (24-hr)	(800) 424 9300
	CHEMTREC World Wide	(703) 527-3887
	Other Emergencies (24-hr)	(337) 494 5142
	SDS and Product Information (8:00am-4:30pm CST)	(281) 588 3491
	Health and Safety Information (7:30am-4:00pm CST)	(281) 588 3492
E-mail address	SasolElectronicSDS@us.sasol.com	

SECTION 2 HAZARDS IDENTIFICATION

OSHA/GHS Hazards	Flammable liquids	Category 2
	Serious eye damage	Category 1
	Specific target organ toxicity - single exposure	Category 3 (Narcotic effects)

LABEL ELEMENTS

Hazard symbols



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/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.
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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.

Response P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide for extinction.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.

Storage P403 + P405 + P235 Store locked up in a well-ventilated place. Keep cool.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight percent
n-Propanol	71-23-8	99.9

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

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. When symptoms persist or in all cases of doubt seek medical advice. Wash contaminated clothing before re-use.

Inhalation Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. In case of shortness of breath, give oxygen. Call a physician immediately.

Ingestion If swallowed, call a poison control centre or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

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SECTION 5 FIREFIGHTING MEASURES

FLAMMABLE PROPERTIES

Fire/explosion Vapours may form explosive mixture with air. Flash back possible over considerable distance. Use water spray to disperse the vapors. NFPA Class 1C flammable liquid.

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Protective equipment and precautions for firefighters Wear self-contained breathing apparatus and protective suit. Keep containers and surroundings cool with water spray.

Further information Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up Evacuate personnel to safe areas. Remove all sources of ignition. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Do not flush into surface water or sanitary sewer system.

SECTION 7 HANDLING AND STORAGE

Safe handling advice Ensure all equipment is electrically grounded before beginning transfer operations. Keep away from heat and sources of ignition. Use only with adequate ventilation.

Storage/Transport pressure Ambient

Load/Unload temperature Ambient

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES

Air contaminant levels should be controlled below the PEL or TLV for this product (see Exposure Guidelines). Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment.

PERSONAL PROTECTIVE EQUIPMENT

Eyes Chemical resistant goggles must be worn., Face-shield

Skin Wear suitable protective clothing, gloves and eye/face protection.

Inhalation Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. Use NIOSH approved respiratory protection.

EXPOSURE GUIDELINES

Components	Exposure limit(s)
n-Propanol	OSHA PEL (Permissible Exposure Limit) 200 ppm 500 mg/m3
	ACGIH TLV (8-hour) 100 ppm

PEL=	Permissible Exposure Limits	TWA=	Time Weighted Average (8 hr.)
TLV=	Threshold Limit Value	STEL=	Short Term Exposure Limit (15 min.)
EL=	Excursion Limit	WEEL=	Workplace Environmental Exposure Level

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid;

Colour Clear, colorless

Form liquid

Odour alcohol-like

Odour Threshold No data available

Flash point 24 °C, 75 °F;

Flammability Upper explosion limit: 13.5 %(V)

Lower explosion limit: 2.1 %(V)

Boiling point/boiling range 97 °C, 207 F;

Melting point/range -127.5 °C, -197.5 F;

Auto-ignition temperature 400 °C, 752 F;

Decomposition temperature No data available

Flammability (solid, gas) No data available

Vapour pressure 28.2 hPa @ 25 °C, 77 °F;

Vapour density 2.1

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Density	0.804 g/cm3 @ 20 °C, 68 °F;
Relative density	No data available
Water solubility	completely miscible
Viscosity	No data available
Viscosity, dynamic	2.3 mPa.s @ 20 °C, 68 °F;
pH	No data available
Evaporation rate	No data available
Partition coefficient: n-octanol/water	log Pow: 0.2; @ 25 °C, 77 °F;
Volatile organic compounds (VOC) content	100 %

SECTION 10 STABILITY AND REACTIVITY

Reactivity	No decomposition if stored and applied as directed.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures above 35°C, direct sunlight and contact with sources of heat.
Hazardous decomposition products	Combustion products include carbon dioxide, carbon monoxide and possibly other unidentified organic compounds.
Materials to avoid	Can react with strong oxidizers, inorganic acids, and halogens.
Hazardous polymerisation	Vapours may form explosive mixture with air.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute dermal toxicity	LD50 Rabbit: > 2,000 mg/kg (literature value)
Acute inhalation toxicity	LC50 Rat (4 hours): > 20 mg/l (literature value)

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Acute oral toxicity	LD50 Rat: > 2,000 mg/kg (literature value)
Skin corrosion/irritation	(Rabbit): Draize Test Not irritating (literature value)
Serious eye damage/eye irritation	(Rabbit): Draize Test Risk of serious damage to eyes. (literature value)
Respiratory or skin sensitisation	Guinea pig: not sensitizing; Maximisation Test (literature value)
Germ cell mutagenicity	**Genotoxicity in vitro**: Type: Ames test System: Salmonella typhimurium; with and without metabolic activation Result: In vitro tests did not show mutagenic effects (literature value) **Genotoxicity in vivo**: No data available **Assessment Mutagenicity:** Based on available data, the classification criteria are not met.
Reproductive toxicity	**Reproductive toxicity:** No data available **Assessment Reproductive toxicity:** No data available **Teratogenicity:** No data available **Assessment teratogenicity:** No data available
STOT - single exposure	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.
STOT - repeated exposure	No data available
Aspiration toxicity	No data available
Carcinogenicity	**Assessment carcinogenicity:** Contains no ingredient listed as a carcinogen

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SECTION 12 ECOLOGICAL INFORMATION

Toxicity to fish
LC50 (Pimephales promelas (fathead minnow)) 96 hours: > 100 mg/l; flow-through test
(literature value)

Toxicity to aquatic invertebrates
EC50 (Daphnia magna (Water flea)) 48 hours: > 100 mg/l; static test
(literature value)

Toxicity to algae
EC50 (Pseudokirchneriella subcapitata (green algae)) 48 hours: > 100 mg/l
(literature value)

Chronic toxicity to aquatic invertebrates
NOEC (Daphnia magna (Water flea)) 21 d: > 100 mg/l; semi-static test; OECD Test Guideline 211
(literature value)

Biodegradation
Readily biodegradable.

OECD Test Guideline 301D (15 d): > 60 %
(literature value)

Bioaccumulative potential
No bioaccumulation is to be expected (log Pow <= 4).

Mobility in soil
No data available

Other adverse effects
This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Code
D001 - Ignitability (RQ 100 LB). This product has the RCRA characteristic of ignitability. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.

Disposal methods
Dispose of only in accordance with local, state, and federal regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil. Land disposal of this product is restricted.

Empty containers.
Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

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SECTION 14 TRANSPORT INFORMATION

DOT UN 1274, n-Propanol, 3, III

IATA UN 1274, n-Propanol, 3, III

IMDG UN 1274, n-Propanol, 3, III

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Remarks No data available

SECTION 15 REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA Inventory Listing

Components	CAS-No.
1-Propanol	71-23-8

All chemical substances in this product are either on the TSCA Active Inventory, or in compliance with the inventory.

SARA 302 Status

Components	CAS-No.	Weight percent

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Classification

Flammable liquids, Serious eye damage, Specific target organ toxicity - single exposure

SARA 313 Chemical

Components	CAS-No.	Weight percent

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components	Reportable Quantity	Weight percent
none		

INTERNATIONAL REGULATIONS

WHMIS Classification

Flammable liquids	Category 2
Serious eye damage	Category 1
Specific target organ toxicity - single exposure	Category 3 (Narcotic effects)

European Union

Classification according to Regulation (EU) 1272/2008.

Flammable liquids, Category 2
Serious eye damage, Category 1
Specific target organ toxicity - single exposure, Category 3 (Narcotic effects)

Australia. Inventory of Chemical Substances (AICS)	Listed
Japan. Inventory of Existing and New Chemical Substances (ENCS)	Listed
Japan. ISHL - Inventory of Chemical Substances	Listed
Canada. Domestic Substances List (DSL) Inventory	Listed
Canada. Non-Domestic Substance Listing (NDSL)	Not listed
Philippines. Inventory of Chemicals / Chemical Substances (PICCS)	Listed
Korea. Existing Chemicals Inventory (KECI)	Listed
China. Inventory of Existing Chemical Substances (IECSC)	Listed
Mexico. National Inventory of Chemical Substances (INSQ)	Listed
New Zealand. Inventory of Chemical Substances (NZIoC)	Listed
Switzerland. Inventory of Notified New Substances (CHINV)	Listed
Taiwan. National Existing Chemical Inventory (NECI)	Listed

Please note: The names and CAS numbers which are used for this product in the stated inventories may deviate from the information which is listed in Section 3.

STATE REGULATIONS

California Prop. 65

Components	**CAS-No.**
none	

SECTION 16 OTHER INFORMATION

HAZARD RATINGS

	Health	Flammability	Physical Hazard/ Instability
HMIS®	3	3	0
NFPA	3	3	0

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