



**LEONID CHEMICALS PVT. LTD.,
BANGALORE**

An ISO-9001:2008 Certified Company

Quality Assurance Department

(CODE) DOCUMENT : WI

(CODE) SECTION : WI/SM

(DATE) : 01.04.2013

Issue : 02

Rev.: 00

Title: MATERIAL SAFETY DATA SHEET (MSDS): 1-PROPANOL

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SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: 1-Propanol

Catalog Numbers: P074, P075, P996

Synonyms: Propyl alcohol, n-Propanol

CAS-No. : 71-23-8

Company Information:

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SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), H336

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

F Highly flammable R11

R67

Xi Irritant R41

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Signal word

Danger

Hazard statement(s)

H225

Highly flammable liquid and vapour.

H318

Causes serious eye damage.

H336

May cause drowsiness or dizziness.

Precautionary statement(s)



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P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261	Avoid breathing vapours.
P280	Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338 IF IN EYES:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

2.3 Other hazards - none

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Molecular Weight	: 60,1 g/mol
CAS-No.	: 71-23-8
EC-No.	: 200-746-9
Index-No.	: 603-003-00-0

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
n-Propanol		
CAS-No. 71-23-8 EC-No. 200-746-9 Index-No. 603-003-00-0	Flam. Liq. 2; Eye Dam. 1; STOT SE 3; H225, H318, H336	<= 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
n-Propanol		
CAS-No. 71-23-8 EC-No. 200-746-9 Index-No. 603-003-00-0	F, Xi, R11 - R41 - R67	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.



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If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

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

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Carbon oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions



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Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

A part from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact



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with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Appearance Form : clear, liquid
Colour : colourless
- b) Odour : Alcohol-like
- c) Odour Threshold : no data available
- d) pH : 8,5 at 200 g/l at 20 °C
- e) Melting point/freezing point : Melting point/range: -127 °C
- f) Initial boiling point and boiling range : 97 °C at 1.013 hPa
- g) Flash point : 22 °C - closed cup
- h) Evaporation rate : 1
- i) Flammability (solid, gas) : no data available



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- j) Upper/lower flammability or explosive limits : Upper explosion limit: 13,7 %(V)
: Lower explosion limit: 2,1 %(V)
- k) Vapour pressure : 19,3 hPa at 20 °C
- l) Vapour density : 2,07 - (Air = 1.0)
- m) Relative density : 0,800 g/cm³
- n) Water solubility : completely soluble
- o) Partition coefficient: n-octanol/water : log Pow: 0,25 - 0,34
- p) Auto-ignition temperature : no data available
- q) Decomposition temperature : no data available
- r) Viscosity : 2.2 mPa.s at 20 °C
- s) Explosive properties : no data available
- t) Oxidizing properties : no data available

9.2 Other safety information

Relative vapour density 2,07 - (Air = 1.0)

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials



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Strong oxidizing agents

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 8.038 mg/kg

LC50 Inhalation - rat - 1 h - 20000 ppm

LC50 Dermal - rabbit - 4.000 mg/kg

Skin corrosion/irritation

Skin - rabbit

Result: Mild skin irritation

Serious eye damage/eye irritation

Eyes - rabbit

Result: Severe eye irritation

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

RTECS: Not available

Central nervous system depression, prolonged or repeated exposure can cause:, narcosis, Skin irritation



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SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 1.000 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 3.642 mg/l - 48 h

12.2 Persistence and degradability

Biodegradability
Ratio BOD/ThBOD < 2 %

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

no data available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1274

IMDG: 1274

IATA: 1274

14.2 UN proper shipping name

ADR/RID : n-PROPANOL

IMDG : n-PROPANOL

IATA : n-Propanol



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14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

no data available

SECTION 15: REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

Eye Dam.	Serious eye damage
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
STOT SE	Specific target organ toxicity - single exposure

Full text of R-phrases referred to under sections 2 and 3

F	Highly flammable
Xi	Irritant
R11	Highly flammable.
R41	Risk of serious damage to eyes.
R67	Vapours may cause drowsiness and dizziness.

SECTION 16 - ADDITIONAL INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to



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such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Leonid Chemicals Pvt. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Leonid Chemicals Pvt. Ltd. has been advised of the possibility of such damages.





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Title: SPECIFICATION MANUAL – PROPAN-1-OL

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Specification manual – Propan-1-ol LR

C₃H₈O

MW: 60.09

Product : Propan-1-ol
Description : Clear colourless liquid
Cat No : P075
Cas No : 71-23-8
Prepared Date : 04.12.2013
Approved Date : 04.12.2013

REVISION HISTORY

Issue/Rev	Description of Change	Author	Effective Date
01/00	Initial Release	S. Paul Joshua	07.03.2005
02/00	Reviewed no changes	S. Paul Joshua	01.04.2011
02/01	Specification	S. Paul Joshua	04.12.2013
Next Review Due :	02.04.2015		
To be reviewed by :	Head-QC/QA		

Sl. No.	Tests	Specification	Protocol
		LR	
1	Description	Clear colourless liquid	LCPL
2	Assay (GC)	Min 99.0 %	2/4/03
3	Boiling range	96°C – 99 °C	2/3.1-03
4	Water	0.2 %	2/3.1-19
5	NVM	NMT 0.005 %	2/3.1-01

Approved By: S. Paul Joshua, Head Quality Control and Quality Assurance

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