

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

**1.1 Product identifier**

Product name	PROPAN-1-OL
CAS-No.	71-23-8
Product code	AR1161, GP1161, LC1161, RP1161

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses	Chemical for analysis and production.
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**1.3 Details of the supplier of the safety data sheet**

Company	RCI LABSCAN LIMITED. 24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number	(662) 613-7911-4
Fax number	(662) 613-7915

**1.4 Emergency Telephone Number**

Emergency phone	(662) 613-7911-4
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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
Xi	Irritant	R41
		R67

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**

Pictogram



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)

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.
P261	Avoid breathing vapours.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/eye protection/face protection.
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.
P310	Immediately call a POISON CENTER or doctor/physician.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P370 + P378	In case of fire: Use carbon dioxide, dry chemical or foam for extinction.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

**2.3 Other hazards** None

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Synonyms 1-Propanol, n-Propyl alcohol, 1-Hydroxy propane, Ethyl carbinol, n-Propanol.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
71-23-8	200-746-9	603-003-00-0	CH <sub>3</sub> CH <sub>2</sub> CH <sub>2</sub> OH	60.10 g/mol	>99

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

Component	Concentration	Classification
<b>Propan-1-ol</b>		
CAS-No 71-23-8 EC-No 200-746-9 EC-Index-No 603-003-00-0	>99%	Flammable liquids (Category 2), H225 Serious eye damage (Category 1), H318 Specific target organ toxicity - single exposure (Category 3), H336

#### Hazardous ingredients according to Directive 1999/45/EC

Component	Concentration	Classification
<b>Propan-1-ol</b>		
CAS-No 71-23-8 EC-No 200-746-9 EC-Index-No 603-003-00-0	>99%	F, Highly flammable, R11 Xi, Irritant, R41 R67

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	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.

Skin contact	Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Obtain medical attention. Wash contaminated clothing before reuse. Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. Immediately make victim drink water (two glasses at the most). Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

After swallowing, avoid vomiting. Risk of aspiration. Keep airways free. Subsequently administer; Activate charcoal 20-40 g in 10% slurry. Summon doctor. Laxative: Sodium Sulfate 1 tablespoon/250 ml of water.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Extinguish with carbon dioxide, dry chemical or foam. In the event of fire, cool tanks with water spray.

### 5.2 Special hazards arising from the substance or mixture

Vapors may form explosive mixture with air. Flash back possible over considerable distance.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

### 5.4 Further information

Standard procedure for chemical fires. Take measures to prevent electrostatic charging. Prevent firefighting water from entering surface water or groundwater.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

### 6.3 Methods and materials for containment and cleaning up

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

### 6.4 Reference to other sections

For disposal see **Section 13**.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible materials. Store in original container. Electrical equipment should be protected to the appropriate standard.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

### 8.2 Exposure controls

#### Appropriate engineering controls

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

#### Individual protection measures (Personal protective equipment, PPE)

##### Eye/face protection

Goggles giving complete protection to eyes.

##### Skin protection

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from nitrile rubber material.
- Splash contact wears gloves from polychloroprene material.

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

##### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter A (EN 141 or EN 14387).

##### Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance: From	Liquid
: Color	Colorless
Odour	Alcohol like
Odour Threshold	Not Available
pH	7 at 200 g/l, H <sub>2</sub> O at 20°C
Melting point/range	-127 °C
Boiling point/range	97 °C at 1013 hPa
Flash point	15 °C (closed cup)
Evaporation rate	Not Available

Flammability (solid, gas)	Not Available
Explosion limits: lower	2.1 % (V)
upper	19.2 % (V)
Vapor Pressure	19 hPa at 20°C
Relative Vapor Density	2.1
Density	0.800 g/ml at 20°C
Water solubility	Miscible in all proportions
Partition coefficient (n-octanol/water)	log Pow: 0.25
Auto-Ignition temperature	360 °C
Decomposition Temperature	Not Available
Viscosity	2.3 mPa.s at 20°C
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Highly flammable. Explosible with air in a vaporous/ gaseous state.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

The substance can react dangerously with alkali metals, strong oxidizing agents, potassium-tert-butoxide, alkaline-earth metals/heat.

The substance forms an explosive mixture with air.

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Alkali metals, alkali earth metals, alcoholates, strong oxidizing agents.

### 10.6 Hazardous decomposition products

Carbon monoxides, Carbon dioxides (Hazardous decomposition products from under fire condition).

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LC<sub>50</sub> (inhalation, rat): >34 mg/l /4h.

LD<sub>50</sub> (oral, rat): 1870 mg/kg.

LD<sub>50</sub> (dermal, rabbit): 5040 mg/kg.

LDLo (oral, human): 5700 mg/kg.

#### Acute oral toxicity

Rapid absorption

Symptoms: headache, dizziness, inebriation, unconsciousness, narcosis. Risk of aspiration upon vomiting.

#### Acute inhalation toxicity

Irritations of mucous membranes, coughing and dyspnoea, drowsiness.

#### Skin corrosion/irritation

Skin irritation test (rabbit): No irritation.

Slight irritations.

**Serious eye damage/eye irritation**

Slight irritations. Risk of serious damage to eyes.

**Respiratory or skin sensitization**

Patch test (humans): No sensitizing effect.

**Germ cell mutagenicity**

Bacterial mutagenicity: Ames test is negative.

**Carcinogenicity**

Not Available

**Reproductive toxicity**

Not Available

**Teratogenicity**

Not Available

**Specific target organ toxicity (STOT) - single exposure**

May cause drowsiness or dizziness.

**Specific target organ toxicity (STOT) - repeated exposure**

Not Available

**Aspiration hazard**

Not Available

**Further information**

After uptake of large quantities: Respiratory paralysis, coma.

The product should be handled with the care usual when dealing with chemicals.

## SECTION 12: Ecological information

**12.1 Toxicity**

Toxicity to fish	LC <sub>50</sub> P.promelas : 4630 mg/l/96 h.
Toxicity to daphnia and other aquatic invertebrates	EC <sub>50</sub> Daphnia magna: 3644 mg/l /48 h.
Toxicity to algae	IC <sub>50</sub> Pseudokirchneriella subcapitata (green algae) : 1150 mg/l /48h.
Toxicity to bacteria	EC <sub>50</sub> activated sludge : >1000 mg/l /3h. EC <sub>50</sub> Photobacterium phosphoreum: 17700 mg/l /5 min microtox test.

**12.2 Persistence and degradability**

Biodegradability	75% /20 d. Readily biodegradable
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**12.3 Bioaccumulative potential**

Partition coefficient (n-octanol/water)	log Pow: 0.25 (experimental). No Bioaccumulation (log P o/w <1).
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**12.4 Mobility in soil**

Not Available

**12.5 Other adverse effects**

Do not allow to enter waters, waste water or soil.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

#### Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

## SECTION 14: Transport information

### Land Transport (ADR/RID)

UN Number	1274
UN proper shipping name	n-PROPANOL
Transport hazard class(es)	3
Packaging group	II
Environmental hazards	No
Special precautions for user	Yes

### Sea transport (IMDG)

UN Number	1274
UN proper shipping name	n-PROPANOL
Transport hazard class(es)	3
Packaging group	II
Marine pollutant	No
Special precautions for user	Yes
EmS	F-E S-D

### Air transport (IATA)

UN Number	1274
UN proper shipping name	n-PROPANOL
Transport hazard class(es)	3
Packaging group	II
Environmental hazards	No
Special precautions for user	No

### River transport (AND/ADNR)

(Not examined)

## SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not 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

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

### 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.

### Recommended restrictions

Take notice of labels and safety data sheets for the working. Chemicals Take necessary action to avoid static electricity discharge.

### Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

### Further information

Contact to RCI Labscan Limited.

### Revision Date

01/05/2015

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.