

**1. Identification of the substance/preparation and of the company/undertaking****1.1 Identification of the product****Product code:** PR141**Product name:** 2-Propanol**CAS No.:** 67-63-0**1.2 Recommended use and restriction on use**

General use : for experimental, research and industrial use

Restriction on use : Never drink, Not used except for experimental, research and industrial applications.

**1.3 Manufacturer / Supplier / Distributor information****Importer/distributors identification**

Company : ASIA CHEMIE (THAILAND) CO., LTD.

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**2. Hazards identification****2.1 GHS Classification**

Flammable liquids : Category2

Serious eye damage/irritation : Category2A

Specific target organ toxicity(Single exposure) : Category3(Narcotic effects)

Aspiration hazard : Category2

**2.2 GHS label elements****Hazard symbols****Signal words:** Danger**Hazard statements**

H225 Highly flammable liquid and vapour

H305 May be harmful if swallowed and enters airways

H319 Causes serious eye irritation

H336 May cause drowsiness and dizziness.

**Precautionary statements**

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 gas/mist/vapours/spray.

P264 Wash hands thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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.

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

P331 Do NOT induce vomiting.

P337+P313 If eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use Suitable extinguishing media for extinction

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

P403+P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up

P501 Dispose of contents/container in accordance with local/regional/national/international regulation

**2.3 Other hazards which do not result in classification : (NFPA Classification)****NFPA grade (0 ~ 4 level)**

- Health: 2, Flammability: 3, Reactivity: 0

### 3. Composition/information on ingredients

Chemical Name	Synonyms	CAS No.	Concentration (%)
2-Propanol	Isopropanol; Dimethylcarbinol; Isopropyl alcohol; n-Propan-2-ol; Propan-2-ol; i-Propyl alcohol; 2-Propanol	67-63-0	100

### 4. First aid measures

#### 4.1 Eye contact

- Do not rub your eyes.
- Immediately flush eyes with plenty of water for at least 15 minutes and call a doctor/physician.
- Get medical attention immediately.
- Go to the hospital immediately if symptoms (flare, irritate) occur.
- Remove contact lenses if worn.

#### 4.2 Skin contact

- Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
- Wash contaminated clothing thoroughly before re-using.
- Get medical attention immediately.

#### 4.3 Inhalation contact

- When exposed to large amounts of steam and mist, move to fresh air.
- Take specific treatment if needed.
- Get medical attention immediately.

#### 4.4 Ingestion contact

- Please be advised by doctor whether induction of vomit is demanded or not.
- Rinse your mouth with water immediately.
- Get medical attention immediately.
- If swallowed, large amounts of water to drink and do not induce vomiting.

#### 4.5 Delayed and immediate effects and also chronic effects from short and long term exposure

- Not available

#### 4.6 Notes to physician

- Notify medical personnel of contaminated situations and have them take appropriate protective measures.

### 5. Fire-fighting measures

#### 5.1 Suitable (Unsuitable) extinguishing media

- Dry chemical, carbon dioxide, regular foam extinguishing agent, spray
- Avoid use of water jet for extinguishing

#### 5.2 Specific hazards arising from the chemical

- Not available

#### 5.3 Special protective actions for firefighters

- Move containers from fire area, if you can do without the risk.
- Keep unauthorized personnel out.
- Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
- Notify your local firestation and inform the location of the fire and characteristics hazard.
- In case of conflagration, use automatic fire sprinkler. Major fire may require withdrawal, allowing the object itself to burn.
- Keep containers cool with water spray.
- Vapor or gas is burned at distant ignition sources can be spread quickly.
- Due to the extremely low flash point, irrigating fire extinguishing may be less effective when put out a fire.

### 6. Accidental release measures

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

- Ventilate closed spaces before entering.
- Move container to safe area from the leak area.
- Remove all sources of ignition.
- Handle the damaged containers or spilled material after wearing appropriate protective equipment.
- Do not direct water at spill or source of leak.
- Avoid skin contact and inhalation.

#### 6.2 Environmental precautions

- Prevent runoff and contact with waterways, drains or sewers.
- If large amounts have been spilled, inform the relevant authorities.

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

- Large spill : Stay upwind and keep out of low areas. Dike for later disposal.
- Notification to central government, local government. When emissions at least of the standard amount
- Dispose of waste in accordance with local regulation.
- Appropriate container for disposal of spilled material collected.
- Small leak: sand or other non-combustible material, please let use absorption.
- Wipe off the solvent.
- Dike for later disposal.
- Do not use plastic containers.

**7. Handling and storage****7.1 Precautions for safe handling**

- Avoid direct physical contact.
- Comply with all applicable laws and regulations for handling.
- Do not handle until all safety precautions have been read and understood.
- Operators should wear antistatic footwear and clothing.
- Do not inhale the steam prolonged or repeated.
- Avoid contact with heat, sparks, flame or other ignition sources.

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

- Save in cool, dry and well ventilated place.
- Do not use damaged containers.
- Store according to current laws and regulations
- Please pay attention to incompatibilities materials and conditions to avoid.
- Keep sealed when not in use.
- Collected them in sealed containers.

**8. Exposure controls/personal protection****8.1 Exposure limits****ACGIH TLV**

- [2-Propanol] : TWA, 200 ppm (491 mg/m<sup>3</sup>), STEL, 400 ppm (984 mg/m<sup>3</sup>)

**OSHA PEL**

- [2-Propanol]: 400 ppm 980 mg/m<sup>3</sup>

**8.2 Engineering controls**

- Business owner is recommended to maintain below recommended exposure limits for the working place with general exhaust of gas/vapour/mist/fume.

**8.3 Individual protection measures, such as personal protective equipment****Respiratory protection**

- Under conditions of frequent use or heavy exposure, Respiratory protection may be needed.
- Respiratory protection is ranked in order from minimum to maximum.
- Consider warning properties before use.
- Any chemical cartridge respirator with organic vapor cartridge(s).
- Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
- Any air-purifying respirator with a full facepiece and an organic vapor canister.
- For Unknown Concentration or Immediately Dangerous to Life or Health : Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
- Any self-contained breathing apparatus with a full facepiece.

**Eye protection**

- Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield.
- Provide an emergency eye wash station and quick drench shower in the immediate work area.

**Hand protection**

- Wear appropriate chemical resistant glove.

**Skin protection**

- Wear appropriate chemical resistant protective clothing.

**Others**

- Not available

**9. Physical and chemical properties**

A. Appearance	
- Appearance	Liquid
- Color	colorless

B. Odor	alcohol like
C. Odor threshold	22 ppm
D. pH	Not available
E. Melting point/Freezing point	-90 °C
F. Initial Boiling Point/Boiling Ranges	83 °C
G. Flash point	11.7 °C
H. Evaporation rate	1.7 (n-butyl acetate=1)
I. Flammability (solid, gas)	Not available
J. Upper/Lower Flammability or explosive limits	12 / 2 %
K. Vapour pressure	4.4 kPa (20°C)
L. Solubility	100 g/100 ml
M. Vapour density	2.1
N. Specific gravity (Relative density)	0.79 (water=1)
O. Partition coefficient of n-octanol/water	0.05
P. Autoignition temperature	456 °C
Q. Decomposition temperature	Not available
R. Viscosity	2.1 cP (25°C)
S. Molecular weight	60.10
T. Molecular formula	C3H8O

## 10. Stability and reactivity

### 10.1 Chemical Stability

- This material is stable under recommended storage and handling conditions.

### 10.2 Possibility of hazardous reactions

- Cylinders exposed to fire may vent and release flammable gas.

### 10.3 Conditions to avoid

- Avoid contact with incompatible materials and condition.
- Avoid : Accumulation of electrostatic charges, Heating, Flames and hot surfaces.
- Avoid contact with heat, sparks, flame or other ignition sources.

### 10.4 Incompatible materials

- Not available

### 10.5 Hazardous decomposition products

- May emit flammable vapour if involved in fire.

## 11. Toxicological information

### 11.1 Information on the likely routes of exposure

#### Respiratory tracts

- May be harmful if swallowed and enters airways.

#### Oral

- Not available

#### Eye · Skin

- Causes serious eye irritation

### 11.2 Delayed and immediate effects and also chronic effects from short and long term exposure

#### Acute toxicity

##### \* Oral

- Product (ATEmix) : 2000mg/kg < ATEmix <= 5000mg/kg
- [2-Propanol] : LD50 = 4710 mg/kg Rat (HSDB) LD50 5840 mg/kg Rat (OECD TG 401, ECHA)
- [Water] : LD50 > 90000 mg/kg Rat (KOSHA)

##### \* Dermal

- Product (ATEmix) : >5000mg/kg
- [2-Propanol] : LD50 = 12870 mg/kg rabbit (HSDB), LD50 16400 mg/kg Rabbit (OECD TG402, ECHA)

##### \* Inhalation

- Product (ATEmix) : >50.0mg/L

- [2-Propanol] : LC50 = 72.6 mg/l 4 hr Rat (HSDB), LC50 >10000 ppm 6 hr Rat (OECE TG 403, GLP)

**Skin corrosion/irritation**

- Not available

**Serious eye damage/irritation**

- Causes serious eye irritation

**Respiratory sensitization**

- Not available

**Skin sensitization**

- Not available

**Carcinogenicity****\* IARC**

- [2-Propanol] : Group 3

**\* OSHA**

- Not available

**\* ACGIH**

- [2-Propanol] : A4

**\* NTP**

- Not available

**\* EU CLP**

- Not available

**Germ cell mutagenicity**

- Not available

**Reproductive toxicity**

- Not available

**STOT-single exposure**

- May cause drowsiness and dizziness.

**STOT-repeated exposure**

- Not available

**Aspiration hazard**

- May be harmful if swallowed and enters airways

**12. Ecological information****12.1 Ecotoxicity****Fish**

- [2-Propanol] : LC50 >100 mg/l 96 hr Oryzias latipes (NITE: MOE eco-toxicity tests of chemicals, 1997)

**Crustaceans**

- [2-Propanol] : ECHA LC50 5102 mg/l 24 hr Daphnia magna(OECD TG 202)

**Algae**

- [2-Propanol] : EC50 = 2.2 mg/l 96 hr

**12.2 Persistence and degradability****Persistence**

- [Water] : log Kow = -1.38

**Degradability**

- Not available

**12.3 Bioaccumulative potential****Bioaccumulative potential**

- Not available

**Biodegradation**

- Not available

**12.4 Mobility in soil**

- [2-Propanol] : log koc= 0.03

**12.5 Other adverse effects**

- Not available

**13. Disposal considerations****13.1 Disposal methods**

- Since more than two kinds of designated waste is mixed, it is difficult to treat separately, then can be reduction or stabilization by incineration or similar process.
- If water separation is possible, pre-process with Water separation process.
- Dispose by incineration.
- Will be pre-processed by the separation of oil and water.

**13.2 Special precautions for disposal**

- The user of this product must dispose by oneself or entrust it to a waste disposer, a person who recycles other's waste or establishes and operates waste disposal facilities.
- Dispose of waste in accordance with all applicable laws and regulations.

**14. Transport information****14.1 UN No. (IMDG CODE/IATA DGR)**

- 1219

**14.2 Proper shipping name**

- ISOPROPANOL OR ISOPROPYL ALCOHOL

**14.3 Hazard Class**

- 3

**14.4 IMDG CODE/IATA DGR Packing group**

- II

**14.5 Marine pollutant**

- Not applicable

**14.6 Special precautions for user related to transport or transportation measures**

- Local transport follows in accordance with Dangerous goods Safety Management Law.
- Package and transport follow in accordance with Department of Transportation (DOT) and other regulatory agency requirements.
- EmS FIRE SCHEDULE: F-E (Non-water-reactive flammable liquids)
- EmS SPILLAGE SCHEDULE: S-D (Flammable liquids)

**15. Regulatory information****15.1 National and/or international regulatory information****POPs Management Law**

- Not applicable

**Information of EU Classification****\* Classification**

- [2-Propanol] : H225, H319, H336

**U.S. Federal regulations****\* OSHA PROCESS SAFETY (29CFR1910.119)**

- Not applicable

**\* CERCLA Section 103 (40CFR302.4)**

- Not applicable

**\* EPCRA Section 302 (40CFR355.30)**

- Not applicable

**\* EPCRA Section 304 (40CFR355.40)**

- Not applicable

**\* EPCRA Section 313 (40CFR372.65)**

- [2-Propanol] : Applicable

**Rotterdam Convention listed ingredients**

- Not applicable

**Stockholm Convention listed ingredients**

- Not applicable

**Montreal Protocol listed ingredients**

- Not applicable

**16. Other information****Reason for the revision:** General update.

Date: 12/9/2014

**Revision 5**

Date: 20/01/2024

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