

# SAFETY DATA SHEET

Cleaning Ethanol, 70%

## 1. Product and company identification

**Product name** : Cleaning Ethanol, 70%

**Product code** : BU02

**Supplier's details** : Lunaphore Technologies SA  
Route de Lully 5C, CH-1131  
Tolochenaz, Switzerland  
+ 41 800 84 86 89

**Distributor:**  
PHC Corporation  
2-38-5 Nishi-Shimbashi  
Minato-ku, Tokyo 105-8433 Japan  
Tel: +81-120-878-279  
Mail: wg-inq\_epredia@ml.phchd.com

**e-mail address of person responsible for this SDS** : support-tech@lunaphore.com

**Emergency telephone number (with hours of operation)** : CHEMTREC:  
+81 3-4520-9637 (Local)

**Product use** : Professional use. Use in laboratories. Cleaning solutions.

## 2. Hazards identification

**GHS Classification** : FLAMMABLE LIQUIDS - Category 2  
EYE IRRITATION - Category 2B  
CARCINOGENICITY - Category 1A  
TOXIC TO REPRODUCTION - Category 1A  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : Highly flammable liquid and vapor.  
Causes eye irritation.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
May cause cancer.  
May damage fertility or the unborn child.  
Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS), liver)

### Precautionary statements

**General** : Not applicable.

## 2. Hazards identification

<b>Prevention</b>	: P201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing and eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P241 - Use explosion-proof electrical, ventilating or lighting equipment. P242 - Use non-sparking tools. P243 - Take action to prevent static discharges. P240 - Ground and bond container and receiving equipment. P260 - Do not breathe vapor or spray. P270 - Do not eat, drink or smoke when using this product.
<b>Response</b>	: P308 + P313 - IF exposed or concerned: Get medical advice or attention. P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
<b>Storage</b>	: P405 - Store locked up. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed. P403 + P235 - Keep cool.
<b>Disposal</b>	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: None known.

**Other hazards which do not result in classification** : Vapors may form explosive mixtures with air.

## 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	%	CAS number	Official Gazette notice reference number	
			CSCL	ISHL
Ethanol	≥50 - <75	64-17-5	2-202	(2)-202

## 4. First aid measures

<b>Inhalation</b>	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Skin contact</b>	: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Eye contact</b>	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

## 4. First aid measures

**Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

**Eye contact** : Causes eye irritation.

**Ingestion** : Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Skin contact** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Eye contact** : Adverse symptoms may include the following:  
irritation  
watering  
redness

**Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

## 5. Fire-fighting measures

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray (fog). Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : Do not use water jet.

## 5. Fire-fighting measures

- Specific hazards arising from the chemical** : Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or

## 7. Handling and storage

explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

### Advice on general occupational hygiene

: Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### Storage

#### Conditions for safe storage

: Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.  
Store between the following temperatures: 5°C - 30°C.

## 8. Exposure controls/personal protection

### Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Occupational exposure limits

None.

### Biological exposure indices

None known.

### Individual protection measures

#### Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

#### Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

#### Eye protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

#### Skin protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

## 8. Exposure controls/personal protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

Physical state	: Liquid.
Color	: Colorless. [Transparent]
Odor	: Alcohol-like.
pH	: Not available.
Melting point/freezing point	: Not available.
Softening point	: Not available.
Boiling point, initial boiling point, and boiling range	: 78 to 100°C (172.4 to 212°F)
Flash point	: 22°C (71.6°F)
Lower and upper explosion limit/flammability limit	: Not available.
Vapor pressure	: 4.2 kPa (31.3 mm Hg) [room temperature] 20.3 kPa (152.41 mm Hg) [50°C (122°F)]
Relative vapor density	: Not available.
Relative density	: 0.87
Density	: 0.8603 g/cm <sup>3</sup> [20°C (68°F)]
Miscible with water	: Yes.
Partition coefficient: n-octanol/water	: Not applicable.
Auto-ignition temperature	: 423°C (793.4°F)
Decomposition temperature	: Not available.
Viscosity	: Dynamic: 1.08 mPa·s (1.08 cP) Kinematic: 1.25 mm <sup>2</sup> /s (1.25 cSt)
Explosive properties	: Vapors may form explosive mixtures with air.

### Particle characteristics

Median particle size	: Not applicable.
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## 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials, strong acids, strong alkalis, peroxides.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ethanol	LC50 Inhalation Vapor [OECD 403]	Rat - Male, Female	124.7 mg/l	4 hours
	LD50 Dermal	Rabbit	20000 mg/kg	-
	LD50 Oral	Rat	6200 mg/kg	-

### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
ethanol	6200	20000	N/A	124.7	N/A

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Irritation/Corrosion

#### Conclusion/Summary

**Skin** : Not available.

**Eyes** : Causes eye irritation.

**Respiratory** : May cause respiratory irritation.

### Respiratory sensitization/Skin sensitization

#### Conclusion/Summary

**Skin** : Not available.

**Respiratory** : Not available.

### Germ Cell Mutagenicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : May cause cancer.

### Reproductive toxicity

**Conclusion/Summary** : May damage fertility or the unborn child.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
ethanol	Category 3	-	Respiratory tract irritation
	Category 3	-	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
ethanol	Category 1	-	liver
	Category 2	-	central nervous system (CNS)

### Aspiration hazard

Not available.

## 12. Ecological information

### Ecotoxicity

Product/ingredient name	Result	Species	Exposure
ethanol	Acute EC50 9268 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 11000 mg/l	Fish - Alburnus alburnus	96 hours
	Chronic EC50 1450 mg/l	Aquatic plants - Microcystis aeruginosa	192 hours

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
ethanol	-	89 % - Readily - 14 days	-	-

**Conclusion/Summary** : Readily biodegradable.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
ethanol	-	89%; < 28 day(s)	Readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
ethanol	-0.31	3	low

**Mobility in soil** : Not available.

**Hazardous to the ozone layer** : Not applicable.

**Other adverse effects** : No known significant effects or critical hazards.




## 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## 14. Transport information



## 14. Transport information

	UN	IMDG	IATA
UN number	UN1170	UN1170	UN1170
UN proper shipping name	ETHANOL SOLUTION	ETHANOL SOLUTION	Ethanol solution
Transport hazard class(es)	3	3	3
Label			
Packing group	II	II	II
Environmental hazards	No.	Marine Pollutant: No	No.

### Additional information

- UN : **Special provisions** 144
- IMDG : **Emergency schedules** F-E, S-D  
**Special provisions** 144
- IATA : **Quantity limitation** Passenger and Cargo Aircraft: 5 L. Packaging instructions: 353. Cargo Aircraft Only: 60 L. Packaging instructions: 364. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y341.  
**Special provisions** A3, A58, A180

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

## 15. Regulatory information

### Fire Service Law

Category	Substance name/Type	Danger category	Signal word	Designated quantity
Category IV	Class II petroleum (Water soluble)	III	Flammable - Keep Fire Away	2000 L

### Industrial Safety and Health Act

#### Ordinance on the Prevention of the Hazard due to Specified Chemical Substances

None of the components are listed.

#### Substance(s) requiring labelling

Ingredient name	%	Status	Reference number
Ethanol	≥50 - <75	Listed	61

#### Chemicals requiring notification

Ingredient name	%	Status	Reference number
Ethanol	≥50 - <75	Listed	61

#### Guideline for Preventing Health Hazard by chemical substances (Carcinogenicity)

## 15. Regulatory information

None of the components are listed.

### **Mutagen**

None of the components are listed.

**ISHL Enforcement Order** : Inflammable  
**Appendix 1 - Dangerous Substances**

### **Chemical Substances Control Law (CSCL)**

None of the components are listed.

### **Poisonous and Deleterious Substances**

None of the components are listed.

### **Pollutant Release and Transfer Registers (PRTR) - Until March 2023**

None of the components are listed.

### **Pollutant Release and Transfer Registers (PRTR) - From April 2023**

None of the components are listed.

**High Pressure Gas Control Law** : Not applicable.

### **International regulations**

#### **Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

#### **Montreal Protocol**

Not listed.

#### **Stockholm Convention on Persistent Organic Pollutants**

Not listed.

#### **Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

#### **UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

### **Inventory list**

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory</b> : All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : All components are listed or exempted.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: All components are listed or exempted.
<b>United States</b>	: All components are active or exempted.
<b>Viet Nam</b>	: All components are listed or exempted.

## 16. Other information

### History

Date of printing : 01/11/2022

Date of issue/Date of revision : 01/11/2022

Date of previous issue : 25/11/2021

Version : 3

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 SGG = Segregation Group  
 UN = United Nations

### Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2	On basis of test data
EYE IRRITATION - Category 2B	Calculation method
CARCINOGENICITY - Category 1A	Calculation method
TOXIC TO REPRODUCTION - Category 1A	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method

References : Not available.

☑ Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.