



Vietnam Safety Chemical
An toàn chuẩn mực, phụng vụ bền vững

CÔNG TY CỔ PHẦN VCS VIỆT NAM

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MATERIAL SAFETY DATA SHEET

PRODUCT NAME : ETHANOL 99.5%

PRODUCT CODE :

REVISION DATE : 01/06/2023

DATE PRINTED : 01/06/2023

1. PRODUCT AND BUSINESS INFORMATION

Product name : ETHANOL 99.5%

Trade name : Ethanol 99.5%

Product code :

Application : Used as cleaning solvent, additive in production,...

CAS number : 64-17-5

UN number code : 1170

EC registration number : 200-578-6

Registration number of other countries (if any) : None

Distributor : VCS VIET NAM., JSC

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Product composition	CAS No.	Chemical formula (If any)	Concentration
Ethanol	64-17-5	C ₂ H ₅ OH	≥ 99.5%
Water	7732-18-5	H ₂ O	≤ 0.5%

3. HAZARDS IDENTIFICATION

Classification of the substance or mixture : Flammable liquids, (Category 2) H225: Highly flammable liquid and vapor.
Eye irritation, (Category 2) H319: Causes serious eye irritation.

Label elements :



Signal Word - Danger

Hazard Statements

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

Precautionary Statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use non-sparking tools.

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

Other hazards

: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Exposure routes and symptoms

: Eye: Signs and symptoms of eye irritation may include burning sensation, redness, blistering, and/or blurred vision.

Inhalation: Inhalation of high concentrations of vapor may cause central nervous system (CNS) depression resulting in dizziness, lightheadedness, headache, and vomiting. Other signs and symptoms of CNS depression may include headache, nausea, and loss of coordination. Continued inhalation may result in coma and death.

Skin: Signs and symptoms of dermatitis may include a burning sensation and/or dry/cracked skin.

Gastrointestinal tract: If material enters the lungs, signs and symptoms may include coughing, choking, wheezing, difficulty breathing, chest tightness, shortness of breath, and/or fever.

Note: Liver damage is manifested by loss of appetite, jaundice (yellowing of the skin and eyes), fatigue, bleeding or easy bruising, and occasionally weakness, pain, and swelling in the upper abdomen.

4. FIRST AID MEASURES

In case of accidental contact with the eyes

: Immediately flush eyes with clean water for at least 30 minutes while keeping eyelids open. Transport victim to nearest medical facility for further care.

In case of accidental contact with the skin

: Immediately remove contaminated clothing. Soak skin in clean water for at least 15 minutes, then wash with soap if possible. If skin becomes red, swollen, painful or blistered, transport patient to the nearest medical facility for further treatment.

In case of accident by inhalation

: Move the victim to fresh air. If recovery is not rapid, transport the victim to the nearest medical facility for further treatment. Keep the victim's chest in a position favorable for breathing.

In case of accident by ingestion

: Immediately call an emergency center or doctor. Do not induce vomiting. If victim vomits, keep head lower than hips to avoid aspiration.

5. FIRE-FIGHTING MEASURES

- Flammability classification** : Flammable
- Products created when burned** : CO₂, H₂O, CO
- Fire and explosion agents** : No information
- Suitable extinguishing media and instructions for fire fighting measures, other combined measures** : Extinguish fire with CO₂, powder or water mist from fire extinguisher.
- Equipment and protective clothing necessary when fighting fires** : Hood, waterproof clothing, boots, rubber gloves.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures** : Use a rope to isolate people from the chemical spill. Wear protective clothing when cleaning up and handling chemicals.
Wear protective clothing and use absorbent materials such as soil and sand. When chemicals are spilled on the floor, collect as much of the spill as possible, then wash away any remaining residue on the floor with plenty of water.

7. HANDLING AND STORAGE

- Precautions for safe handling** : Advice on protection against fire and explosion.
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
Hygiene measures: Change contaminated clothing. Wash hands after working with substance.
- Conditions for safe storage, including any incompatibilities** : Storage conditions: Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.
Recommended storage temperature see product label.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment (PPE) must satisfy national standards.

- Eye protection** : Chemical splash protection goggles (single goggles).
- Body protection** : Use chemical resistant protective clothing for this material.
- Hand protection** : The suitability and durability of gloves depends on the type of use, such as frequency and duration of contact, chemical resistance of the glove material, thickness of the glove, flexibility.
Personal hygiene is the primary factor for effective hand protection. Gloves should only be worn when hands are clean.
Always consult the glove supplier. Gloves that have become contaminated should be replaced. When handling the product by hand, gloves meeting the appropriate standards (e.g. Europe: EN374, USA: F739) made from the following materials can provide adequate chemical protection: Nitrile rubber, PVC viton.



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Foot protection

: Safety shoes and boots also need to be chemical resistant.

Respiratory protection

: If engineering controls do not maintain airborne concentrations to a level adequate to protect worker health, select respiratory protection equipment that is appropriate for the specific conditions of use and complies with relevant legislation. Check with respiratory protection equipment suppliers.

When filtering breathing apparatus is suitable, select an appropriate mask and filter. Select a filter suitable for organic gases and vapours boiling point > 65°C in compliance with EN141. When filtering breathing apparatus is not suitable (e.g. high airborne concentrations, risk of oxygen deficiency, confined space) use pressurized breathing apparatus

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and odor : Liquid. Colourless. Alcohol-like.

Molecular weight : 46.07 g/mol

Boiling point (°C) : 78°C at 1.013 hPa

Melting point (°C) : -117°C

Density (kg/m³, 20°C) : 805 - 812

pH (20°C) : 7

Flash point (°C) : 17°C

Water solubility : completely soluble at 20°C

Vapor density (Air = 1) at standard temperature and pressure : 0.0015 g/ml at 90°C

Upper explosion limit : 27,7 %(V)

Lower explosion limit : 3,1 %(V)

10. STABILITY AND REACTIVITY

Reactivity : Stable under normal conditions.

Chemical stability : Reacts with strong oxidizing agents and strong acids. Oxidizes on contact with air.

Conditions to avoid : Avoid heat, sparks, open flames and other sources of ignition..

Hazardous decomposition products : No information.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects : Acute oral toxicity

LD50 Rat: 10.470 mg/kg

OECD Test Guideline 401

Symptoms: Nausea, Vomiting

Acute inhalation toxicity

LC50 Rat: 124,7 mg/l; 4 h ; vapour

OECD Test Guideline 403

Symptoms: Possible damages: mucosal irritations



Acute dermal toxicity: This information is not available.

Skin irritation: Rabbit, result: No skin irritation

OECD Test Guideline 404

Sensitisation test (Magnusson and Kligman): negative.

Further information

: Systemic effects: euphoria

After absorption:

Dizziness, inebriation, narcosis, respiratory paralysis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12. INFORMATION ABOUT ENVIRONMENTAL ECOLOGY

Component	Type of creature	Cycle of influence	Result
Ethanol	Fish, aquatic invertebrates, algae, microorganisms	No information	LL/EL/IL50 > 100 mg/l, non-toxic

Environmental impact

: Degree of Biodegradation: Easily biodegradable. Rapidly oxidized by photochemical reactions in air.

BOD and COD: No information available

Products of Biodegradation: No information available

Toxicity of Biodegradation Products: No information available

Mobility: Floats on water. If the product enters soil, it is mobile and may contaminate groundwater.

Bioaccumulation Risk: Not significant.

13. DISPOSAL CONSIDERATIONS

Destruction regulations (legal information) : Pursuant to current regulations of the Chemical Law No. 06/2007/QH12 dated November 21, 2007 and guiding documents.

Hazardous category of waste : No information.

Destruction measures : Contact the relevant authorities

Products of destruction, treatment measures : No information.

14. TRANSPORT INFORMATION

Name of the regulation	UN No.	Shipping name	Class	Packing group	Shipping label	Additional information
Regulations on international transport of dangerous goods of EU, USA ...	1170	ETHANOL	3	II		No information



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Regulations on the transportation of dangerous goods in Vietnam: - Decree 104/2009/ND-CP dated November 9, 2009 of the Government regulating the List of dangerous goods and the transportation of dangerous goods by road motor vehicles. - Decree 29/2005/ND-CP dated March 10, 2005 of the Government regulating the List of dangerous goods and the transportation of dangerous goods on inland waterways.	1170	ETHANOL	3	II		No information
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15. INFORMATION ABOUT THE LAW

Status of declaration and registration in countries and regions around the world : No information

Classification of danger levels according to the country in which goods are declared and registered : No information

Technical standards to be followed : Vietnamese Standard TCVN 5507:2002
 - Decree No. 104/2009/ND-CP dated November 9, 2009 of the Government regulating the List of dangerous goods and the transportation of dangerous goods by road motor vehicles;
 - Circular No. 28/2010/TT-BTC dated June 28, 2010 of the Ministry of Industry and Trade specifying a number of articles of the Law on Chemicals and Decree No. 108/2008/ND-CP.
 - Circular No. 04/2012/TT-BCT dated February 13, 2012 of the Ministry of Industry and Trade regulating the classification and labeling of chemicals.

16. OTHER INFORMATION

The information in this material safety data sheet is compiled based on current and valid knowledge about hazardous chemicals and must be used to take measures to prevent risks and accidents, however, they cannot guarantee absolute security. This information was compiled from current, reliable sources and is believed to be correct. As data, and/or regulations change, and conditions of use and handling are beyond our control, no warranty, express or implied, is made as to completeness or continuing accuracy of this information.

The hazardous chemicals on this voucher may have other hazardous properties depending on the circumstances of use and exposure. It is the responsibility of the user to apply, determine necessary information and to use them with care in each purpose.

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