Elite Advanced Materials Sdn Bhd

SAFETY DATA SHEET

According to Regulation (EC) No453/2010

SDS-IETOH-0001
Version 1.6
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www.eamaterials.com

Section 1: IDENTIFICATION OF SUBSTANCE/ MIXTURE AND OF THE COMPANY

1.1 Product identifier

Product name : **Ethanol (Denatured with IPA)**

Included product code : IETOH011-2.5P, IETOH011-3.8P, IETOH006-2.5P IETOH006-3.8P IETOH006-10P IETOH006-25P

1.2 Relevant identified uses of the substance or mixture

Identified uses : General purpose solvent, Laboratory chemicals, Manufacture of substances.

Uses advised against : Not applicable.

1.3 Details of the supplier of the safety data sheet

Company : Elite Advanced Materials Sdn Bhd
No 1, Jalan KPK 1/2, Kawasan Perindustrian Kundang, 48020 Rawang, Selangor, Malaysia

E-mail address : enquiry@eamaterials.com

1.4 Emergency telephone number

Emergency : +60 3-6034 3766 (Local business hours only)

Section 2: HAZARDS INDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flammable liquids	Category 2
Eye irritation	Category 2
Specific target organ systemic toxicity - single exposure	Category 3

2.2 Label elements

Labeling in compliance to Regulation (EC) No. 1272/2008 [CLP/GHS]
Hazard pictograms

GHS02

GHS07

Signal word
Danger

Hazard statement

H225	Highly flammable liquid and vapour
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness

Precautionary statements

P210	Keep away from heat/ sparks/open flames/hot surfaces. — No smoking.
P240	Ground/bond container and receiving equipment.

Response

P305 + P351+ P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage

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

2.3 Other hazards

No data available.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Not applicable

3.2 Mixture

Synonyms	:	Denatured Alcohol, Ethyl Alcohol, Reagent Alcohol
Formula	:	C_2H_6O
Molecular Weight	:	46.07 g/mol

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

Component	Identity	Classification Code	H-Code	Concentration (by volume)
Ethanol	CAS-No.: 64-l 7-5	Flam. Liq. 2 Eye Irrit. 2	H225 H319	>= 95%
Isopropyl alcohol	CAS-No.: 67-63-0	Flam. Liq. 2 Eye Irritat. 2 STOT SE 3	H225 H319 H336	<= 5%

(Merck, 2018; Ver 3.3)

Section 4: FIRST AID MEASURES

4.1 Description of First Aid measures

General information

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

If inhaled

Move person into fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

In case of skin contact

Take off immediately all contaminated clothing. Wash off with soap and plenty of water for at least 15 minutes. Take victim to a doctor if irritation persists.

In case of eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

If swallowed

Do NOT induce vomiting. Have victim drink water or milk to dilute if victim is conscious. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and delayed symptoms and effects

Irritant effects, respiratory paralysis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting.

4.3 Indication of any immediate medical attention and special treatment

No data available.

Section 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use foam, Carbon dioxide (CO2), dry powder.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Combustible.

Vapours are heavier than air and may spread along floors. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

5.3 Advice for fire-fighters

Full protective clothing and self-contained breathing apparatus are required during handling.

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

Personal protective equipment is required during handling. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges. Respirators should be selected accordance to OSHA (29 CFR 1910 134).

6.2 Environmental precautions

Do not discharge into drains or water ways. Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. (see section 13).

6.4 Reference to other sections

Information on waste treatment, see Section 13.

Section 7: HANDLING AND STORAGE

7.1 Precaution for safe handling

Personal protective equipment is required during handling to avoid contact with skin and eyes. Please handle the chemical under the fume hood to avoid inhalation of vapour or mist. Keep container tightly closed and away from sources of heat, sparks and naked flames. Take precautionary measures against static discharges.

7.2 Conditions for safe storage, including any incompatibilities

Container must store in a cool dry, well-ventilated place and away from all sources of ignition, heat and direct sunlight. Avoid accumulation of electrostatic charges.

7.3 Specific end use

No further relevant information available.

Section 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Component	ACGIH TLV (8 hr)	OSHA PEL (8 hr)	NIOSH REL (10 hr)
Ethanol	STEL: 1000 ppm	TWA: 1000 ppm	TWA: 1000 ppm
Isopropyl alcohol	TWA: 200 ppm STEL: 400 ppm	TWA: 400 ppm STEL: 980 mg/m^3	TWA: 400 ppm TWA: 980 mg/m^3 STEL: 500 ppm STEL: 1225 mg/m^3

(OSHA)

8.2 Exposure control

Personal protection measures, such as personal protective equipment

Do not eat, drink or smoke during chemical handling. Remove and wash contaminated clothing before re-using. Ventilation must work properly, especially in confined areas. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled.

Eye/ face protection

Chemical goggles or safety glasses is required during handling. A face shield may also be necessary. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear appropriate protective gloves and clothing to prevent skin exposure.Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact 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.

Full contact*

Material: butyl-rubber
Minimum layer thickness: 0.7mm
Break through time: > 480min

Splash contact*

Material: Nitrile rubber
Minimum layer thickness: 0.4 mm
Break through time: > 120 min

(Merck)

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 AXBEK (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).

Section 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Ordor	:	Alcohol-like
Ordor threshold	:	No data available
pH-value	:	7 (789 g/L, 20 °C)
Melting point/Range	:	-114 °C
Boiling point/Range	:	78 °C at 760 mmHg
Flash point	:	13 °C [closed cup]
Evaporation rate	:	No data available

Explosion limit-LEL	:	2.5 % (V)
Explosion limit-UEL	:	13.5 % (V)
Vapour pressure	:	57 hPa at 20.0 °C
Vapor density (air=1)	:	No data available
Density	:	0.789 g/cm3
Water solubility	:	Soluble in water
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	363 °C / 685.4 °F
Decomposition temperature	:	No data available
Viscosity	:	1.6 mm2/s at 20 °C (kinematic)
	:	1.17 mPa.s at 20 °C (dynamic)
Explosive properties	:	No data available
Oxidising properties	:	No data available
Surface tension	:	No data available

(VAL TECH, 2020)

9.2 Other information

Not applicable.

Section 10 : STABILITY AND REACTIVITY

10.1 Reactivity

Vapours may form explosive mixture with air.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Risk of explosion/exothermic reaction with hydrogen peroxide, perchlorates, perchloric acid, Nitric acid, mercury(II) nitrate, permanganic acid, Nitriles, peroxi compounds, Strong oxidizing agents, nitrosyl compounds, Peroxides, sodium, Potassium, halogen oxides, calcium hypochlorite, nitrogen dioxide, metallic oxides, uranium hexafluoride, iodides, Chlowine, Alkali metals, Alkaline earth metals, alkali oxides, Ethylene oxide, silver with Nitric acid and Ammonia, potassium permanganate with conc. Sulfuric acid.

Risk of ignition or formation of inflammable gases or vapours with halogen-halogen compounds, chromium (VI) oxide, chromyl chloride, Fluorine, hydrides, Oxides of phosphorus, platinum, Nitric acid with potassium permanganate.

10.4 Conditions to avoid

Incompatible materials, ignition sources, excess heat, oxidizers, flames, and sparks.

10.5 Incompatible materials

Strong oxidizing agents; strong inorganic acids.

10.6 Hazardous decomposition products

Other decomposition products – No data available
In the event of fire: see section 5.

Section 11 : TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Toxicity	Oral	Inhalation	Dermal
Absolute ethanol (Merck, 2020: Ver I.11)	LD50 – 10470 mg/kg (Rat)	LC50 – 124.7 mg/l (Rat, 4h)	LCS0 – No data available
Isopropyl alcohol (Merck, 2018; Ver 3.3)	LD50 – 5045 mg/kg (Rat)	LC50–37.5mg/l (Rat, 4h)	LC50 – 12800 mg/kg

Skin corrosion/irritation

No data available.

Serious eye damage/eye irritation

No data available.

Respiratory or skin sensitisation

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Specific target organ toxicity – single exposure

Absolute ethanol – No data available.

(Merck, 2020; Ver 1.11)

Isopropyl alcohol – May cause drowsiness or dizziness.

(Merck, 2018; Ver 3.3)

Specific target organ toxicity – repeated exposure

No data available.

Aspiration hazard

Not available.

Additional Information

After absorption:
Headache, Dizziness, inebriation, Unconsciousness, narcosis.
After uptake of large quantities: Respiratory paralysis, Coma.

Section 12 : ECOLOGY INFORMATION

12.1 Ecotoxicity:

Absolute Ethanol

Toxicity to fish	EC50 – Pimephales promelas – 15300 mg/L - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 – Daphnia magna (Water flea) - 9268 – 14221 mg/l – 48h
Toxicity to algae	IC5 – Scenedesmus quadricauda (Green algae) - 5000 mg/L – 7d
Toxicity to bacteria	EC5 – Pseudomonas putida – 6500 mg/L – 16h

(Merck, 2020; Ver 1.11)

Isopropyl Alcohol

Toxicity to fish	LC50 – Pimephales promelas (feathed minnow) – 9640 mg/L - 96h
Toxicity to daphnia and other aquatic invertebrates	EC50 – Daphnia magna (Water flea) - 13299 mg/l – 48h
Toxicity to algae	IC5 – Scenedesmus quadricauda (Green algae) - >1000 mg/L – 2h
Toxicity to bacteria	EC5 – Pseudomonas putida – 1050 mg/L – 16h

(Merck, 2018; Ver 3.3)

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available.

Section 13 : DISPOSAL CONSIDERATIONS

13.1 Waste treatment method

Product

Waste material must be disposed according to national and local regulations. Keep the chemicals in its specific waste container according to the waste classification.
According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product and do not re-use empty containers.

Section 14 : TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1170	IMDG: 1170	IATA-DGR: 1170

14.2 UN proper shipping name

ADR/RID:	ETHANOL (ETHYL ALCOHOL)
IMDG:	ETHANOL (ETHYL ALCOHOL)
IATA-DGR:	ETHANOL (ETHYL ALCOHOL)

14.3 Transport hazard class (es)

ADR/RID: 3 (6.1)	IMDG: 3 (6.1)	IATA-DGR: 3 (6.1)

14.4 Packaging group

ADR/RID: II	IMDG: II	IATA-DGR: II

14.5 Environmental hazards

ADR/RID: no	IMDG: no	IATA-DGR: no

14.6 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available.

14.7 Special precautions for user

No data available.

Section 15 : REGULATORY INFORMATION

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

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

Section 16 : OTHER INFORMATION

This information is based on present level of our knowledge, however, this shall not constitute a guarantee product features and shall not establish a legally valid contractual relationship.

Abbreviations:

ADR : European agreement concerning the international carriage of dangerous goods by road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association

ICAO : International Civil Aviation Organization

RID : Regulations concerning the International Carriage of Dangerous goods by rail.

Notice to reader

The information contained in this Safety Data Sheet is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects of the products and should not be construed as any guarantee of technical performance or suitability for particular application.

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