

SAFETY DATA SHEET

According to Regulation (EC) No 453/2010

Version 1.2

Revision Date: 14.12.2016

Printing Date: 14.12.2016

www.eamaterials.com

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name : **Ethyl Acetate**
 Included product code : EA010-2.5, EA010-4.0, EA012-2.5, EA012-4.0,
 EA011-2.5P, EA011-25P, EA011-25M, EA011-200M,
 EA008-2.5P, EA008-25P, EA008-25M, EA008-200M

1.2 Relevant identified uses of the substance or mixture

Identified uses : 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
 Lot 34, Jalan RP2, Rawang Perdana Industrial
 Estate, 48000 Rawang, Selangor, Malaysia

E-mail address : enquiry@eamaterials.com

1.4 Emergency telephone number

Emergency phone : +60 3-6091 4200 (Local business hours only)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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

Flammable liquids	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure) Target Organs - Central nervous system (CNS).	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 statements

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

P261 Avoid breathing vapours

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

2.3 Other hazards

Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Synonyms: Acetic acid ethyl ester, Ethyl ethanoate

Formula: $C_4H_8O_2$

Molecular Weight: 88.11 g/mol

CAS-No.: 141-78-6

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

Component	Identity	Classification Code	H-Code	Concentration (by wt)
Ethyl Acetate	CAS-No.: 141-78-6	Flam. Liq. 2	H225	<=100 %
	EC-No.: 205-500-4	Eye Irritat. 2	H319	
	Index-No.: 607-022-00-5	STOT SE 3	H336	

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid measures

General information

Consult a physician. Show this safety data sheet to the doctor in attendance.

After eye contact

Rinse opened eye for 15 minutes under running water and seek medical advice.

After skin contact

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognized cleaner for at least 15 minutes. Consult a doctor if skin irritation persists.

After swallowing

Do not force vomiting. Seek medical attention, showing the label.

Inhalation

Supply fresh air and consult doctor in case of symptoms.

Information for doctor

There are no particular measures are known, treat according to symptoms.

4.2 Most important symptoms and delayed symptoms and effects

Irritant effects, respiratory paralysis, drowsiness, narcosis, nausea, vomiting, headache, somnolence, salivation, dizziness

Repeated exposure may cause skin dryness or cracking

4.3 Indication of any immediate medical attention and special treatment

After swallowing of large amounts: Gastric lavage

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide (CO₂) to extinguish flames.

Unsuitable extinguishing media

None

5.2 Special hazards arising from the substance or mixture

Combustible

Vapours are heavier than air and may spread along floors

Forms explosive mixtures with air at ambient temperatures

Pay attention to flashback

Development of hazardous combustion gases or vapours possible in the event of fire

5.3 Advice for fire-fighters

Special protective equipment for firefighters. Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing

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. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.2 Environmental precautions

Do not discharge into drains or waterways.

6.3 Methods and material for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

SECTION 7: HANDLING AND STORAGE

7.1 Precaution for safe handling

Prevent contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Protected from light.

7.3 Specific end use

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

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl Acetate	TWA: 400 ppm	(Vacated) TWA: 400 ppm (Vacated) TWA: 1,400 mg/m ³ TWA: 400 ppm TWA: 1,400 mg/m ³	IDLH: 2,000 ppm TWA: 400 ppm TWA: 1,400 mg/m ³

8.2 Exposure control

Personal protection measures, such as personal protective equipment

Never eat, drink or smoke during handling the chemical. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

Eye/ face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles in accordance with standard EN166.

Hand protection

Use appropriate protective gloves that are resistant to chemical agents in accordance with standard EN347.

Gloves must be selected as indicated by the application and term of utilization at the workstation.

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

Splash contact*

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 113 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

*Source – Sigma Aldrich, 2015

Body protection

Avoid skin contact

Wear appropriate protective clothing

After contact with the product, all parts of the body that have been soiled must be washed.

Respiratory protection

Avoid breathing vapours

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they should wear an appropriate, approved, respiratory protection device.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	colorless
Ordor	:	fruity
Ordor threshold	:	0.006 – 0.686 mg/l (gas in air)
pH - value	:	No data available
Melting point / Range	:	-84.0 °C
Boiling point / Range	:	77.5 °C
Flash point	:	-4 °C [closed cup]
Evaporation rate	:	4.5 [n-butyl acetate = 1]
Flammability limit - LEL	:	2.1 % (vol)
Flammability limit - UEL	:	11.5 % (vol)
Vapour pressure	:	97 hPa at 20 °C
Vapor density (air = 1)	:	3.04
Density	:	0.9006 g/cm ³ at 20 °C
Bulk density	:	No data available
Solubility(ies)	:	No data available
Water solubility	:	85.3 g/l at 20 °C

Partition coefficient	:	log Pow: 0.68
Auto-ignition temperature	:	460 °C
Decomposition temperature	:	No data available
Viscosity	:	0.45 mPa.s at 20 °C
Explosive properties	:	No data available
Oxidising properties	:	No data available

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

Sensitive to light

Sensitive to air

10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:

Exothermic reaction with:

Fluorine, chlorosulfonic acid, Strong oxidizing agents, fuming sulfuric acid

Risk of explosion with:

lithium aluminium hydride, Alkali metals, hydrides, Alkaline earth metals

Violent reactions possible with:

Strong acids and strong bases

10.4 Conditions to avoid

Heat, flames and sparks

10.5 Incompatible materials

Various plastics

10.6 Hazardous decomposition products

No data available

SECTION 11: TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethyl Acetate	10,200 mg/kg (Rat)	> 20 ml/kg (Rabbit) > 18,000 mg/kg (Rabbit)	58 mg/L/8h (Rat)

Skin corrosion/irritation

May cause skin irritation and/or dermatitis

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available.

Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Remarks: May cause drowsiness and dizziness.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: AH5425000

Inhalation of high concentrations may cause: headache, drowsiness, dizziness, vomiting, narcosis, anemia, central nervous system depression

Kidney – Irregularities – Based on Human Evidence

SECTION 12: ECOLOGY INFORMATION

Aquatic toxicity:

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ethyl Acetate	EC50 = 3,300 mg/L/48h	LC50 = 230 mg/L/96h (Fathead Minnow) LC50 = 270 mg/L/48h (Gold Orfe)	EC50 = 1,180 mg/L/5min EC50 = 1,500 mg/L/15min EC50 = 5,870 mg/L/15min EC50 = 7,400 mg/L/2h	EC50 = 717 mg/L/48h

Persistence and degradability

Biodegradability Result: 79 % - Readily biodegradable (OECD Test Guideline 301D)

Bioaccumulative potential

Partition coefficient: n-octanol/water log Pow: 0.73 (experimental) (Lit.) Bioaccumulation is not expected.

Mobility in soil

No data available

Results of PBT and vPvB assessment:

PBT : Not applicable

vPvB : Not applicable

Other adverse effects

Discharge into the environment must be avoided

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment method

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. Offer surplus and non-recyclable solutions to a licensed

disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1173	IMDG: 1173	IATA-DGR: 1173
---------------	------------	----------------

14.2 UN proper shipping name

ADR/RID:	ETHYL ACETATE
IMDG:	ETHYL ACETATE
IATA-DGR:	ETHYL ACETATE

14.3 Transport hazard class(es)

ADR/RID: 3	IMDG: 3	IATA-DGR: 3
------------	---------	-------------

14.4 Packaging group

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

14.5 Environmental hazards

ADR/RID: no	IMDG Marine pollutant: 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

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

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

No data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

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.

Relevant phrases:

H225 Highly flammable liquid and vapor

H319 Causes serious eye irritation

H336 May cause drowsiness or dizziness

R11 Highly flammable

R36 Irritating to eyes

R67 Vapours may cause drowsiness and dizziness

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.

The information contained in this Safety Data Sheet comes from sources believed to be accurate or otherwise technically correct. However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. The users are advised to carry out their own evaluation of the material to determine suitability in their application. We do not accept liability for any loss or damage that may occur from the use of this information nor do we offer warranty against patent infringement.