Elite Advanced Materials Sdn Bhd

SAFETY DATA SHEET

According to Regulation (EC) No 453/2010

SDS-XYL-0001

Version 1.1

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www.eamaterials.com

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

1.1 Product identifier

Product name	:	**Xylene (mixture of isomers)**
Included product code	:	XYL012-2.5, XYL012-4.0

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 SdnBhd 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 phone	:	+60 3-6034 3766 (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 3
Acute toxicity, Inhalation	Category 4
Acute toxicity, Dermal	Category 4
Skin irritation	Category 2
Specific target organ toxicity - single exposure, Respiratory system	Category 3
Specific target organ toxicity - repeated exposure, Inhalation, Central nervous system, Liver, Kidney	Category 2
Aspiration hazard	Category 1

2.2 Label elements

Labelling according to CLASS regulations 2013

Hazard pictograms

GHS02

GHS07

GHS08

Signal word

Danger

Hazard statements

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312 + H332	Harmful in contact with skin or if inhaled.
H315	Causes skin irritation.

H335	May cause respiratory irritation.
H373	May cause damage to organs (Central nervous system, Liver, Kidney) through prolonged or repeated exposure if inhaled.

Precautionary statements

P210	Keep away from heat, sparks, open flames, hot surfaces. No smoking
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves / protective clothing.

Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P331	Do NOT induce vomiting.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

2.3 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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Synonyms	: Xylene (mixture of isomers)
Formula	: C_8H_{10}
Molecular Weight	: 106.17 g/mol
CAS-No.	: 1330-20-7
EC-No.	: 215-535-7
Index-No.	: 601-022-00-9

Component	Identity	Classification Code	H-Code	Concentration (by wt)
Xylene	CAS-No. : 1330-20-7 EC-No. : 215-535-7 Index-No. : 601-022-00-9	Flam. Liq. 3 Acute Tox 4 Skin Irritat. 2 STOT SE 3 STOT RE 2 Asp. Tox. 1	H226 H332, H312 H315 H335 H373 H304	<=100 %

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.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth resuscitation, induce artificial respiration with a respiratory medical device. Consult a physician.

In case of skin contact

Remove all contaminated clothes and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Consult a physician.

In case of eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Immediate medical attention is required.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Consult a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Breathing difficulties, headache, drowziness, dizziness, tiredness, euphoria, agitation, spasms, narcosis, nausea, vomiting, and irritant effects

4.3 Indication of any immediate medical attention and special treatment

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical, dry powder, dry sand or carbon dioxide.

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

5.3 Advice for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary. Prevent skin contact by keeping a safe distance.

5.4 Further information

Remove container from danger zone. Use water spray to cool unopened containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. 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. Take precautionary measures against static discharges.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Risk of explosion. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Cover drains. Contain spillage, and then collect with an inert absorbent material (e.g. Chemizorb®) or electrically protected vacuum cleaner, or by wet-brushing and place in container for disposal according to local regulations (see section 13). Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precaution for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition – No smoking. Take measures to prevent the buildup of electrostatic charge. Use only under a chemical fume hood. Wear personal protective equipment. Pay attention to flashback. Observe label precautions

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Recommended storage temperature see product label.

7.3 Specific end use(s)

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

Xylene	TWA: 100 ppm	(Vacated) TWA: 100 ppm
	STEL: 150 ppm	(Vacated) TWA: 435 mg/m^3
		(Vacated) STEL: 150 ppm
		(Vacated) STEL: 655 mg/m^3
		TWA: 100 ppm
		TWA: 435 mg/m^3

8.2 Exposure control

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Personal protection measures, such as personal protective equipment

Never eat, drink or smoke during use. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas. Wash hands before breaks and at the end of workday.

Eye/ face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. 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 ofcontaminated 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: Fluorinated rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested:Vitoject® (KCL 890 / Aldrich Z677698, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 35 min

Material tested: Camatril® (KCL 730 / Aldrich Z67742, Size M)

*Source – Sigma 2018

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). Required when vapours/aerosols are generated. Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Ordor	:	Aromatic
Ordor threshold	:	No data available
pH - value	:	No data available
Melting point/freezing point	:	-47 °C
Initial boiling point and boiling range	:	137 - 143 °C – lit.
Flash point	:	25 °C - closed cup
Evaporation rate	:	No data available
Flammability limit - LEL	:	1.1 %(V)
Flammability limit - UEL	:	7 %(V)
Vapour pressure	:	24 hPa at 37.7 °C
Vapour density (air = 1)	:	3.67 (Air = 1.0)

Density	:	0.86 g/mL at 25.0 °C
Water solubility	:	Insoluble in water
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	466 °C
Decomposition temperature	:	No data available
Viscosity	:	No data available
Explosive properties	:	Not classified as explosive
Oxidising properties	:	None

9.2 Other information

No data available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Violent reactions possible with: Strong oxidizing agents, conc. sulfuric acid, sulfur

Risk of explosion with: Nitric acid, uranium hexafluoride

10.4 Conditions to avoid

Incompatible products, heat, flames and sparks

10.5 Incompatible materials

Strong oxidizing agents, strong acids, rubber, various plastics, Light metals

10.6 Hazardous decomposition products

Hazardous decomposition products from under fire conditions. - Carbon oxides

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

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Xylene	3.523 mg/kg (Rat)	12.126 mg/kg (Rabbit)	5000 ppm/4h (Rat)

Skin corrosion/irritation

Skin - Rabbit - Skin irritation - 24 h.

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product presents 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

May cause respiratory irritation

Specific target organ toxicity - repeated exposure

Inhalation – May cause damage to organs through prolonged or repeated exposure. – Central nervous system, Liver, Kidney.

Aspiration hazard

May be fatal if swallowed and enters airways.

Additional Information

RTECS: Not available

Blurred vision, Incoordination., Headache, Nausea, Vomiting, Dizziness, Weakness, Anaemia, Prolonged or repeated exposure to skin causes defatting and dermatitis.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: ECOLOGY INFORMATION

12.1 Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Daphnia and other aquatic invertebrates
Xylene	Growth inhibition EC50 = 72 mg/L/14 d (Pseudokirchneriella subcapitata)	LC50 = 3,3 mg/L/96 h rainbow trout (Oncorhynchus mykiss)	EC50 = 75,49 mg/L/24 h Water flea (Daphnia magna)

12.2 Persistence and degradability

Readily biodegradable

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

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.

12.6 Other adverse effects

Toxic to aquatic life.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment method

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. 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: 1307 IMDG: 1307 IATA-DGR: 1307

14.2 UN proper shipping name

ADR/RID:	XYLENES
IMDG:	XYLENES
IATA-DGR:	Xylenes

14.3 Transport hazard class(es)

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

14.4 Packaging group

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

14.5 Environmental hazards

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

14.6 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

Storage class 3.

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.

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312 + H332	Harmful in contact with skin or if inhaled.
H315	Causes skin irritation.
H335	May cause respiratory irritation.

H373 May cause damage to organs (Central nervous system, Liver, Kidney) through prolonged or repeated exposure if inhaled.

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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