

# SAFETY DATA SHEET

According to Regulation (EC) No 453/2010

Version 1.3

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

### 1.1 Product identifier

Product name : **N-Hexane**  
Included product code : HEX010-2.5, HEX010-4.0, HEX012-2.5, HEX012-4.0

### 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 Sdn Bhd  
Lot 34, Jalan RP2, Rawang Perdana Industrial Estate, 48000 Rawang, Selangor, Malaysia

E-mail address : [enquiry@eamaterials.com](mailto: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
Skin corrosion/irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity - single exposure, Central nervous system	Category 3
Specific target organ toxicity - repeated exposure	Category 2
Aspiration hazard	Category 1
Hazardous to the aquatic environment - chronic hazard	Category 1

## 2.2 Label elements

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

### Hazard pictograms



GHS02



GHS07



GHS08



GHS09

### Signal word

Danger

### Hazard statements

H225	Highly flammable liquid and vapour
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs (Nervous System) through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

### Precautionary statements

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P240	Ground/bond container and receiving equipment.
P273	Avoid release to the environment.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P281	Use personal protective equipment as required.

### Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
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P331 Do NOT induce vomiting.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

#### 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

Synonyms : n-Hexane

Formula : C<sub>6</sub>H<sub>14</sub>

Molecular Weight : 86.18 g/mol

CAS-No. : 110-54-3

Component	Identity	Classification Code	H-Code	Concentration (by wt)
n-Hexane	CAS-No. : 110-54-3 EC-No. : 203-777-6 Index-No. : 601-037-00-0	Flam. Liq. 2; Asp. Tox. 1; Skin Irrit. 2; STOT SE 3; Repr. 2; STOT RE 2; Aquatic Chronic 2;	H225 H304 H315 H336 H361f H373 H411	<=100 %

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of First Aid measures

#### 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 resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Consult a physician.

#### In case of skin contact

Rinse well with plenty of water and soap for at least 15 minutes. If skin irritation persists, consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution for at least 15 minutes. If eye irritation persists, consult a physician.

#### If swallowed

Do NOT induce vomiting. If vomiting occurs, lean victim forward to reduce the risk of aspiration. Consult a physician immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

Irritant effects, somnolence, drowsiness

Narcosis, nausea, tiredness, CNS disorders, paralysis symptoms

Risk of corneal clouding

It generally applies for aliphatic hydrocarbons with 6 – 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulisations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.

### 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 dry sand, alcohol-resistant foam, dry chemical, or carbon dioxide (CO<sub>2</sub>) to extinguish flames.

#### Unsuitable extinguishing media

Water may be ineffective, this material is lighter than water and insoluble in water. The fire could easily be spread by the use of water in an area where the water cannot be contained.

## **5.2 Special hazards arising from the substance or mixture**

Combustible

Pay attention to flashback

Vapours are heavier than air and may spread along floors

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

Form explosive mixtures with air at ambient temperatures

## **5.3 Advice for fire-fighters**

Wear full protective clothing and self-contained breathing apparatus if necessary.

## **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. Take precautionary measures against static discharges.

## **6.2 Environmental precautions**

Do not discharge into drains or waterways. Prevent further leakage or spillage if safe to do so. Collect the spillage.

## **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. Take precautionary measures against static discharges.

## **6.4 Reference to other sections**

For disposal see Section 13.

# **SECTION 7: HANDLING AND STORAGE**

## **7.1 Precaution for safe handling**

Personal protective equipment is required during handling. Do not get in eyes, on skin, or on clothing. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Use only non-sparking tools. Use explosion-proof equipment. Take measures to prevent the build-up of electrostatic charge.

## 7.2 Conditions for safe storage, including any incompatibilities

No smoking while handling the chemical. Store in cool place. Container must closed tightly and stored in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

## 7.3 Specific end use

No further relevant information available.

# SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

## 8.1 Control parameters

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hexane	TWA: 50 ppm Skin	(Vacated) TWA: 50 ppm (Vacated) TWA: 180 mg/m <sup>3</sup> TWA: 500 ppm TWA: 1800 mg/m <sup>3</sup>	IDLH: 1100 ppm TWA: 50 ppm TWA: 180 mg/m <sup>3</sup>

### Legend

**ACGIH** - American Conference of Governmental Hygienists

**OSHA** - Occupational Safety and Health Administration

**NIOSH IDLH**: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

## 8.2 Exposure control

Personal protection measures, such as personal protective equipment

Never eat, drink or smoke during handling the chemical. Ensure that there is adequate ventilation, especially in confined areas. Wash hands before breaks and at the end of workday.

### Eye/ face protection

Protective eyeglasses or chemical safety goggles is required during handling. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin protection

Wear gloves during handling the chemical. 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: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Splash contact\*

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 59 min

Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

\*Source – Sigma Aldrich, 2015

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body protection

Wear appropriate protective gloves and clothing to prevent skin exposure. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Ordor	:	Mild, hydrocarbon
Ordor threshold	:	Not determined
pH - value	:	Not determined
Melting point / Range	:	-95.3 °C
Boiling point / Range	:	68.7 °C
Flash point	:	-26.0 °C [closed cup]
Evaporation rate	:	15.8
Flammability limit - LEL	:	1.2 % (V)
Flammability limit - UEL	:	7.7 % (V)
Vapour pressure	:	160 mbar at 20.0 °C
Vapor density (air = 1)	:	2.97

Density	:	0.6548 g/mL at 25 °C
Bulk density	:	Not determined
Solubility(ies)	:	Not determined
Water solubility	:	insoluble
Partition coefficient: n-octanol/water:		log Pow: 4.11
Auto-ignition temperature	:	234.0 °C
Decomposition temperature	:	Not determined
Viscosity	:	0.30 mPa s at 20 °C
Explosive properties	:	Not determined
Oxidising properties	:	Not determined

## 9.2 Other information

Not applicable

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

Vapours may form explosion mixture with air

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature)

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

Strong oxidising agents, nitrogen oxides

Violent reaction possible with:

Halogens

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

Sodium Peroxide

### 10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Oxidizing agents, halogens, rubber, various plastics



**10.6 Hazardous decomposition products**  
Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

**SECTION 11: TOXICOLOGY INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
n-Hexane	LD50 = 25 g/kg (Rat)	LD50 = 3,000 mg/kg (Rabbit)	LC50 = 48,000 ppm/4h (Rat)

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

Eyes - rabbit

Remarks: Mild eye irritation

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

Carcinogenicity - rat - Inhalation

Tumorigenic: Carcinogenic by RTECS criteria. Tumorigenic Effects: Testicular tumors.

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.

NTP: No data available

ACGIH: No data available

OSHA: No data available

**Reproductive toxicity**

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. Suspected human reproductive toxicant. Suspected of damaging fertility.

**Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness.

### Specific target organ toxicity - repeated exposure

Ingestion - May cause damage to organs through prolonged or repeated exposure. - Nervous system

### Aspiration hazard

May be fatal if swallowed and enters airways.

### Potential health effects

<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation. Vapours may cause drowsiness and dizziness.
<b>Ingestion</b>	Harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.
<b>Skin</b>	Harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

### Signs and Symptoms of Exposure

Prolonged or repeated contact with skin may cause:; defatting, Dermatitis, Contact with eyes can cause:; Redness, Blurred vision, Provokes tears.; Effects due to ingestion may include:; Gastrointestinal discomfort, Central nervous system depression, Lung irritation, chest pain, pulmonary edema, giddiness, slowed reaction time, slurred speech, Headache, Dizziness, Drowsiness, Unconsciousness

### Additional Information

RTECS: MN9275000

## SECTION 12: ECOLOGY INFORMATION

### 12.1 Ecotoxicity

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
n-Hexane	Not listed	LC50: = 2.1 – 2.98 mg/L/96h flow through (Pimephales promelas)	Not listed	EC50: 3.87 mg/L/48h

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water  
log Pow: 4.11

Potential bioaccumulation

#### 12.4 Mobility in soil

Will likely be mobile in the environment due to its volatility.

#### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

#### 12.6 Other adverse effects

Toxic to aquatic life

### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment method

##### Product

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. 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: 1208

IMDG: 1208

IATA-DGR: 1208

#### 14.2 UN proper shipping name

ADR/RID:

HEXANES

IMDG:

HEXANES

IATA-DGR:

HEXANES

#### 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: yes

IMDG Marine pollutant: yes

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**

No data available

### **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.*

*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.*