

SAFETY DATA SHEET

According to Regulation (EC) No453/2010

SDS -HEX-0001

Version 1.5

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

1.1 Product identifier

Product name : **N-Hexane**

Included product code : HEX010-2.5, HEX010-4.0, HEX012-2.5, HEX012-4.0,
HEX009-2.5, HEX009-4.0.

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 datasheet

Company : EliteAdvancedMaterialsSdnBhd
No 1, Jalan KPK1/2, Kawasan Perindustrian
Kundang, 48020 Rawang, Selangor, Malaysia

E-mail address : enquiry@eamaterials.com

1.4 Emergency telephone number

Emergency : +603-60343766 (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)	Category 3
Target Organs - Central nervous system (CNS).	
Specific target organ toxicity - repeated exposure	Category 2
Aspiration hazard	Category 1
Chronic aquatic toxicity	Category 2

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 statement

H225	Highly flammable liquid and vapour
H304	May be fatal if swallowed and enter airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn Child
H373	May cause damage to organs (Nervous System) through prolonged or repeated exposure if inhaled
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

Response

P301 + P310 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
 P314 Get medical advice/attention if you feel unwell

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 : n-Hexane
 Formula : C₆H₁₄
 Molecular Weight : 86.18 g/mol
 CAS-No. : 110-54-3

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

Component	Identity	Classification Code	H-Code	Concentration (by wt)
n-Hexane	CAS-No.: 110-54-3	Flam. Liq. 2	H225	<=100 %
		Asp. Tox. 1	H304	
		Skin. Irrit. 2	H315	
		STOT SE 3	H336	
		Repr. 2	H361fd	
		Aquatic Chronic 2	H411	



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 and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration. Consult a physician.

In case of 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.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. 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, 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

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.

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

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

Remove container from danger zone and cool with water. 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

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.



6.2 Environmental precautions

Do not let product enter drains. Risk of explosion.

6.3 Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. 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

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Observe label precautions.

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

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 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.

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 (8 hr)	CAL/OSHA PEL (8 hr)	NIOSH REL (Up to 10 hr)
n-Hexane	TWA: 50 ppm	TWA: 50 ppm	TWA: 50 ppm

(OSHA)

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.

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

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. Discard 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

Splash contact*

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: > 10 min



(Merck, 2018; Ver 1.6)

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

Required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur 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.

Environmental exposure controls

Do not let product enter drains.

Risk of explosion.

Section 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Colorless
Odor	:	Benzine-like
Ordor threshold	:	No data available
pH - value	:	No data available
Melting point / Range	:	-94.3 °C
Boiling point / Range	:	69 °C at 1013 hPa

Flash point	:	-22 °C [closed cup]
Evaporation rate	:	No data available
Lower explosion limit – LEL	:	1.0 % (V)
Upper explosion limit - UEL	:	8.1% (V)
Vapour pressure	:	160 hPa at 20°C
Vapor density (air = 1)	:	2.79
Density	:	0.66 g/cm ³ at 20 °C
Bulk density	:	No data available
Solubility(ies)	:	No data available
Water solubility	:	0.0095 g/l at 20 °C
Partition coefficient: n-octanol/water	:	log Pow: 4.11 (calculated) (Lit.) Potential bioaccumulation
Auto-ignition temperature	:	No data available
Decomposition temperature	:	Distillable in an undecomposed state at normal pressure
Viscosity	:	0.326 mPa.s at 20°C
Explosive properties	:	Not classified as explosive
Oxidising properties	:	None

(Merck, 2018; Ver 1.6)

9.2 Other information

Ignition temperature	:	240 °C Method: DIN 51794
Minimum ignition energy	:	0.50 mm ² /s at 20 °C

Section 10 : STABILITY AND REACTIVITY

10.1 Reactivity

Vapours may form explosive 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:

Peroxide, (Sodium salt).

10.4 Conditions to avoid

Warming.

10.5 Incompatible materials

Rubber, various plastics.

10.6 Hazardous decomposition products

Other decomposition products - No data available

Section 11: TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

Acute toxicity

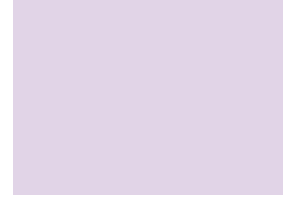
LD50 Oral	- 16000 mg/kg	(Rat)
LD50 Dermal	- 2000 mg/kg	(Rabbit)
LC50 Inhalation	- 172 mg/l/4h	(Rat)

(Merck, 2018; Ver 1.6)

Skin corrosion/irritation

Causes skin irritation

(Merck, 2018; Ver 1.6)



Serious eye damage/eye irritation

Risk of cornea clouding

(Merck, 2019; Ver 1.6)

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

Genotoxicity in vivo

Micronucleus test

Result: negative

Genotoxicity in vitro

In vitro mammalian cell gene mutation test

Mouse lymphoma test

Result: Positive results were obtained in some in vitro tests

Method: OECD Test Guideline 476

Ames test

Salmonella typhimurium

Result: Negative

Method: OECD Test Guideline 471

(Merck, 2019; Ver 1.6)

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure

Remarks : May cause drowsiness and dizziness.

Target organs: Central nervous system

(Merck, 2019; Ver 1.6)





Specific target organ toxicity – repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Exposure routes: Inhalation

Target Organs: Nervous system

Aspiration hazard

Aspiration hazard, Aspiration may cause pulmonary oedema and pneumonitis.

11.2 Additional Information

After absorption:

Tiredness, narcosis

After long-term exposure to the chemical:

CNS disorders, paralysis symptoms

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 (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.

Other dangerous properties cannot be excluded.

This substance should be handled with particular care.

(Merck, 2019; Ver 1.6)

Section 12 : ECOLOGY INFORMATION

12.1 Ecotoxicity

Toxicity to fish	LC50 – Pimephales promelas (fathead minnow) – 2.5 mg/L - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 – Daphnia magna (water flea) - 2.1 mg/L - 48h

(Merck, 2019; Ver 1.6)

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Partition coefficient: n-Octanol/water

Log Pow: 4.11 (Potential bioaccumulation)

(Merck, 2019; Ver 1.6)

12.4 Mobility in soil

No data available

12.5 Other adverse effects

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Other adverse effects

Henry constant

183000 Pa*m³/mol

(HSDB) Distribution preferentially in air.

Discharge into the environment must be avoided.

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. Follow label warnings even after container is emptied since it retains product residue.

Section 14 : TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1208	IMDG: 1208	IATA-DGR: 1208
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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
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14.4 Packaging group

ADR/RID: II	IMDG: II	IATA-DGR: II
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14.5 Environmental hazards

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

