

SAFETY DATA SHEET

According to Regulation (EC) No 453/2010

SDS -IHEX-0001

Version 1.5

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

1.1 Product identifier

Product name : **Hexane (mixture of isomers)**
Included product code : IHEX012-2.5, IHEX012-4.0, IHEX004-5M,
IHEX013-2.5, IHEX013-4.0

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 : Elite Advanced Materials Sdn Bhd
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 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 2 |

(Merck, 2020; Ver 6.2)

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 enters airways |
| H315 | Causes skin irritation |
| H336 | May cause drowsiness or dizziness |
| H361f | Suspected of damaging fertility |
| H373 | May cause damage to organs 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 |
| P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
| P273 | Avoid release to the environment. |
| P281 | Use personal protective equipment as required. |

Response

| | |
|-------------|---|
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. |
| P331 | Do NOT induce vomiting. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for Extinction. |
| P391 | Collect spillage. |

2.3 Other hazards

No data available.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Not applicable

3.2 Mixture

| | | |
|------------------|---|--|
| Synonyms | : | Hexane (mixture of isomers); Isohexane |
| Formula | : | C ₆ H ₁₄ |
| Molecular Weight | : | 86.18 g/mol |
| CAS-No. | : | 92112-69-1 |

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 | >=25 - 30 % |
| | | Skin Irrit. 2 | H315 | |
| | | Repr. 2 | H361f | |
| | | Asp. Tox 1 | H304 | |
| | | STOT SE 3 | H336 | |
| | | STOT RE 2 | H373 | |
| | | Aquatic Chronic 2 | H411 | |



| | | | | |
|-----------------|---------------------|---|---|-----------------|
| Hexane, isomers | CAS-No.: 92112-69-1 | Flam. Liq. 2 Skin. Irrit. 2 Repr. 2 Asp. Tox. 1 STOT SE 3 STOT RE 2 Aquatic Chronic 2 | H225 H315 H361f H304 H336 H373 H411 | >= 60 - < 100 % |
|-----------------|---------------------|---|---|-----------------|

(Merck, 2020; Ver 6.2)

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

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

Rinse well with plenty of water and soap. If skin irritation persists, consult a physician.

In case of eye contact

Flush eyes with water as a precaution. If eye irritation persists, 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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.



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, dry powder.

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Carbon oxides. Combustible.

5.3 Advice for fire-fighters

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

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 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 (e.g., sand, earth, diatomaceous earth, vermiculite). Keep in suitable, closed containers for disposal according to local/national regulations (see section 13).

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 vapors 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 close tightly and stored in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Moisture sensitive. Handle and store under inert gas

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) | CAL/OSHA PEL (8 hr) | NIOSH REL (Up to 10 hr) |
|-----------------------------------|-------------------|--|---|
| n-Hexane | No data available | TWA: 500 ppm (1800 mg/m ³) | TWA: 50 ppm (180 mg/m ³) |
| Hexane isomers (exclude n-hexane) | No data available | TWA: 500 ppm (1800 mg/m ³) STEL: 1000 ppm (3600 mg/m ³) | TWA: 100 ppm (350 mg/m ³) C: 510 ppm (1800 mg/m ³) |

(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

Face shield and safety glasses 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

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

Splash contact*

Material: Nitrile-rubber

Minimum layer thickness: 0.2 mm

Break through time: 30 min

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

(Merck,2020; Ver 6.2)

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.

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 |
| Odor | : | No data available |
| Odor threshold | : | No data available |
| pH - value | : | No data available |
| Melting point / Range | : | -95 °C |
| Boiling point / Range | : | 68 to 70 °C at 1013 hPa |
| Flash point | : | -23 °C [closed cup] |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Lower flammability limit - LFL | : | 1.1 % (V) |
| Upper flammability limit - UEL | : | 7.5 % (V) |
| Vapour pressure | : | No data available |
| Vapor density (air = 1) | : | No data available |
| Density | : | 0.672 g/cm ³ |
| Water solubility | : | No data available |
| Partition coefficient: n-octanol/water | : | No data available |
| Auto-ignition temperature | : | 225 °C |
| Decomposition temperature | : | No data available |
| Viscosity | : | No data available |

(Merck, 2020; Ver 6.2)



9.2 Other information

Not applicable

Section 10 : STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under standard ambient conditions.

10.3 Possibility of hazardous reactions

No data available.

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

Strong oxidizing agents.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

Section 11 : TOXICOLOGY INFORMATION

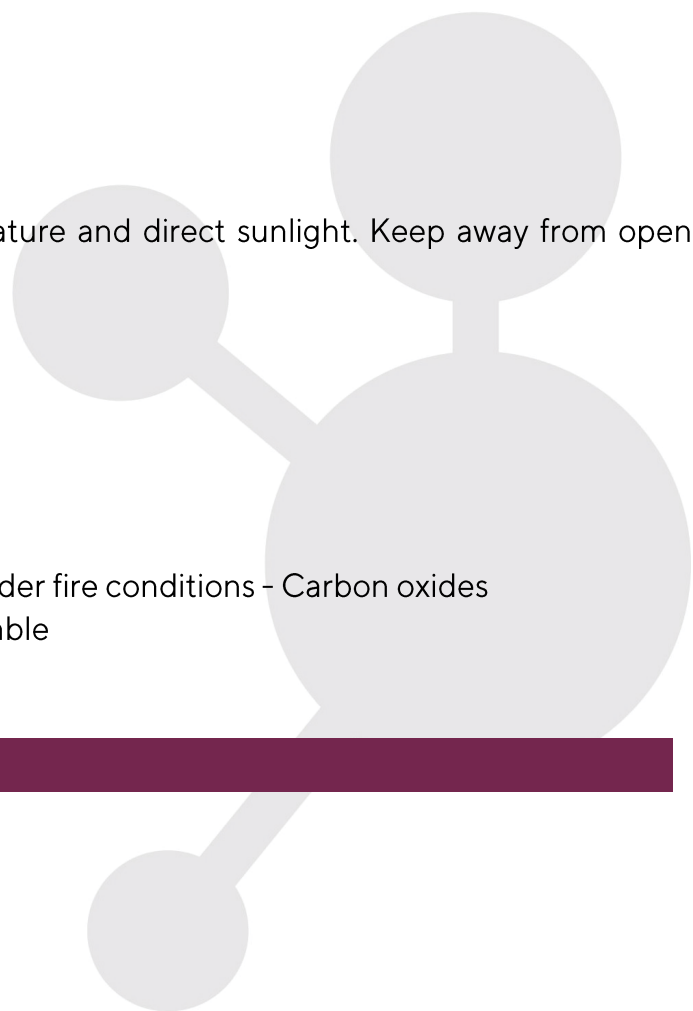
11.1 Information on toxicological effects

Acute toxicity

No data available

Skin corrosion/irritation

No data available





Serious eye damage/eye irritation

No data available

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity – single exposure

No data available

Specific target organ toxicity – repeated exposure

No data available

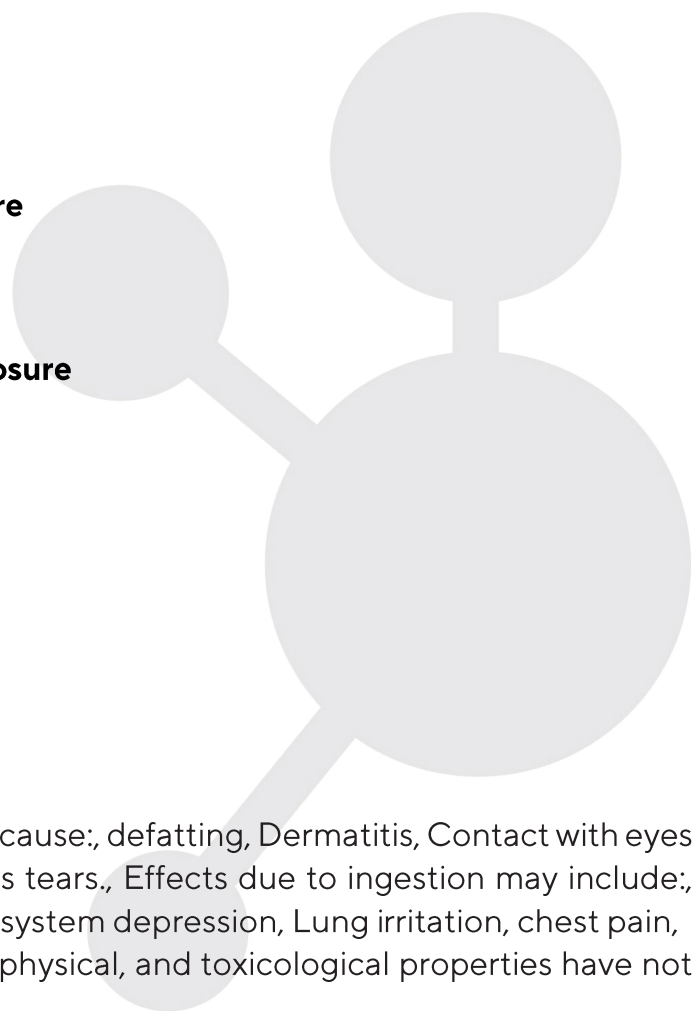
Aspiration hazard

No data available

11.2 Additional Information

RTECS: Not available

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



Section 12 : ECOLOGY INFORMATION

12.1 Ecotoxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Other adverse effects

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

12.6 Other adverse effects

Toxic to aquatic life with long lasting effects.

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 |
|---------------|------------|----------------|

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.