



SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 08/04/2014

Version 1.1

SECTION 1. Identification

Product identifier

| | |
|----------------|------------------------|
| Product number | 820383 |
| Product name | n-Decane for synthesis |
| CAS-No. | 124-18-5 |

Relevant identified uses of the substance or mixture and uses advised against

| | |
|-----------------|------------------------|
| Identified uses | Chemical for synthesis |
|-----------------|------------------------|

Details of the supplier of the safety data sheet

| | |
|---------|--|
| Company | EMD Millipore Corporation 290 Concord Road, Billerica, MA 01821, United States of America General Inquiries: +1-978-715-4321 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) |
|---------|--|

| | |
|---------------------|--|
| Emergency telephone | 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week |
|---------------------|--|

SECTION 2. Hazards identification

GHS Classification

Flammable liquid, Category 3, H226
Aspiration hazard, Category 1, H304

For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling

Hazard pictograms



Signal Word
Danger

Hazard Statements

H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.

Precautionary Statements

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P210 Keep away from heat.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P331 Do NOT induce vomiting.

OSHA Hazards

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS and may deviate from the GHS information.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

| | | |
|------------|---|-------------------------------------|
| Formula | $\text{CH}_3(\text{CH}_2)_8\text{CH}_3$ | $\text{C}_{10}\text{H}_{22}$ (Hill) |
| Molar mass | 142.28 g/mol | |

Hazardous ingredients

Chemical Name (Concentration)

CAS-No.

decane (>= 90 % - <= 100 %)

124-18-5

Exact percentages are being withheld as a trade secret.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye contact

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

Ingestion

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

irritant effects

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.

Indication of any immediate medical attention and special treatment needed

No information available.

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SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Carbon dioxide (CO₂), Foam, Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapors possible in the event of fire.

Advice for firefighters

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

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

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapors, aerosols. 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.

Environmental precautions

Do not empty into drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

SECTION 7. Handling and storage

Precautions for safe handling

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.

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.

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Store at +15°C to +25°C (+59°F to +77°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

Flame retardant antistatic protective clothing

Respiratory protection

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9. Physical and chemical properties

| | |
|-----------------------------|-----------------------------------|
| Physical state | liquid |
| Color | colorless |
| Odor | characteristic |
| Odor Threshold | No information available. |
| pH | No information available. |
| Melting point | -30 °C |
| Boiling point/boiling range | 345 °F (174 °C) at 1,013 mbar |

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| | |
|--|---|
| Flash point | 124 °F (51 °C) Method: c.c. |
| Evaporation rate | No information available. |
| Flammability (solid, gas) | No information available. |
| Lower explosion limit | 0.7 %(V) |
| Upper explosion limit | 5.4 %(V) |
| Vapor pressure | ca. 1 hPa at 61 °F (16 °C) |
| Relative vapor density | No information available. |
| Density | 0.73 g/cm ³ at 68 °F (20 °C) |
| Relative density | No information available. |
| Water solubility | 0.00005 g/l at 77 °F (25 °C) |
| Partition coefficient: n-octanol/water | log Pow: 5.01 (experimental) (Lit.) Potential bioaccumulation |
| Autoignition temperature | No information available. |
| Decomposition temperature | No information available. |
| Viscosity, dynamic | No information available. |
| Explosive properties | Not classified as explosive. |
| Oxidizing properties | none |
| Ignition temperature | 406 °F (208 °C) |
| Viscosity, kinematic | < 7 mm ² /s at 104 °F (40 °C) |

SECTION 10. Stability and reactivity

Reactivity

Vapor/air-mixtures are explosive at intense warming.

Chemical stability

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

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Possibility of hazardous reactions

Violent reactions possible with:
Strong oxidizing agents

Conditions to avoid

Heating.

Incompatible materials

no information available

Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact

Acute oral toxicity

LD50 rat: > 5,000 mg/kg
OECD Test Guideline 401

Acute inhalation toxicity

LC50 rat: > 8.1 mg/l; 8 h (RTECS)
Symptoms: Irritation symptoms in the respiratory tract.

Acute dermal toxicity

LD50 rat: > 2,000 mg/kg
OECD Test Guideline 402

Skin irritation

rabbit
Result: slight irritation
OECD Test Guideline 404

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation

rabbit
Result: No eye irritation
OECD Test Guideline 405

Genotoxicity in vitro

Ames test
Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 471

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

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Aspiration hazard

Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

Carcinogenicity

| | |
|-------|--|
| IARC | No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| OSHA | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
| NTP | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| ACGIH | No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. |

Further information

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 can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

Toxicity to daphnia and other aquatic invertebrates

EC50 *Daphnia magna* (Water flea): 18 mg/l; 48 h (IUCLID)

Toxicity to algae

IC50 *Chlorella vulgaris* (Fresh water algae): 0.043 mg/l; 24 h (IUCLID)

NOEC *Desmodesmus subspicatus* (green algae): 0.05 mg/l; 72 h

OECD Test Guideline 201 (above the solubility limit in the test medium)

Persistence and degradability

Biodegradability

100 %; 21 d

(IUCLID)

Readily biodegradable.

Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow: 5.01

(experimental)

(Lit.) Potential bioaccumulation

Mobility in soil

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No information available.

Additional ecological information

Discharge into the environment must be avoided.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

| | |
|---------------------------|----------|
| UN number | UN 2247 |
| Proper shipping name | N-DECANE |
| Class | 3 |
| Packing group | III |
| Environmentally hazardous | -- |

Air transport (IATA)

| | |
|------------------------------|----------|
| UN number | UN 2247 |
| Proper shipping name | N-DECANE |
| Class | 3 |
| Packing group | III |
| Environmentally hazardous | -- |
| Special precautions for user | no |

Sea transport (IMDG)

| | |
|------------------------------|----------|
| UN number | UN 2247 |
| Proper shipping name | N-DECANE |
| Class | 3 |
| Packing group | III |
| Environmentally hazardous | -- |
| Special precautions for user | yes |
| EmS | F-E S-E |

SECTION 15. Regulatory information

United States of America

OSHA Hazards

Combustible Liquid

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

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SARA 311/312 Hazards

Fire Hazard

SARA 313

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 302

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

DEA List I

Not listed

DEA List II

Not listed

US State Regulations

Massachusetts Right To Know

Remarks

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

Ingredients

decane

New Jersey Right To Know

Ingredients

decane

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

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Full text of H-Statements referred to under sections 2 and 3.

H226 Flammable liquid and vapor.
H304 May be fatal if swallowed and enters airways.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Revision Date 08/04/2014

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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