1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Hexadecane
Product Number: H6703
Brand: Sigma-Aldrich
Supplier: Sigma-Aldrich Corporation
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5052
Emergency Phone # (For both supplier and manufacturer): (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
No known OSHA hazards

GHS Classification
Acute toxicity, Dermal (Category 5)
Aspiration hazard (Category 1)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)
H304 May be fatal if swallowed and enters airways.
H313 May be harmful in contact with skin.

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

Other hazards
Repeated exposure may cause skin dryness or cracking.

HMIS Classification
Health hazard: 0
Flammability: 1
Physical hazards: 0

NFPA Rating
Health hazard: 0
Fire: 1
Reactivity Hazard: 0

Potential Health Effects
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Cetane
Formula: \( \text{C}_{16}\text{H}_{34} \)
Molecular Weight: 226.44 g/mol

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
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<tbody>
<tr>
<td>Hexadecane</td>
<td></td>
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<tr>
<td>CAS-No.</td>
<td>544-76-3</td>
</tr>
<tr>
<td>EC-No.</td>
<td>208-878-9</td>
</tr>
<tr>
<td></td>
<td>90 - 100 %</td>
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4. FIRST AID MEASURES

General advice
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. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE
**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Hygroscopic. Handle and store under inert gas.

8. **EXPOSURE CONTROLS/PERSOANL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (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).

**Hand 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 of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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: 0.11 mm
Break through time: 60 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
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.

**Eye 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 and body protection**
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. **PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance**
- Form: liquid
- Colour: colourless

**Safety data**
- pH: no data available
- Melting: Melting point/range: 18 °C (64 °F) - lit.
point/freezing point
Boiling point 287 °C (549 °F) - lit.
Flash point 135 °C (275 °F) - closed cup
Ignition temperature 202 °C (396 °F)
Auto-ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure 0.004 hPa (0.003 mmHg) at 20 °C (68 °F)
1 hPa (1 mmHg) at 105.3 °C (221.5 °F)
Density 0.773 g/cm³ at 25 °C (77 °F)
Water solubility insoluble
Partition coefficient: log Pow: 8.2 at 25 °C (77 °F)
n-octanol/water
Viscosity, kinematic 4.29 mm²/s at 20 °C (68 °F)
Relative vapour density 7.82
Odour odourless
Odour Threshold no data available
Evaporation rate no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.
Possibility of hazardous reactions
no data available
Conditions to avoid
no data available
Materials to avoid
Strong oxidizing agents
Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral LD50
LD50 Oral - rat - > 5,000 mg/kg
Inhalation LC50
no data available
Dermal LD50
LD50 Dermal - rabbit - > 3,160 mg/kg
Other information on acute toxicity
TDLo Intraperitoneal - mouse - 1,546 mg/kg
Remarks: Liver:Changes in liver weight.
LDLO Intravenous - mouse - 9,821 mg/kg
Remarks: Behavioral: Altered sleep time (including change in righting reflex).
Skin corrosion/irritation
Skin - rabbit - No skin irritation - OECD Test Guideline 404
Remarks: Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.

Serious eye damage/eye irritation
Eyes - rabbit - No eye irritation - OECD Test Guideline 405

Respiratory or skin sensitisation
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
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.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
no data available

Teratogenicity
no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
May be fatal if swallowed and enters airways.

Potential health effects

Inhalation
May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion
May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

Skin
May be harmful if absorbed through skin. May cause skin irritation.

Eyes
May cause eye irritation.

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

Synergistic effects
no data available

Additional Information
RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish
LC50 - Fish - > 1,028 mg/l - 96 h
Persistence and degradability
Biodegradability Result: - Readily biodegradable.

Bioaccumulative potential
Bioaccumulation Salmo salar (Atlantic salmon) - 7 d
Bioconcentration factor (BCF): 5.6

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
No known OSHA hazards

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

SARA 313 Components
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 311/312 Hazards
No SARA Hazards

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

Pennsylvania Right To Know Components

Hexadecane CAS-No. 544-76-3

New Jersey Right To Know Components

Hexadecane CAS-No. 544-76-3

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION
Further information
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