

1-Hexene (C6H12)

Version 1.0

Revision Date 2010-06-24

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Trade name : 1-Hexene (C6H12)
Material : 10576539

Local : Qatar Chemical Company LTD
1st Floor Salam Tower Al Corniche
P.O. Box 24646
Doha, Qatar

MSDS Requests: (+974) 484-7110
Technical Information: (+974) 484-7110
Email: CPCRAMSDSREQUES@cpchem.com

Emergency telephone:**Health:**

866.442.9628 (North America)
1.832.813.4984 (International)

Transport:

North America: CHEMTREC 800.424.9300 or 703.527.3887
ASIA: +1.703.527.3887
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department : Product Safety and Toxicology Group
E-mail address : MSDS@CPChem.com
Website : www.CPChem.com

2. HAZARDS IDENTIFICATION**GHS-Classification**

: Flammable liquids, Category 2
Aspiration hazard, Category 1
Acute aquatic toxicity, Category 2
Chronic aquatic toxicity, Category 2

GHS-Labeling

Symbol(s) :



Signal word : Danger

Hazard statements : H225: Highly flammable liquid and vapor.
H304: May be fatal if swallowed and enters airways.
H401: Toxic to aquatic life.

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Precautionary statements : **Prevention:**
 P210 Keep away from heat/sparks/open flames/hot surfaces.
 - No smoking.
 P233 Keep container tightly closed.
 P240 Ground/bond container and receiving equipment.
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response:
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P331 Do NOT induce vomiting.
 P370 + P378 In case of fire: Evacuate area. Use manufacturer/supplier or the competent authority to specify appropriate media for extinction.
 P391 Collect spillage.
Storage:
 P403 + P235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.
Disposal:
 P501 Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : alpha-Hexene
 Hexene-1
 Hex-1-ene
 Hexylene
 AlphaPlus™ NAO 6
 Butyl Ethylene

Molecular formula : C6H12

Chemical Name	CAS-No. / EINECS-No.	Concentration[%]
1-Hexene	592-41-6 / 209-753-1	99 - 100
2-Ethyl-1-Butene	760-21-4 / 212-078-5	1 - 5

4. FIRST AID MEASURES

General advice : Move out of dangerous area. Show this material safety data sheet to the doctor in attendance. Symptoms of poisoning may only appear several hours later. Do not leave the victim unattended.

Inhalation : Move to fresh air. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

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- Skin contact : If on skin, rinse well with water. If on clothes, remove clothes.
- Eye contact : Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
- Ingestion : Keep respiratory tract clear. Do NOT induce vomiting. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Take victim immediately to hospital.

5. FIRE-FIGHTING MEASURES

- Flash point : -26 °C (-15 °F)
Method: closed cup
- Autoignition temperature : 272 °C (522 °F)
- Suitable extinguishing media : Dry chemical. Carbon dioxide (CO2). Alcohol-resistant foam.
- Unsuitable extinguishing media : High volume water jet.
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Special protective equipment for fire-fighters : Wear self contained breathing apparatus for fire fighting if necessary.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
- Hazardous decomposition products : No data available.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
- Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to

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local / national regulations (see section 13).

7. HANDLING AND STORAGE**Handling**

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapors/dust. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Container may be opened only under exhaust ventilation hood. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Do not spray on an open flame or any other incandescent material. Use only explosion-proof equipment. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.

Storage

Requirements for storage areas and containers : No smoking. 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. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters****US**

Components	Basis	Value	Control parameters	Note
1-Hexene	ACGIH	TWA	50 ppm,	

Personal protective equipment

Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.

Skin and body protection : Impervious clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

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9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form : Liquid
Color : Clear, colorless

Safety data

Flash point : -26 °C (-15 °F)
Method: closed cup

Lower explosion limit : 2 %(V)
Upper explosion limit : 7 %(V)

Oxidizing properties : No

Autoignition temperature : 272 °C (522 °F)

Molecular formula : C₆H₁₂

Molecular Weight : 84,18 g/mol

pH : Not applicable

Pour point : No data available

Boiling point/boiling range : 63,5 °C (146,3 °F)

Vapor pressure : 176,00 MMHG
at 24 °C (75 °F)

Density : 675,8 G/L

Water solubility : Soluble in hydrocarbon solvents; insoluble in water.

Partition coefficient: n-
octanol/water : No data available

Viscosity, kinematic : 0,34 cSt
at 40 °C (104 °F)

Relative vapor density : 2,9
(Air = 1.0)

Evaporation rate : No data available

Percent volatile : > 99 %

10. STABILITY AND REACTIVITY

Conditions to avoid : Heat, flames and sparks.
Thermal decomposition : No data available

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Other data : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION**Acute oral toxicity**

1-Hexene : LD50: > 10.000 mg/kg
Species: rat

Acute inhalation toxicity

1-Hexene : LC50: 32000 ppm
Exposure time: 4 HR
Species: rat

Acute dermal toxicity

1-Hexene : LD50: > 10.000 mg/kg
Species: rabbit

Skin irritation

1-Hexene : Skin irritation
Moderate skin irritation.

Eye irritation

1-Hexene : May cause eye irritation.

Product

Sensitization : Did not cause sensitization on laboratory animals.

Repeated dose toxicity

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- 1-Hexene
- : Species: rat, male
Application Route: oral gavage
Dose: 0, 10, 101, 1010, 3365 mg/kg
Exposure time: 28 day
Number of exposures: daily
NOEL: 1.010 mg/kg
 - : Species: rat, female
Application Route: oral gavage
Dose: 0, 10, 101, 1010, 3365 mg/kg
Exposure time: 28 day
Number of exposures: daily
NOEL: 3.365 mg/kg
 - : Species: rat
Application Route: Inhalation
Dose: 0, 300, 1000, 3000 ppm
Exposure time: 90 day
Number of exposures: 6 h/y, 5 d/wk
NOEL: 1000 ppm

Reproductive toxicity

- 1-Hexene
- : Species: rat
Application Route: oral gavage
Dose: 0, 100, 500, 1000 mg/kg
Number of exposures: daily
Test period: 44 d
 - : Species: rat
Application Route: oral gavage
Dose: 0, 100, 500, 1000 mg/kg
Number of exposures: daily
Test period: 44-51 d

Product

- Aspiration toxicity
- : May be fatal if swallowed and enters airways.
Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

Product

- Further information
- : Solvents may degrease the skin.

12. ECOLOGICAL INFORMATION**Toxicity to fish**

- 1-Hexene
- : LC50: 5,6 mg/l
Exposure time: 96 HR
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates.

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1-Hexene : EC50: 30 - 60 mg/l
 Exposure time: 48 HR
 Species: Daphnia magna (Water flea)

Elimination information (persistence and degradability)

Biodegradability : This material is not expected to be readily biodegradable.

Further information on ecology

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
 Toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

14. TRANSPORT INFORMATION

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition). Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the MSDS and the bill of lading.

USDOT

UN2370, 1-HEXENE, 3, II

IMO / IMDG

UN2370, 1-HEXENE, 3, II, (-26 °C)

IATA

UN2370, 1-HEXENE, 3, II

ADR

UN2370, 1-HEXENE, 3, II

RID

UN2370, 1-HEXENE, 3, II

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15. REGULATORY INFORMATION**National legislation****Notification status**

Europe REACH	:	On the inventory, or in compliance with the inventory
United States of America TSCA	:	On the inventory, or in compliance with the inventory
Canada DSL	:	On the inventory, or in compliance with the inventory
Australia AICS	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	On the inventory, or in compliance with the inventory
Japan ENCS	:	On the inventory, or in compliance with the inventory
Korea KECI	:	On the inventory, or in compliance with the inventory
Philippines PICCS	:	On the inventory, or in compliance with the inventory
China IECSC	:	On the inventory, or in compliance with the inventory
Europe EINECS	:	On the inventory, or in compliance with the inventory

16. OTHER INFORMATION**Further information**

Legacy MSDS Number : QCHEM009

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.