# MATERIAL SAFETY DATA SHEET

# SOUTH HAMPTON RESOURCES

**Isohexane**

This Material Safety Data Sheet contains information concerning the potential risks to those involved in handling, transporting and working with the material, as well as describing potential risks to the consumer and the environment. This information must be made available to those who may come into contact with the material or are responsible for the use of the material. This Material Safety Data Sheet is prepared in accordance with formatting described in the Regulation (EU) No 453/2010, and describe in CLP Regulation (EU) No 1272/2008.

## Section 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product Identifier

| | |
|---|---|
| Common name | **Isohexane** |
| Synonyms | 2,2-Dimethylbutane; 2,3-Dimethylbutane; 2-Methylpentane; 3-Methylpentane |
| Formula: | $C_6H_{14}$ |
| Chemical class | Low boiling aliphatic hydrocarbon |

### 1.2 Relevant Identified uses of the substance or mixture and of the company/undertaking

Solvent, blowing agent for polystyrene, chemical intermediate

### 1.3 Details of the supplier of the material safety data sheet

| | |
|---|---|
| Manufacturer | South Hampton Resources, Inc.<br>7752 FM 418 West<br>Silsbee, Texas 77656<br>USA<br>Tel: + 1 409-385-8300<br>Control Room: 1-409-385-8300 |
| EU Only Representative | TSGE<br>Concordia House, St James Business Park,<br>Grimbald Crag court, Knaresborough,<br>North Yorkshire, HG5 8QB,<br>United Kingdom<br>Tel: +44 (0) 1423 799 633<br>Fax: +44 (0) 1423 797 804 |

### 1.4 Emergency telephone number

In case of emergency

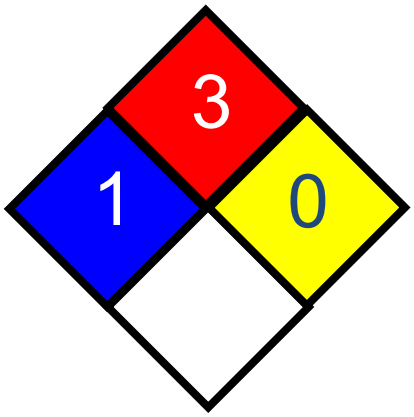
**CHEMTREC** (24HR Emergency Telephone), call:
1-800-424-9300
International CHEMTREC, call: 1-703-527-3887
Health emergencies- call Los Angeles Poison control Center:
(24 hours) 1-213-664-2121

## Section 2. Hazards Identification

### 2.1 Label elements

**NFPA 704**

CAS Number: 107-83-5
Molar Mass: 86.18 g/mole
Density: 0.672 g/cm$^3$
Boiling Point: 122-145°F
Precautions: Flammable, Irritant




**NFPA Rating: Health: 1 Flammability: 3 Reactivity: 0**
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**HMIS Classification:** **Health: *1 Flammability: 3 Reactivity: 0: Physical Hazard: B**
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

**Emergency Overview:** Keep away from heat, sparks and flame. This material is an eye and skin irritant. Gross inhalation overexposure may cause: Central nervous system depression with dizziness, confusion, incoordination, drowsiness or unconsciousness or death. Warning: Extremely Flammable. Causes respiratory irritation.

**General Description:** Watery liquid with a gasoline-like odor, Floats on water. Produces an irritating vapor. (USCG, 1999)

### 2.2 GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

| | | | |
|---|---|---|---|
| **GHS-Classification:** | Flam. Liq. 2 | H225 | Highly flammable liquid and vapor. |
| | Asp. Tox. 1 | H304 | May be fatal if swallowed and enters airways. |
| | Aquatic Chronic 2 | H411 | Toxic to aquatic life with long lasting effects. |
| | Skin Irrit. 2 | H315 | Causes skin irritation. |
| | STOT SE 3 | H336 | May cause drowsiness or dizziness. |

**Regulation (EC) No 1272/2008**

**Hazard Statements**

| | |
|---|---|
| H225 | Highly flammable liquid and vapor |
| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H336 | May cause drowsiness or dizziness |
| H411 | Toxic to aquatic life with long lasting effects |

**Directive 67/548/EEC:**

Highly Flammable | Dangerous for the environment | Harmful

**Risk phrases**

| | |
|---|---|
| R11 | Highly flammable |
| R38 | Irritating to skin |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| R65 | Harmful: may cause lung damage if swallowed |
| R67 | Vapors may cause drowsiness and dizziness |

**2.3 Other hazards**

| | |
|---|---|
| **PBT:** | No information available yet. |

**Section 3. Composition**

| Name | EC No | CAS No | Concentration | Classification according to CHIP | Classification according to CLP |
|---|---|---|---|---|---|
| Isohexane (Includes 2-methyll Pentane; 3-methyl Pentane; 2,2-methyl Butane; 3,3-methyl | 203-523-4 | 107-83-5 | 90-100% | F; R11; [Xn], R38, R65, R67; [N], R51/53. | Flam.Liq. 2, H225; Asp. Tox 1, H304; Repr. 2 Asp. Tox.1, Skin Irrit. 2 H315 STOT SE 3, H373, |

See section 16 for full description of the text of each classification.

## Section 4. First Aid Measures

### 4.1 Description of first aid measure

**Inhalation:** **I**f breathing difficulties, dizziness, or light-headedness occurs when working in areas with high vapor concentrations, remove victim to fresh air. If victim experiences continued breathing difficulties, keep patient warm and at rest, and seek medical attention. If breathing stops, begin artificial respiration and seek immediate medical attention.

**Skin contact:** If this product comes into contact with the skin, remove contaminated clothing and wash with soap and water. Seek medical attention if irritation persists. Wash contaminated clothing before re-use.

**Accidental eye contact:** If this product comes into contact with the eyes, flush with large quantities of water for several minutes, whilst gently holding the eyelids open. Seek medical attention if irritation persists.

**Ingestion:** If this product is swallowed, DO NOT INDUCE VOMITING. Give small quantities (<250 ml) of water to drink. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

**Notes to doctor/physician:** Aspiration of solvent may cause chemical pneumonitis.

### 4.2 Most important symptoms and effects, both acute and delayed

**Inhalation:** Isohexane may cause dizziness and drowsiness if inhaled, and high concentrations may result in central nervous system depression, and loss of consciousness.

**Ingestion:** Symptoms of ingestion may include nausea, vomiting, as well as symptoms of dizziness, drowsiness and central nervous system depression. If vomiting occurs, Isohexane may be aspirated into lungs, with a risk of chemical pneumonitis.

### 4.3 Indication of any immediate attention and special treatment needed

If ingested or inhaled seek medical attention immediately.

## Section 5. Firefighting Measures

### 5.1 Extinguishing media

**Small fires:** Use foam, carbon dioxide or dry powder extinguisher.

**Large fires:** Use foam to extinguish fires. Water spray should not be used, as Isohexane is lighter than water and may form pools of burning liquid on top of water. Keep adjacent containers cool using water spray.

**FIRE:** If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)

**FIRE INVOLVING TANKS OR CAR/TRAILER LOADS:** Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well

after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

### 5.2 Special hazards arising from the substance or mixture

Isohexane is highly flammable. Remove all sources of ignition. Vapors are heavier than air and may travel considerable distances to a source of ignition and flash back. Vapor/air mixtures may be explosive. Electrostatic discharges may cause fire and/or explosion.

### 5.3 Advice for fire-fighters

- Wear positive pressure Self Contained Breathing apparatus and fire kit.
- Fire Extinguishing Agents Not to Be Used: Water may be ineffective

## Section 6. Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Remove all ignition sources ad evacuate unnecessary personnel from the area. Ventilate the area if possible. Wear suitable protective clothing including solvent resistant gloves and coveralls. If vapor concentrations are high, respiratory protective equipment may be required. See section 8 for more information.

### 6.2 Environmental precautions

Prevent entry into sewers and watercourses. If product enters sewers or watercourses, inform the appropriate environmental authorities.

### 6.3 Method for cleaning up

**Small spills**: Remove all ignition sources. Use non-sparking hand tools. Take precautions to avoid electric discharge. Absorb spillage in a non-combustible absorbent, e.g. sand or vermiculite, and place in a suitable container for disposal.

**Large spills**: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. Remove all ignition sources. Use non-sparking hand tools. Contain spill and cover if possible to reduce evaporation. Transfer to a suitable container by mechanical means. Take precautions to avoid static discharge, e.g. by grounding (earthing) containers, etc.

**Reportable quantity:** Notify coast guard national response center, phone#: 1-800-424-8802, if spill is greater than 1,000 lbs.

### 6.4 Reference to other sections

Refer to section 8 of MSDS for personal protection details.

## Section 7. Handling and Storage

**7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Use only in well ventilated areas. Isohexane is extremely flammable. Avoid contact with ignition sources, including hot surfaces. Take precautions to avoid electrostatic discharges, such as ground (earthing) of containers and equipment, and restricting flow rates. Vapors are heavier than air and may accumulate in low lying areas and below ground areas such as ducts and sewers.

**7.2 Condition for safe storage, including any incompatibles**

Store in a well-ventilated, bonded area, away from all ignition sources. If stored in drums, keep out of direct sunlight.

**7.3 specific end use(s)**

No further details

## Section 8. Exposure Controls/Personal Protection

**8.1 Control parameters**

| Substance | 8 hour exposure limit | 15 minute exposure limit | Source, Type |
|---|---|---|---|
| Isohexane | 100 ppm (350 mg/m$^3$) | 510 ppm (1800 mg/m$^3$) | NIOSH REL |
| n-Hexane | 85 ppm (350 mg/m$^3$) | 440 ppm (1,800 mg/m$^3$ | NIOSH REL |

| | |
|---|---|
| Class IB flammable liquid | Fl.P. below 73 °F and BP at or above 100 °F. |

**8.2 Exposure controls**

Ensure there is sufficient ventilation of the area. The floor of the storage room must be impermeable to prevent the escape of liquids. General mechanical ventilation may be sufficient to keep product vapor concentrations within specified time-weighted TLV ranges. If general ventilation proves inadequate to maintain safe vapor concentrations, supplemental local exhaust may be required. Other special precautions such as respiratory masks or environmental containment devises may be required in extreme cases.

**Respiratory protection**
Use only in well-ventilated area. If exposure levels are likely to exceed the OEL then suitable respiratory protection will be required. Very high vapor concentrations may result in oxygen displacement and self-contained breathing apparatus or airline may be required.

**Hand protection**
Wear suitable chemical resistant gloves recommended for use with hydrocarbon solvent. Nitrile gloves may be suitable, but glove manufacturers' specifications should always be checked first. Natural rubber gloves are not suitable. Change gloves in accordance with manufacturers recommendations. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

**Eye protection**
Wear suitable eye protection, meeting the requirements of BS EN166 3, when handling this product.

**Skin protection**
Aprons or coveralls are recommended. These should be changed after use or if contaminated. Wash before re-use.

**8.3 Respirator Recommendations**

**NIOSH**

**Up to 1000 ppm:**
(APF = 10) Any supplied-air respirator*

**Up to 2500 ppm:**
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode*

**Up to 5000 ppm:**
(APF = 50) Any supplied-air respirator that has a tight-fitting face piece and is operated in a continuous-flow mode*

(APF = 50) Any self-contained breathing apparatus with a full face piece
(APF = 50) Any supplied-air respirator with a full face piece

**Emergency or planned entry into unknown concentrations or IDLH conditions:**
(APF = 10,000) Any self-contained breathing apparatus that has a full face piece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full face piece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus

**Escape:**
(APF = 50) Any air-purifying, full-face piece respirator (gas mask) with a chin-style, front- or back-mounted organic vapor canister
Any appropriate escape-type, self-contained breathing apparatus

## Section 9. Physical and Chemical Properties

**9.1 information on basic physical and chemical properties**

**Chemical Formula:** C6H14

| | |
|---|---|
| **Flash Point:** | -20 ° F |
| **Lower Explosive Limit (LEL):** | 1.2 % |
| **Upper Explosive Limit (UEL):** | 7.7 % |
| **Auto-ignition Temperature:** | 585 ° F |
| **Melting Point:** | -244.6 ° F |
| **Vapor Pressure:** | 310.2 mm Hg |

Vapor Density (Relative to Air): data unavailable

| | |
|---|---|
| **Specific Gravity:** | 0.653 at 68.0 ° F |
| **Boiling Point:** | 140.5 ° F at 760.0 mm Hg |
| **Molecular Weight:** | 86.18 |

Water Solubility: data unavailable

IDLH: data unavailable

**9.2 Other information**

No further details

## Section 10. Stability and Reactivity

**10.1 Information on Stability and Reactivity**

**Chemical Stability:** STABLE.

**Conditions to Avoid:** Keep away from heat, sparks and flame. Avoid any source of ignition.

**Materials to Avoid:** Contact with oxidizing agents. Concentrated oxygen.

**Hazardous Decomposition Products:** Carbon monoxide. Carbon dioxide.

**Hazardous Polymerization:** WILL NOT OCCUR

## Section 11. Toxicological Information

**11.1 Information on toxicological effects**

**Acute Toxicity:** However, it can be harmful when inhaled in high concentrations or ingested. Isohexane may cause dizziness and drowsiness if inhaled, and high concentrations may result in central nervous system depression, and loss of consciousness. Symptoms of ingestion may include nausea, vomiting, as well as symptoms of dizziness, drowsiness and central nervous system depression. If vomiting occurs, n-Hexane may be aspirated into the lungs, with a risk of chemical pneumonitis.

**Irritation:** Isohexane is not classified as irritating to the eye, but may cause redness and irritation at high vapor concentrations or if splashed into the eye. Isohexane is classified as irritating to the skin, and may produce redness and irritation. Prolonged or repeated contact of this product will result in defatting of the skin, causing dryness and cracking.

**Corrosivity:** Not corrosive

**Sensitization:** Not known to be a sensitizer

**Repeated dose toxicity:** Repeated or prolonged exposure to Isohexane may cause peripheral neuropathy, with symptoms including weakness and numbness of the extremities, headache and blurred vision.

**Carcinogenicity:** Not expected to be carcinogenic.

**Mutagenicity:** Not expected to be mutagenic.

**Toxicity for reproduction:** Not expected to be toxic to reproduction.

**Target Organs:** Eyes, skin, respiratory system, central nervous system

**Route of exposure:** Inhalation, ingestion, skin and/or eye contact

**Symptoms related to the physical, chemical and toxicological characteristics:** Isohexane may cause nausea, vomiting, as well as symptoms of dizziness, drowsiness and central nervous system depression.

## Section 12. Ecological Information

### 12.1 Toxicity

Isohexane is classified as toxic to aquatic organisms and likely to cause term effects in the environment.

### 12.2 Persistence and degradability

Isohexane is expected to be inherently biodegradable in aquatic systems, however, in view of its high evaporation rate, Isohexane is expected to volatizes rapidly from water sources into the atmosphere, where it will be degraded by photochemical reaction.

### 12.3 Bio accumulative potential

No information available

### 12.4 Mobility in soil

No information available

### 12.5 Results of PBT and vPvB assessment

No information available

### 12.6 Other adverse effects

None reported

## Section 13. Disposal Considerations

### 13.1 Waste treatment methods

Recover and recycle product if possible. If recovery and recycling are not possible, Isohexane may be disposed of by incineration.

**Please follow all local, regional, national, and international laws.**

## Section 14. Transportation Information

**14.1 U.S. DOT:**

| | |
|---|---|
| **Proper Shipping Name:** | Hexanes |
| **Hazard Class:** | 3 |
| **UN/NA Number:** | UN 1208 |
| **DOT Packing Group:** | PG II |

**14.2 IMDG:**

| | |
|---|---|
| **Proper Shipping Name:** | Hexanes |
| **Hazard Class:** | 3 |
| **Hazard Subclass:** | Not Applicable |
| **UN No.:** | UN 1208 |
| **Packing Group:** | PG II |
| **Marine Pollutant:** | Yes |

**14.3 Environmental hazards**

Environmentally Hazardous Substance

**14.4 Special precautions for user**

Keep away from sources of heat and ignition.

**14.5 Transport in bulk according to Annex II of Marpol73/78 and the IBC Code**

Not applicable to packaged goods

## Section 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

No further information

**15.2 Chemical safety assessment**

A chemical safety assessment has not been conducted.

## Section 16. Other Information

**Other information**

This safety data sheet is prepared in accordance with Regulation (EC) No 453/2010.

**Note:** The above information is believed to be correct as of the date hereof. However no warranty of merchantability fitness for any use or any other warranty is expressed or is to be implied regarding the accuracy of this data, the results to be obtained from the use of the material, or the hazards connected with such use. Since the information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, and since data made available

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