# ISOPENTANE

# *MATERIAL SAFETY DATA SHEET*

Revision Date : 09.06.2006

## 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ISOPENTANE
Product use : Solvent
UN number : 1265

MSDS Internet website : www. hitechchemicals.co.za

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical name | CAS-No. | Weight% | Symbol Codes | R-Phrase Numbers |
|---|---|---|---|---|
| Isopentane | 78-78-4 | >= 95.00 | F+, Xn, N | R12, R51/53, R65, R66, R67 |

See Section 15 for European Label Information.

See Section 8 for Exposure Limits (if applicable).

## 3. HAZARDS IDENTIFICATION

Emergency response data : Colourless Liquid. EXTREMELY FLAMMABLE, HIGH HAZARD. Liquid can release considerable vapour at temperatures below ambient which readily form flammable mixtures. Vapours settle to ground level and may reach, via drains and other underground passages, ignition sources remote from the point of escape. Product can accumulate a static charge which may cause a fire or explosion. DOT ERG No. : 128

**Potential health effects**

Inhalation : Respiratory irritation, dizziness, nausea and loss of consciousness.

Skin : Prolonged repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis.

Eye : Practically non-irritating.

Ingestion : Practically non-toxic, but when swallowed can cause lung damage.

See Section 11 for further health effects/toxicological data.

## 4. FIRST AID MEASURES

Inhalation : Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with mechanical device or use mouth-to-mouth resuscitation with a mouthpiece.

Skin contact : Remove contaminated clothing. Dry wipe exposed skin and cleanse with hand cleaner, soap and water. Launder contaminated clothing before reuse. (See Section 16 - Injection Injury)

Eye contact : Flush thoroughly with water for at least 15 minutes. Get medical assistance.

Ingestion : Do not induce vomiting or give anything by mouth to an unconcious

person.

| | | |
|---|---|---|
| Note to doctors | : | Material if aspirated into the lungs may cause chemical pneumonitis. Treat appropriately. |

## 5. FIRE-FIGHTING MEASURES

| | | |
|---|---|---|
| Extinguishing media | : | Carbon dioxide, foam, dry chemical and water fog. |
| Special fire fighting procedure | : | Evacuate area. For large spills, fire fighting foam in sufficient quantities should be applied to blanket the flammable product surface. Water spray should only be used to keep fire-exposed containers cool, flush spills away from exposures, disperse vapours and protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, municipal sewers, or drinking water supply. |
| Special protective equipment for firefighters | : | For fires in enclosed areas, fire fighters must use Self-Contained Breathing Apparatus. |
| Unusual fire and explosive hazards | : | EXTREMELY FLAMMABLE, HIGH HAZARD. Liquid can release considerable vapour at temperatures below ambient which readily form flammable mixtures. Vapours settle to ground level and may reach, via drains and other underground passages, ignition sources remote from the point of escape. Product can accumulate a static charge which may cause a fire or explosion. |
| Products of decomposition | : | Fumes, smoke and carbon monoxide. |
| Flash Point | : | < -50 °C (ASTM D-56) |
| Upper Explosion Limit | : | 8.0 %(V) |
| Lower Eplosion Limit | : | 1.4 %(V) |
| NFPA Hazard Id | : | Health: 1; Flammability: 4; Reactivity: 0 |

## 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Procedure if material is released or spilled | : | Report spills/releases as required to appropriate authorities. |
| Methods for cleaning up | : | SMALL SPILLS: Eliminate all ignition sources. Remove leaking containers to detached area.<br>Absorb on fire-retardant treated sawdust, diatomaceous earth, etc. Shovel up with spark-resistant utensils for later disposal at an approved facility, in accordance with current laws and regulations.<br>LARGE SPILLS: Self-contained breathing apparatus must be worn during cleanup. Eliminate all sources of ignition. Shut off source, seal the leak taking normal safety precautions. Contain material and pump back to holding tank for later disposal. Transfer equipment should be explosion-proof. |
| Personal precautions | : | See Section 8. |
| Environmental precautions | : | Prevent spill from entering municipal sewers, water sources or low lying areas. Advise the relevant authorities if contaminations have occurred. |

## 7. HANDLING AND STORAGE

| | | |
|---|---|---|
| Safe handling advice | : | Use in a well ventilated area away from all ignition sources. Avoid sparking conditions. Ground and bond all transfer equipment. This liquid is volatile and gives off invisible vapours. Either the liquid or vapour may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode. |
| Storage information | : | This product is a static accumulator, therefore, all storage containers should be grounded and bonded. Drums should also be equipped with self-closing valves, pressure vacuum bungs and flame arresters. Outside or detached storage area, with an automatic sprinking system, is preferred. |
| Storage and handling procedures | : | Electrical equipment and fittings must comply with local fire prevention regulations for this class of product. Refer to national or local regulations covering safety at petroleum handling and storage areas for this product. |

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Occupational Exposure Limits (OELs)**

| Components | CAS-No. | Source | TWA | Value | | Notations |
|---|---|---|---|---|---|---|
| Isopentane | 78-78-4 | ACGIH TLV | LTEL | | 600 ppm | |

LTEL: Long Term Exposure Limits - Time Weight Average (TWA) over 8 hours.

STEL: Short Term Exposure Limits - Time Weight Average (TWA) over 15 Minutes

Note: Limits Shown for guidance only. Follow applicable regulations.

**Personal Protection Equipment (PPE)**

| | | |
|---|---|---|
| Engineering controls | : | Use in well ventilated area. Explosive-proof ventilation equipment with local exhaust is desirable. |
| Respiratory protection | : | Approved respiratory equipment must be used when mist concentrations exceed the recommended exposure limits. |
| Eye protection | : | Normal industrial eye protection practices should be employed. |
| Skin and body protection | : | No special equipment required. However, good personal hygiene practices should always be followed. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Appearance | : | Liquid. |
| Colour | : | Colourless |
| Odour | : | Hydrocarbon |
| Solubility | : | Negligible |
| Boiling point/range | : | 28 °C |
| Flash Point | : | < -50 °C (ASTM D-56) |
| Vapour pressure | : | > 400 hPa |
| Density | : | 0.6200 g/cm3 @ 20 °C (ASTM D-4052) |

## 10. STABILITY AND REACTIVITY

| | | |
|---|---|---|
| Stability | : | Stable. |
| Conditions to avoid | : | Heat, sparks, flame and build up of static electricity. |
| Materials to avoid | : | Strong oxidizers. |
| Hazardous decomposition products | : | Fumes, smoke and carbon monoxide. |

## 11. TOXICOLOGICAL INFORMATION

| | | |
|---|---|---|
| Acute oral toxicity | : | (Rats): Practically non-toxic (LD50: Greater than 2000 mg/kg). Based on testing of similar products and/or components. |
| Acute inhalation toxicity | : | (Rats): Practically non-toxic (LC50: greater than 5mg/l). Based on testing of similar products and/or the components. |
| Acute dermal toxicity | : | (Rabbits): Practically non-toxic (LD50: greater than 2000 mg/kg). Based on testing of similar products and/or the components. |
| Skin irritation | : | (Rabbits): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3). Based on testing of similar products and/or the components. |
| Eye irritation | : | (Rabbits): Practically non-irritating. (Draize score: greater than 0 but 6 or less). Based on testing of similar products and/or the components. |

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| Repeated dose toxicity | : | Prolonged repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. |

## 12. ECOLOGICAL INFORMATION

**Elimination information (persistence and degradability)**

| | | |
|---|---|---|
| Biodegradability | : | Not established. |
| Physico-chemical removability | : | Not established. |
| Bioaccumulation | : | Not established. |

**Ecotoxicity effects**

**Further information on ecology**

| | | |
|---|---|---|
| Remarks | : | Not established. |

## 13. DISPOSAL CONSIDERATIONS

| | | |
|---|---|---|
| Waste disposal | : | Product is suitable for burning in an enclosed, controlled burner for fuel value or disposal by supervised incineration. Such burning may be limited pursuant to the Resource Conservation and Recovery Act. In addition, the product is suitable for processing by an approved recycling facility or can be disposed of at any government approved waste disposal facility. Use of these methods is subject to user compliance with applicable laws and regulations and considerations of product characteristics at time of disposal. |
| Contaminated packaging | : | Empty containers retain residue (liquid and/or vapour) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. |
| Other regulations | : | Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity, or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP). The reportable quantity of n-hexane is 0.5kg. If this quantity is released within a 24-hour period, it is required to notify the National Response Centre immediately. [40 CFR 302.6] |
| Flash Point | : | < -50 °C (ASTM D-56) |

## 14. TRANSPORT INFORMATION

**ADR**

| | | |
|---|---|---|
| Proper shipping name | : | PENTANES |
| UN number | : | 1265 |
| Class | : | 3 |
| Letter | : | F |
| Packing group | : | I |
| Labelling number | : | 3 |

**CFR**

| | | |
|---|---|---|
| Proper shipping name | : | PENTANES |
| UN number | : | 1265 |
| Class | : | 3 |
| Letter | : | F |
| Packing group | : | I |

## ISOPENTANE

Labelling number : 3

**IATA_C**

| | | |
|---|---|---|
| Proper shipping name | : | PENTANES |
| UN number | : | 1265 |
| Class | : | 3 |
| Letter | : | F |
| Packing group | : | I |
| Labelling number | : | 3 |

**IMDG**

| | | |
|---|---|---|
| Proper shipping name | : | PENTANES |
| UN number | : | 1265 |
| Class | : | 3 |
| Letter | : | F |
| Packing group | : | I |
| Labelling number | : | 3 |
| Marine pollutant | : | Marine pollutant |
| Medical First Aid Guide (MFAG) table | : | 310 |
| Emergency Schedule (EmS) number | : | 3-07 |
| IMDG code page number | : | 3140 |
| Static Accumulator (50 picosiemens or less) | : | Yes |

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**15. REGULATORY INFORMATION**

| | | |
|---|---|---|
| US OSHA Hazard Communication Standard | : | Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined to be hazardous. |
| Governmental Inventory Status | : | All components comply with TSCA, EINECS/ELINCS, AICS, METI, DSL, KECI, ENCS, PICCS and IECSC. |
| EU Labelling | : | Product is dangerous as defined by the European Union Dangerous Substances/Preparations Directives. |
| Symbols | : | F, Xn, N<br>Highly flammable, Harmful, Dangerous for the environment |
| R-Phrase(s) | : | R12, R51/53, R65, R66, R67<br>Extremely flammable., Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment., Harmful: may cause lung damage if swallowed., Repeated exposure may cause skin dryness or cracking., Vapours may cause drowsiness and dizziness. |
| S-phrase(s) | : | S9, S16, S24/25, S29, S51<br>Keep container in a well-ventilated place., Keep away from sources of ignition - No smoking., Avoid contact with skin and eyes., Do not empty into drains., Use only in well ventilated areas. |

**SARA**

| | | |
|---|---|---|
| U.S. Superfund Amendments and Reauthorization Act SARA Title III | : | This product contains no "EXTREMELY HAZARDOUS SUBSTANCES". |
| SARA (311/312) Reportable Hazard Categories | : | Fire |

**The following product ingredients are cited on the lists below**

| Chemical name | CAS-No. | Concentration [%] | List Citations |
|---|---|---|---|
| Isopentane | 78-78-4 | >= 95.00 | 1, 10, 18, 19, 20, 21, 23, 24, 25, 26 |

**Regulatory List Searched**

| | | | | |
|---|---|---|---|---|
| 1 = ACGIH ALL | 6 = IARC 1 | 11 = TSCA 4 | 17 = CA P65 | 22 = MI 293 |
| 2 = ACGIH A1 | 7 = IARC 2A | 12 = TSCA 5a2 | 18 = CA RTK | 23 = MN RTK |
| 3 = ACGIH A2 | 8 = IARC 2B | 13 = TSCA 5e | 19 = FL RTK | 24 = NJ RTK |
| 4 = NTP CARC | 9 = OSHA CARC | 14 = TSCA 6 | 20 = IL RTK | 25 = PA RTK |
| 5 = NTP SUS | 10 = OSHA Z | 15 = TSCA 12b | 21 = LA RTK | 26 = RI RTK |

Code Key: CARC = Carcinogen; SUS = Suspected Carcinogen

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**16. OTHER INFORMATION**

Note: Our products do not contain PCBs.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for any other applications. In any case, the following advice should be considered:

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a doctor as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Precautionary Label Text:

WARNING!

EXTREMELY FLAMMABLE LIQUID AND VAPOUR. RESPIRATORY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, LOSS OF CONSCIOUSNESS, AND IN CASES OF EXTREME EXPOSURE, POSSIBLY DEATH. LOW VISCOSITY MATERIAL-IF SWALLOWED, MAY BE ASPIRATED AND CAN CAUSE SERIOUS OR FATAL LUNG DAMAGE.

SAFETY: Keep away from heat and flame. Avoid prolonged or repeated overexposure by skin contact or inhalation. Use with adequate ventilation. Keep container closed. Keep out of reach of children.

FIRST AID: Wash skin with soap and water. Flush eyes with water. If overcome by fumes or vapour, remove to fresh air. If ingested do not induce vomiting. If symptoms persist seek medical attention. Read and understand the MSDS before using this product.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product. Refer to product Material Safety Data Sheet for further safety and health information.

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**Disclaimer**

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and we expressly disclaim all warranties of every kind and nature, including warranties of merchantability and fitness for a particular purpose in respect to the use or suitability of the product. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.

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