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## MATERIAL SAFETY DATA SHEET (MSDS)

### iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)

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

##### 1.1. Product identifier

**Trade name** : iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)

**Product code** : SS0109102500

**Identification of the product** : 2,2,4-TRIMETHYL PENTANE for HPLC and Spectroscopy  
 CAS No: 540-84-1

##### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Use** : Industrial. For professional use only.

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

**Company identification** SUVCHEM  
 Chaitanya Tower, 2nd Floor, Office # 206,  
 Siddharth Nagar, S.V. Road,  
 Goregaon (West), Mumbai - 400062,  
 Maharashtra, India.  
 Contact: +91 22 28725393 / 94 / 95  
 Email ID: info@suvchem.com/care@suvchem.com

##### 1.4. Emergency telephone number

**Phone no.** : + 91 22 28725393 / 94 / 95 (9:00am - 6:00 pm) [ Office hours ]

#### 2. Hazards identification -DSD

##### 2.1. Classification of the substance or mixture

##### Classification EC 67/548 or EC 1999/45

**Classification** : F; R11  
 Xn; R65  
 R67  
 Xi; R38  
 N; R50-53

##### Hazard Class and Category Code(s), Regulation (EC) No 1272/2008 (CLP)

**Health hazards** : Specific Target Organ Toxicity - Single exposure - Narcotic effects - Category 3 -  
 Warning (CLP : STOT SE 3) H336  
 Aspiration hazard - Category 1 - Danger (CLP : Asp. Tox. 1) H304  
 Skin irritation - Category 2 - Warning (CLP : Skin Corr. 2) H315

**Physical hazards** : Flammable liquids - Category 2 - Danger (CLP : Flam. Liq. 2) H225

**Environmental hazards** : Hazardous to the aquatic environment - Acute hazard - Category 1 - Warning (CLP :  
 Aquatic Acute 1) H400  
 Hazardous to the aquatic environment - Chronic hazard - Category 1 - Warning (CLP :  
 Aquatic Chronic 1) H410

**MATERIAL SAFETY DATA SHEET (MSDS)**
**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**
**2. Hazards identification -DSD (continued)**
**2.2. Label elements**
**Labelling EC 67/548 or EC 1999/45**
**Symbol(s)**

**Symbol(s)**

: F : Highly flammable  
 N : Dangerous for the environment  
 Xn : Harmful

**R Phrase(s)**

: R11 : Highly flammable.  
 R38 : Irritating to skin.  
 R50/53 : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
 R65 : Harmful : may cause lung damage if swallowed.  
 R67 : Vapours may cause drowsiness and dizziness.

**S Phrase(s)**

:  
 S16 : Keep away from sources of ignition - No smoking.  
 S29 : Do not empty into drains.  
 S33 : Take precautionary measures against static discharges.  
 S60 : This material and its container must be disposed of as hazardous waste.  
 S61 : Avoid release to the environment. Refer to special instructions/Safety data sheets.  
 S62 : If swallowed, do not induce vomiting : seek medical advice immediately and show this container or label.

**Labelling Regulation EC 1272/2008 (CLP)**
**Hazard pictograms**

**Signal words**

: Danger

**Hazard statements**

: H225 : Highly flammable liquid and vapour.  
 H304 : May be fatal if swallowed and enters airways.  
 H315 : Causes skin irritation.  
 H336 : May cause drowsiness or dizziness.  
 H410 : Very toxic to aquatic life with long lasting effects.

**Precautionary statements**
**• Prevention**

: P240: Ground/bond container and receiving equipment.  
 P241: Use explosion-proof electrical, ventilating, lighting, ..., equipment.  
 P210: Keep away from heat, sparks, open flames or hot surfaces. - No smoking.  
 P280: Wear protective gloves, protective clothing, eye protection, face protection.  
 P271: Use only outdoors or in a well-ventilated area.  
 P261: Avoid breathing dust, fume, gas, mist, vapours, spray.  
 P273: Avoid release to the environment.  
 P233: Keep container tightly closed.

**MATERIAL SAFETY DATA SHEET (MSDS)**
**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**
**2. Hazards identification -DSD (continued)**

- Response**

P264: Wash thoroughly after handling.  
 : P301+P310: IF SWALLOWED : Immediately call a POISON CENTER or doctor.  
 P302+P352: IF ON SKIN : Wash with plenty of soap and water.  
 P332+P313: If skin irritation occurs : Get medical advice.  
 P391: Collect spillage.  
 P304+P340: IF INHALED : Remove to fresh air and keep at rest in a position comfortable for breathing.  
 P303+P361+P353: IF ON SKIN (or hair) : Remove immediately all contaminated clothing. Rinse skin with water/shower.  
 P363: Wash contaminated clothing before reuse.  
 P370+P378: In case of fire: Use for extinction.
- Storage**

: P403+P233: Store in well-ventilated place. Keep container tightly closed.  
 P403+P235: Store in well-ventilated place. Keep cool.  
 P405: Store locked up.
- Disposal considerations**

: P501: Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

**2.3. Other hazards**

- Other hazards** : The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.

**3. Composition/information on ingredients**

**Substance / Preparation** : 2,2,4-TRIMETHYL PENTANE for HPLC and Spectroscopy

Substance.

Contains no other components or impurities which will influence the classification of the product.

**4. First aid measures**
**4.1. Description of first aid measures**

- Inhalation** : Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
- Skin contact** : Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Specific treatment (see on this label). Get medical advice. Wash contaminated clothing before reuse. If skin irritation occurs :
- Eye contact** : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- Ingestion** : Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.

**4.2. Most important symptoms and effects, both acute and delayed**

**MATERIAL SAFETY DATA SHEET (MSDS)**
**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**
**4. First aid measures (continued)**

**Symptoms relating to use** : May be fatal if swallowed and enters airways.  
 Causes skin irritation.  
 May cause drowsiness or dizziness.

**4.3. Indication of any immediate medical attention and special treatment needed**

**General information** : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**5. Fire-fighting measures**
**5.1. Extinguishing media**

**Suitable extinguishing media** : Foam. Dry powder. Carbon dioxide. Water spray. Sand.  
**Unsuitable extinguishing media** : Do not use a heavy water stream.  
**Surrounding fires** : Use water spray or fog for cooling exposed containers.

**5.2. Special hazards arising from the substance or mixture**

**Flammable class** : Highly flammable liquid and vapour.  
**Hazardous combustion products** : Under fire conditions, hazardous fumes will be present.

**5.3. Advice for fire-fighters**

**Protection against fire** : Do not enter fire area without proper protective equipment, including respiratory protection.  
**Special procedures** : Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

**6. Accidental release measures**
**6.1. Personal precautions, protective equipment and emergency procedures**

**For emergency responders** : Equip cleanup crew with proper protection.  
 Ventilate area.  
 Avoid breathing dust, fume, gas, mist, vapours, spray.  
**Technical measures** : Use special care to avoid static electric charges.  
**Special precautions** : Remove ignition sources. No naked lights. No smoking.  
**For non-emergency personnel** : Evacuate unnecessary personnel.

**6.2. Environmental precautions**

**Environmental precautions** : Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters.  
 Avoid release to the environment.

**MATERIAL SAFETY DATA SHEET (MSDS)**
**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**
**6. Accidental release measures (continued)**
**6.3. Methods and material for containment and cleaning up**

**Clean up methods** : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

**6.4. Reference to other sections**

See section 8. Exposure controls/personal protection

**7. Handling and storage**
**7.1. Precautions for safe handling**

**Handling** : Handle empty containers with care because residual vapours are flammable. Wash thoroughly after handling.  
Use only outdoors or in a well-ventilated area.

**Technical protective measures** : Provide good ventilation in process area to prevent formation of vapour. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof electrical, ventilating, lighting, ..., equipment.

**Special precautions** : No naked lights. No smoking.  
Avoid breathing dust, fume, gas, mist, vapours, spray.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage** : Keep only in the original container in a cool, well ventilated place. Keep in fireproof place. Ground/bond container and receiving equipment. Keep container tightly closed.

**Storage - away from** : Strong bases. Strong acids. Sources of ignition. Direct sunlight. Heat sources.

**7.3. Specific end use(s)**

**Specific end use(s)** : None.

**8. Exposure controls/personal protection**
**8.1. Exposure controls**

**Personal protection** : Avoid all unnecessary exposure.

- **Respiratory protection** : Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.  
Wear respiratory protection.
- **Hand protection** : Wear protective gloves.
- **Skin protection** : Wear suitable protective clothing.
- **Eye protection** : Chemical goggles or safety glasses.

**MATERIAL SAFETY DATA SHEET (MSDS)**
**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**
**8. Exposure controls/personal protection (continued)**

• Others : When using, do not eat, drink or smoke.

**8.2. Control parameters**

Occupational Exposure Limits : No data available.

**9. Physical and chemical properties**
**9.1. Information on basic physical and chemical properties**

Physical state at 20 °C	: Liquid.
Colour	: Clear Colorless
Odour	: Benzene-like
Odour threshold	: No data available.
pH value	: No data available.
Melting point [°C]	: -107.45°C
Decomposition point [°C]	: N/A
Critical temperature [°C]	: N/A
Auto-ignition temperature [°C]	: 418°C
Flammability (solid, gas)	: Flammable. Highly flammable liquid and vapour.
Flash point [°C]	: -12°C
Boiling point [°C]	: 98 - 99 °C
Initial boiling point [°C]	: 98°C
Final boiling point [°C]	: 99 °C
Evaporation rate	: N/A
Vapour pressure [20°C]	: 5.4 kPa (@ 20°C)
Vapour pressure mm/Hg	: N/A
Vapour density	: 3.93
Density [g/cm <sup>3</sup> ]	: 0.69194
Relative density, gas (air=1)	: N/A
Relative density, liquid (water=1)	: 0.69194
Solubility in water [% weight]	: Insoluble.
Solubility in water	: N/A
Log Pow octanol / water at 20°C	: No data available.
Solubility	: N/A
Viscosity at 40°C [mm <sup>2</sup> /s]	: N/A

**9.2. Other information**

Explosive properties : N/A

**MATERIAL SAFETY DATA SHEET (MSDS)**
**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**
**9. Physical and chemical properties (continued)**

Explosion limits - upper [%]	: 6%
Explosion limits - lower [%]	: 1%
Oxidising properties	: No data available.

**10. Stability and reactivity**
**10.1. Reactivity**

Reactivity	: Not established.
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**10.2. Chemical stability**

Chemical stability	: Stable under recommended storage conditions.
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**10.3. Possibility of hazardous reactions**

Hazardous reactions	: Not established.
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**10.4. Conditions to avoid**

Conditions to avoid	: Direct sunlight. Extremely high or low temperatures. Open flame.
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**10.5. Incompatible materials**

Materials to avoid	: Strong acids. Strong bases.
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**10.6. Hazardous decomposition products**

Hazardous decomposition products	: Fumes. Carbon monoxide. Carbon dioxide. May release flammable gases.
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**11. Toxicological information**
**11.1. Information on toxicological effects**
**Acute toxicity**

• Inhalation	: May be fatal if swallowed and enters airways.
• Dermal	: Based on available data, the classification criteria are not met.
• Ingestion	: May be fatal if swallowed and enters airways.

Corrosion	: Based on available data, the classification criteria are not met.
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Irritation	: Causes skin irritation.
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Sensitization	: Based on available data, the classification criteria are not met.
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Mutagenicity	: Based on available data, the classification criteria are not met.
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Carcinogenicity	: Based on available data, the classification criteria are not met.
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**MATERIAL SAFETY DATA SHEET (MSDS)**
**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**
**11. Toxicological information (continued)**

<b>Toxic for reproduction</b>	: Based on available data, the classification criteria are not met.
<b>STOT-single exposure</b>	: May cause drowsiness or dizziness.
<b>STOT-repeated exposure</b>	: Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	: May be fatal if swallowed and enters airways.

**12. Ecological information**
**12.1. Toxicity**

<b>Toxicity information</b>	: Very toxic to aquatic life with long lasting effects.
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**12.2. Persistence - degradability**

<b>Persistence - degradability</b>	: May cause long-term adverse effects in the environment.
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**12.3. Bioaccumulative potential**

<b>Bioaccumulative potential</b>	: Not established.
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**12.4. Mobility in soil**

<b>Mobility in soil</b>	: Not established.
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**12.5. Results of PBT and vPvB assessment**

<b>Results of PBT and vPvB assessment</b>	: The substance does not fulfil the criteria to be identified as PBT substance or vPvB substance according to Annex XIII of Regulation REACH.
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**12.6. Other adverse effects**

<b>Environmental precautions</b>	: Avoid release to the environment.
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**13. Disposal considerations**
**13.1. Waste treatment methods**

<b>General</b>	: Avoid release to the environment. Dispose in a safe manner in accordance with local/national regulations. Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
<b>Special precautions</b>	: Handle empty containers with care because residual vapours are flammable. Hazardous waste due to toxicity.



**MATERIAL SAFETY DATA SHEET (MSDS)**
**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**
**14. Transport information**
**14.1. Land transport (ADR-RID)**

Proper shipping name : OCTANES  
 UN N° : 1262  
 H.I. nr : 33  
 ADR - Class : 3  
 Labelling - Transport : 3 : Flammable liquid.



ADR - Classification code : F1  
 ADR - Group : II  
 ADR - Packing instructions : P001 R001  
 ADR - Limited Quantity : 1 L  
 ADR - Tunnel code



: D/E : Bulk or tank carriage: Passage forbidden through tunnels of category D and E. Other carriage: Passage forbidden through tunnels of category E.

**14.2. Sea transport (IMDG) [English only]**

Proper shipping name : OCTANES  
 UN N° : 1262  
 IMO-IMDG - Class or division : 3 : Flammable liquid.  
 IMO-IMDG - Packing group : II  
 IMO-IMDG - Packing instructions : P001  
 IMO-IMDG - Limited quantities : 1 L  
 IMO-IMDG - Marine pollution : Yes  
 EMS-Nr : F-E S-E

**14.3. Air transport (ICAO-IATA) [English only]**

Proper shipping name : OCTANES  
 UN N° : 1262  
 IATA - Class or division : 3 : Flammable liquid.  
 IATA - Packing group : II  
 IATA - Passenger and Cargo Aircraft : ALLOWED  
 - Passenger and Cargo - Packing instruction : 353

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**MATERIAL SAFETY DATA SHEET (MSDS)**

**iso-OCTANE HPLC (2,2,4-TRIMETHYL PENTANE)**

In accordance with REACH Regulation (CE) N° 1907/2006 and with CLP Regulation (CE) N° 1272/2008

**DISCLAIMER:**

- **SUVCHEM** Products are to be used as Lab Chemicals for R&D only. Not for drug, medicinal, household or other uses.
- **SUVCHEM** shall not be responsible for any damage resulting from handling or from contact with the above product.
- **SUVCHEM** provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.

**End of document**