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## Material Safety Data Sheet 2,2,4-trimethylpentane MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** 2,2,4-trimethylpentane

**Catalog Codes:** SLT3712

**CAS#:** 540-84-1

**RTECS:** SA3320000

**TSCA:** TSCA 8(b) inventory: 2,2,4-trimethylpentane

**CI#:** Not available.

**Synonym:** Isooctane; Isobutyltrimethylpentane

**Chemical Name:** 2,2,4-Trimethylpentane

**Chemical Formula:** C<sub>8</sub>H<sub>18</sub>

**Contact Information:**

**Sciencelab.com, Inc.**  
14025 Smith Rd.  
Houston, Texas 77396

US Sales: **1-800-901-7247**  
International Sales: **1-281-441-4400**

Order Online: [ScienceLab.com](http://ScienceLab.com)

**CHEMTREC (24HR Emergency Telephone), call:**  
1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
{2,2,4-}trimethylpentane	540-84-1	100

**Toxicological Data on Ingredients:** 2,2,4-trimethylpentane LD50: Not available. LC50: Not available.

### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Hazardous in case of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (irritant, permeator).

**Potential Chronic Health Effects:**

Slightly hazardous in case of skin contact (sensitizer).

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance is toxic to eyes.

The substance may be toxic to kidneys, lungs, liver, skin, central nervous system (CNS).

Repeated or prolonged exposure to the substance can produce target organs damage.

## Section 4: First Aid Measures

### Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

### Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

**Serious Skin Contact:** Not available.

### Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

### Ingestion:

If swallowed, do NOT induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed- can enter lungs and cause damage. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Flammable.

**Auto-Ignition Temperature:** 418°C (784.4°F)

**Flash Points:** CLOSED CUP: -12°C (10.4°F). OPEN CUP: 4.5°C (40.1°F).

**Flammable Limits:** LOWER: 1.1% UPPER: 6%

**Products of Combustion:** These products are carbon oxides (CO, CO<sub>2</sub>).

### Fire Hazards in Presence of Various Substances:

Highly flammable in presence of open flames and sparks, of heat.  
Non-flammable in presence of shocks.

### Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available.  
Risks of explosion of the product in presence of static discharge: Not available.  
Slightly explosive in presence of heat.

### Fire Fighting Media and Instructions:

Flammable liquid, insoluble in water.  
SMALL FIRE: Use DRY chemical powder.  
LARGE FIRE: Use water spray or fog.

**Special Remarks on Fire Hazards:** Vapor may travel considerable distance to source of ignition and flash back.

**Special Remarks on Explosion Hazards:** May form explosive mixtures with air.

## Section 6: Accidental Release Measures

**Small Spill:** Absorb with an inert material and put the spilled material in an appropriate waste disposal.

**Large Spill:**

Flammable liquid, insoluble in water.

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal.

## Section 7: Handling and Storage

**Precautions:**

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe gas/fumes/ vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis.

**Storage:**

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

**Personal Protection:** Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:** Not available.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:** Benzene-like. Odor of gasoline

**Taste:** Not available.

**Molecular Weight:** 114.23 g/mole

**Color:** Colorless. Clear

**pH (1% soln/water):** Not applicable.

**Boiling Point:** 99.238°C (210.6°F)

**Melting Point:** -107.45°C (-161.4°F)

**Critical Temperature:** Not available.

**Specific Gravity:** 0.69194 (Water = 1)

**Vapor Pressure:** 5.4 kPa (@ 20°C)

**Vapor Density:** 3.93 (Air = 1)

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water, diethyl ether, acetone.

**Solubility:**

Soluble in diethyl ether, acetone.

Insoluble in cold water

Somewhat soluble in absolute alcohol.

Soluble in Benzene, Toluene, Xylene, Chloroform, Carbon Disulfide, Carbon Tetrachloride.

### Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Heat, ignition sources (flames, sparks, static), incompatible materials

**Incompatibility with various substances:** Reactive with oxidizing agents, reducing agents, acids, alkalis.

**Corrosivity:** Non-corrosive in presence of glass.

**Special Remarks on Reactivity:** Not available.

**Special Remarks on Corrosivity:** Not available.

**Polymerization:** Will not occur.

### Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Eye contact. Inhalation. Ingestion.

**Toxicity to Animals:**

LD50: Not available.

LC50: Not available.

**Chronic Effects on Humans:**

Causes damage to the following organs: eyes.

May cause damage to the following organs: kidneys, lungs, liver, skin, central nervous system (CNS).

**Other Toxic Effects on Humans:**

Hazardous in case of ingestion, of inhalation.

Slightly hazardous in case of skin contact (irritant, permeator).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** May affect genetic material (mutagenic)

**Special Remarks on other Toxic Effects on Humans:**

**Acute Potential Health Effects:**

**Skin:** May cause skin irritation. It is not known whether it enters the body through the skin.

**Eyes:** Causes eye irritation.

**Inhalation:** May cause irritation of the respiratory tract (nose, throat and lungs) with coughing, wheezing, shortness of breath, and pulmonary edema. Higher levels could cause "chemical pneumonia" and may cause you to pass out and even stop breathing. May affect behavior/central nervous system and cause narcotic effects at high concentration (CNS depression - dizziness, drowsiness, lightheadedness, poor coordination, reduced alertness, headache, unconsciousness, coma) and cause nausea.

**Ingestion:** May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea. May affect behavior/central nervous system (CNS depression with symptoms similar to that of inhalation)

**Chronic Potential Health Effects:**

**Skin:** Prolonged or repeated exposure may cause defatting of the skin and dermatitis.

**Ingestion:** Prolonged or repeated ingestion may affect the kidneys, and liver.

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The product itself and its products of degradation are not toxic.

**Special Remarks on the Products of Biodegradation:** Not available.

## Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

## Section 14: Transport Information

**DOT Classification:** CLASS 3: Flammable liquid.

**Identification:** : Octane UNNA: 1262 PG: II

**Special Provisions for Transport:** Not available.

## Section 15: Other Regulatory Information

**Federal and State Regulations:**

Pennsylvania RTK: 2,2,4-trimethylpentane

Florida: 2,2,4-trimethylpentane

Massachusetts RTK: 2,2,4-trimethylpentane

New Jersey: 2,2,4-trimethylpentane

TSCA 8(b) inventory: 2,2,4-trimethylpentane

TSCA 8(d) H and S data reporting: 2,2,4-trimethylpentane: 12/19/95

CERCLA: Hazardous substances.: 2,2,4-trimethylpentane: 1000 lbs. (453.6 kg)

**Other Regulations:**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

**Other Classifications:**

**WHMIS (Canada):**

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

CLASS D-2B: Material causing other toxic effects (TOXIC).

**DSCL (EEC):**

R11- Highly flammable.

R38- Irritating to skin.

R50- Very toxic to aquatic organisms.

R65- Harmful: may cause lung damage if swallowed.

S2- Keep out of the reach of children.

S9- Keep container in a well-ventilated place.

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.

**HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 3

**Reactivity:** 0

**Personal Protection:** j

**National Fire Protection Association (U.S.A.):**

**Health:** 0

**Flammability:** 3

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Not applicable.

Lab coat.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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