

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **2,2,4-Trimethylpentane**  
Product Number : 360597  
Brand : Sigma-Aldrich  
Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # : (314) 776-6555

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Isooctane  
Formula : C<sub>8</sub>H<sub>18</sub>  
Molecular Weight : 114.23 g/mol

CAS-No.	EC-No.	Index-No.	Concentration [%]
<b>2,2,4-Trimethylpentane</b>			
540-84-1	208-759-1	601-009-00-8	-

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Flammable Liquid  
Delayed target organ effects  
Irritant

##### Target Organs

Liver, Kidney

#### HMIS Classification

Health Hazard: 2  
Chronic Health Hazard: \*  
Flammability: 3  
Physical hazards: 0

#### NFPA Rating

Health Hazard: 2  
Fire : 3  
Reactivity Hazard: 0

#### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	Aspiration hazard if swallowed - can enter lungs and cause damage. May be harmful if swallowed.

#### 4. FIRST AID MEASURES

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

##### If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 5. FIRE-FIGHTING MEASURES

##### Flammable properties

Flash point -12 °C (10 °F) - closed cup

Ignition temperature 396 °C (745 °F)

##### Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

##### Specific hazards

Flash back possible over considerable distance. Container explosion may occur under fire conditions.

##### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

##### Further information

Use water spray to cool unopened containers.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

##### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

##### 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 local / national regulations (see section 13).

#### 7. HANDLING AND STORAGE

##### Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

### Storage

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. Store in cool place.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection

Handle with gloves.

#### Eye protection

Safety glasses

#### Skin and body protection

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

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	liquid
Colour	no data available

### Safety data

pH	no data available
Melting point	-107 °C (-161 °F)
Boiling point	98 - 99 °C (208 - 210 °F) at 1,013 hPa (760 mmHg)
Flash point	-12 °C (10 °F) - closed cup
Ignition temperature	396 °C (745 °F)
Lower explosion limit	1 %(V)
Upper explosion limit	6 %(V)
Vapour pressure	55 hPa (41 mmHg) at 21 °C (70 °F) 117 hPa (88 mmHg) at 37.80 °C (100.04 °F)
Density	0.690 g/cm <sup>3</sup>
Water solubility	insoluble
Vapour density	3.94 - (Air = 1.0)

## 10. STABILITY AND REACTIVITY

### Storage stability

Stable under recommended storage conditions.

### Conditions to avoid

Heat, flames and sparks.

### Materials to avoid

Strong oxidizing agents

### Hazardous decomposition products

#### Hazardous decomposition products formed under fire conditions.

Carbon oxides

### Hazardous reactions

Vapours may form explosive mixture with air.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

no data available

### Irritation and corrosion

no data available

### Sensitisation

no data available

### Chronic exposure

Genotoxicity in vivo - rat - Oral  
Unscheduled DNA synthesis

### Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Potential Health Effects

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
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<b>Target Organs</b>	Liver, Kidney,

## 12. ECOLOGICAL INFORMATION

### Elimination information (persistence and degradability)

no data available

### Ecotoxicity effects

no data available

### Further information on ecology

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

no data available

### 13. DISPOSAL CONSIDERATIONS

#### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

### 14. TRANSPORT INFORMATION

#### DOT (US)

UN-Number: 1262 Class: 3 Packing group: II  
Proper shipping name: Octanes

#### IMDG

UN-Number: 1262 Class: 3 Packing group: II EMS-No: F-E, S-E  
Proper shipping name: OCTANES  
Marine pollutant: No

#### IATA

UN-Number: 1262 Class: 3 Packing group: II  
Proper shipping name: Octanes

### 15. REGULATORY INFORMATION

#### OSHA Hazards

Flammable Liquid, Delayed target organ effects, Irritant

#### TSCA Status

On TSCA Inventory

#### DSL Status

All components of this product are on the Canadian DSL list.

#### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

#### Massachusetts Right To Know Components

	CAS-No.	Revision Date
2,2,4-Trimethylpentane	540-84-1	1989-12-01

#### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
2,2,4-Trimethylpentane	540-84-1	1989-12-01

#### New Jersey Right To Know Components

	CAS-No.	Revision Date
2,2,4-Trimethylpentane	540-84-1	1989-12-01

#### California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

## 16. OTHER INFORMATION

### Further information

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