

## 2,2,4-Trimethylpentane (Iso-Octane)

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	2,2,4-Trimethylpentane (Iso-Octane)
<b>Other Means of Identification</b>	2,2,4-TMP, Iso-Octane
<b>Product Code(s)</b>	TR8010, TR8020
<b>Product Family</b>	Organic solution
<b>Recommended Use</b>	Laboratory and industrial use.
<b>Restrictions on Use</b>	None known.
<b>Supplier Identifier</b>	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
<b>Emergency Phone No.</b>	CANUTEC CANADA, 613-996-6666, 24 Hours
<b>SDS No.</b>	0353

### SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

#### Classification

Flammable liquid - Category 2; Skin irritation - Category 2; Eye irritation - Category 2A; Specific target organ toxicity (single exposure) - Category 3; Specific target organ toxicity (repeated exposure) - Category 2; Aspiration hazard - Category 1

#### Label Elements



Signal Word:  
Danger

#### Hazard Statement(s):

Highly flammable liquid and vapour.  
May be fatal if swallowed and enters airways.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Causes damage to organs through prolonged or repeated exposure.

#### Precautionary Statement(s):

Wash hands and skin thoroughly after handling.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Use only outdoors or in a well-ventilated area.

Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical, ventilating, and lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.

**Response:**

IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
IF ON SKIN: Wash with plenty of water.  
If skin irritation occurs: Get medical advice/attention.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
Call a POISON CENTRE or doctor.  
In case of fire: Use appropriate foam, carbon dioxide, dry chemical powder to extinguish.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.

**Other Hazards**

May be a health and fire hazard in a confined space.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
2,2,4-Trimethylpentane	540-84-1	> 99	2,2,4-TMP, Iso-Octane

### SECTION 4. FIRST-AID MEASURES

**First-aid Measures**

**Inhalation**

Take precautions to prevent a fire (e.g. remove sources of ignition). Remove source of exposure or move to fresh air. If breathing has stopped, trained personnel should begin rescue breathing. Immediately call a Poison Centre or doctor.

**Skin Contact**

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. If skin irritation occurs, get medical advice or attention.

**Eye Contact**

Quickly and gently blot or brush chemical off the face. Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

**Ingestion**

Do not induce vomiting. Rinse mouth with water. If vomiting occurs, have person lie on side in the recovery position. Rinse mouth with water again. Immediately call a Poison Centre or doctor.

**First-aid Comments**

All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace. If exposed or concerned, get medical advice or attention.

**Most Important Symptoms and Effects, Acute and Delayed**

If inhaled: can irritate the nose and throat. Can harm the nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

## Immediate Medical Attention and Special Treatment

### Special Instructions

General advice

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

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Carbon dioxide, dry chemical powder or appropriate foam.

#### Unsuitable Extinguishing Media

Water is not effective for extinguishing a fire. It may not cool product below its flash point.

### Specific Hazards Arising from the Product

Can accumulate static charge by flow, splashing or agitation. Can be ignited by static discharge. Liquid can float on water and may travel to distant locations and/or spread fire. May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, resulting in a fire and/or health hazard.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

### Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Stop leak before attempting to put out the fire. Product could form an explosive mixture and reignite. If the leak cannot be stopped, let the fire burn itself out. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment, and Emergency Procedures

Emergency responders: use the personal protective equipment recommended in Section 8 of this safety data sheet. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Eliminate all ignition sources if safe to do so. Remove or isolate incompatible materials as well as other hazardous materials.

### Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

### Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain spill with earth, sand, or absorbent material which does not react with spilled material.

Small spills or leaks: contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Do not breathe in this product. Do not get in eyes, on skin or on clothing. Prevent accidental contact with incompatible chemicals. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Electrically bond and ground equipment. Ground clips must contact bare metal. Use non-sparking tools. Keep containers tightly closed when not in use or empty.

### Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity), clear of combustible and flammable materials (e.g. old rags, cardboard). Keep amount in storage to a minimum. Store in a closed container. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Comply with all applicable health and safety regulations, fire and building codes.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
2,2,4-Trimethylpentane	300 ppm		300 ppm			

### Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

### Individual Protection Measures

#### Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

#### Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: nitrile rubber, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE).

The following materials should NOT be used: butyl rubber, natural rubber, polyvinyl chloride.

#### Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Colourless liquid.
Odour	Gasoline-like
Odour Threshold	Not available
pH	Not applicable
Melting Point/Freezing Point	-107 °C (-161 °F) (melting); -107 °C (-161 °F) (freezing)
Initial Boiling Point/Range	99 °C (210 °F)
Flash Point	-12 °C (10 °F)
Evaporation Rate	Not available
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	6.0% (upper); 1.1% (lower)
Vapour Pressure	41 mm Hg
Vapour Density (air = 1)	3.94
Relative Density (water = 1)	0.692 at 20 °C
Solubility	Insoluble in water; Highly soluble in common organic solvents.
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	418 °C (784 °F)
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid
Other Physical Property 1	Vapour Pressure: 41 mmHg @ 21 deg C

## SECTION 10. STABILITY AND REACTIVITY

### Reactivity

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Not reactive under normal conditions of use.

#### **Chemical Stability**

Normally stable.

#### **Possibility of Hazardous Reactions**

None known.

#### **Conditions to Avoid**

Open flames, sparks, static discharge, heat and other ignition sources.

#### **Incompatible Materials**

Strong oxidizing agents (e.g. perchloric acid).

#### **Hazardous Decomposition Products**

Very toxic carbon monoxide, carbon dioxide.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

#### **Likely Routes of Exposure**

Inhalation; skin contact; eye contact; ingestion.

#### **Acute Toxicity**

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
2,2,4-Trimethylpentane	47.4 mg/L (rat) (1-hour exposure)	> 2500 mg/kg (rat)	Not available

#### **Skin Corrosion/Irritation**

May cause mild irritation based on information for closely related chemicals.

#### **Serious Eye Damage/Irritation**

The vapour also irritates the eyes.

#### **STOT (Specific Target Organ Toxicity) - Single Exposure**

##### **Inhalation**

May cause nose and throat irritation, depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion. At high concentrations a severe exposure can cause unconsciousness.

##### **Ingestion**

May cause a laxative effect. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

#### **Aspiration Hazard**

May be drawn into the lungs (aspirated) if swallowed or vomited.

#### **STOT (Specific Target Organ Toxicity) - Repeated Exposure**

Dermatitis. Symptoms may include dry, red, cracked skin (dermatitis).

#### **Respiratory and/or Skin Sensitization**

No information was located.

#### **Carcinogenicity**

Chemical Name	IARC	ACGIH®	NTP	OSHA
2,2,4-Trimethylpentane	Not evaluated	Not designated	Not Listed	

## Reproductive Toxicity

### Development of Offspring

Conclusions cannot be drawn from the limited studies available.

### Sexual Function and Fertility

Conclusions cannot be drawn from the limited studies available.

### Effects on or via Lactation

No information was located.

## Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

## Interactive Effects

No information was located.

## SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN1262	Octanes	3	II
US DOT	UN1262	Octanes	3	II
IATA (Air)	UN1262	Octanes	3	II

**Special Precautions** Not applicable

**Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

**Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)**

Listed on the DSL.

#### USA

**Toxic Substances Control Act (TSCA) Section 8(b)**

Listed on the TSCA Inventory.

## SECTION 16. OTHER INFORMATION

**NFPA Rating**      **Health - 2**    **Flammability - 3**    **Instability - 0**

**SDS Prepared By**    Alphachem Limited

**Phone No.**            (905)-821-2995

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**Date of Last Revision** March 24, 2016

**References**            CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

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**Disclaimer**

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