

2,2,4-Trimethylpentane**59050-2.5L**

Version 1.1

Revision Date 11/03/2021

Print Date 05/15/2023

SECTION 1. IDENTIFICATION

Product name : 2,2,4-Trimethylpentane

Number : 000000020374

Product Use Description : Laboratory chemicals

Manufacturer or supplier's details : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

For more information call : 1-800-368-0050
+1-231-726-3171(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**
: **Transportation (CHEMTREC): 1-800-424-9300 or**
: **+1-703-527-3887**
:
: (24 hours/day, 7 days/week)

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid

Color : colourless

Odor : characteristic

Classification of the substance or mixture

Classification of the substance or mixture : Flammable liquids, Category 2
Skin irritation, Category 2
Specific target organ toxicity - single exposure, Category 3,
Central nervous system
Aspiration hazard, Category 1

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GHS Label elements, including precautionary statements

Symbol(s)

:



Signal word

: Danger

Hazard statements

: Highly flammable liquid and vapour.
May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause drowsiness or dizziness.

Precautionary statements

: **Prevention:**
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER/ doctor if you feel unwell.
Do NOT induce vomiting.
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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

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Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTSFormula : C₈H₁₈

Chemical nature : Substance

Chemical name	CAS-No.	Concentration
2,2,4-Trimethylpentane; (Isooctane)	540-84-1	100.00 %

SECTION 4. FIRST AID MEASURES

General advice : First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately.

Inhalation : If inhaled, remove to fresh air. Call a physician if irritation develops or persists.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Call a physician if irritation develops or persists.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Ingestion : When swallowed, allow water to be drunk. Do NOT induce vomiting. Call a physician immediately.

Notes to physician

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Most important symptoms/effects, acute and delayed : No information available.

Indication of immediate medical attention and special treatment needed, if necessary : Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray
Foam
Carbon dioxide (CO2)
Dry powder

Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.

Specific hazards during firefighting : Flammable.
Vapours may form explosive mixtures with air.
Vapours are heavier than air and may spread along floors.
Vapors may travel to areas away from work site before igniting/flashback to vapor source.
Fire may cause evolution of:
Carbon oxides

Special protective equipment for firefighters : Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.
Wear personal protective equipment. Unprotected persons must be kept away.
Ensure adequate ventilation.
Remove all sources of ignition.

Environmental precautions : Do not flush into surface water or sanitary sewer system.

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Should not be released into the environment.

Methods and materials for
containment and cleaning
up

: Ventilate the area.
Do not use sparking tools.
Use explosion-proof equipment.
Contain spillage, soak up with non-combustible absorbent
material, (e.g. sand, earth, diatomaceous earth, vermiculite) and
transfer to a container for disposal according to local / national
regulations (see section 13).

SECTION 7. HANDLING AND STORAGE**Handling**Precautions for safe
handling

: Wear personal protective equipment.
Use only in well-ventilated areas.

Advice on protection against
fire and explosion

: Keep product and empty container away from heat and sources
of ignition.
No smoking.
Take precautionary measures against static discharges.
Vapours may form explosive mixtures with air.

StorageConditions for safe storage,
including any
incompatibilities

: Store in area designed for storage of flammable liquids. Protect
from physical damage.
Store in original container.
Keep containers tightly closed in a dry, cool and well-ventilated
place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures

: Ensure that eyewash stations and safety showers are close to
the workstation location.
Legal requirements are to be considered in regard of the
selection, use and care of personal protective equipment.
Avoid breathing vapours, mist or gas.

Engineering measures

: Local exhaust
Use explosion-proof equipment.

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- Eye protection : Safety goggles
- Hand protection : Wear nitrile rubber gloves to avoid contact with the skin.
Gloves must be inspected prior to use.
Replace when worn.
- Skin and body protection : Protective suit
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
- Hygiene measures : Take off all contaminated clothing immediately.
Remove and wash contaminated clothing before re-use.
Keep working clothes separately.
Wash hands before breaks and at the end of workday.
When using, do not eat, drink or smoke.

Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
2,2,4-Trimethylpentane; (Isooctane)	540-84-1	TWA : Time weighted average	(300 ppm)	03 2012	ACGIH:US. ACGIH Threshold Limit Values, as amended
2,2,4-Trimethylpentane; (Isooctane)	540-84-1	TWA : Time weighted average	(300 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values, as amended
2,2,4-Trimethylpentane; (Isooctane)	540-84-1	Ceil. Time : Ceiling Limit Value and Time Period (if specified) :	1,800 mg/m3 (385 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended

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2,2,4-Trimethylpentane; (Isooctane)	540-84-1	REL : Recommended exposure limit (REL):	350 mg/m3 (75 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
2,2,4-Trimethylpentane; (Isooctane)	540-84-1	PEL : Permissible exposure limit	2,350 mg/m3 (500 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
2,2,4-Trimethylpentane; (Isooctane)	540-84-1	STEL : Short term exposure limit	1,800 mg/m3 (375 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended
2,2,4-Trimethylpentane; (Isooctane)	540-84-1	TWA : Time weighted average	1,450 mg/m3 (300 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Color	: colourless
Odor	: characteristic
Odor threshold	: Note: No data available
pH	: Note: No data available
Melting point/range	: -107 °C
Boiling point/boiling range	: 99 °C at 1,013 hPa

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Flash point	: 10 °F (-12 °C)
Evaporation rate	: Note: No data available
Lower explosion limit	: 1.1 %(V)
Upper explosion limit	: 6 %(V)
Vapor pressure	: 55 hPa at 21 °C(70 °F) 117 hPa at 38 °C(100 °F)
Vapor density	: Note: No data available
Density	: 0.69 g/cm3 at 20 °C
Water solubility	: 0.002 g/l at 25 °C
Partition coefficient: n-octanol/water	: log Pow: 4.08
Ignition temperature	: 410 °C
Decomposition temperature	: Note: No decomposition if used as directed.
Viscosity, dynamic	: Note: No data available
Viscosity, kinematic	: Note: No data available
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

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Molecular weight : 114.23 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under recommended storage conditions.

Possibility of hazardous reactions : Vapours may form explosive mixture with air.
Hazardous polymerisation does not occur.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Strong oxidizing agents

Hazardous decomposition products : Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50: > 5,000 mg/kg
Species: Rat
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50: > 33.5 mg/l
Exposure time: 4 h
Species: Rat
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: Rabbit
Method: OECD Test Guideline 402

Skin irritation : Species: Rabbit

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	Result: irritating Method: OECD Test Guideline 404
Eye irritation	: Species: Rabbit Result: slight irritation Method: OECD Test Guideline 405 Note: According to the classification criteria of the European Union, the product is not considered as being an eye irritant.
Sensitisation	: Species: Guinea pig Result: non-sensitizing Method: OECD Test Guideline 406
Repeated dose toxicity	: Species: Rat Application Route: inhalation (vapour) NOAEC: 6646 ppm Test substance: REACH dossier "read-across" Method: OECD 413 Note: Subchronic toxicity
Genotoxicity in vitro	: Test Method: Ames test Metabolic activation: with and without metabolic activation Result: negative Method: OECD Test Guideline 471
	: Test Method: In vitro gene mutation study in mammalian cells Metabolic activation: with and without metabolic activation Result: negative Method: OECD Test Guideline 476
Genotoxicity in vivo	: Test Method: Unscheduled DNA synthesis Species: Rat Method: OECD Test Guideline 486 Result: negative
Reproductive toxicity	: Species: Rat Application Route: Inhalation NOAEL: 3,000 ppm Method: OECD Test Guideline 416 Note: REACH dossier "read-across"

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Aspiration toxicity : May be fatal if swallowed and enters airways.

Teratogenicity : Species: Rabbit Application Route: inhalation (vapour)

NOAEC: > 7,000 ppm

Method: OECD Test Guideline 414

Note: REACH dossier "read-across"

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

Toxicity to fish : semi-static test
EC50: 18.4 mg/l
Exposure time: 96 h
Species: Oncorhynchus mykiss (rainbow trout)
Test substance: REACH dossier "read-across"
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : static test
EC50: 0.4 mg/l
Exposure time: 48 h
Species: Daphnia magna (Water flea)
Test substance: REACH dossier "read-across"

Toxicity to algae : EL50: 2,943 mg/l
Exposure time: 72 h
Species: Selenastrum capricornutum (green algae)

Elimination information (persistence and degradability)

Bioaccumulation : Note: Can accumulate in aquatic organisms.

Biodegradability : Result: Inherently biodegradable.
Value: > 60 %
Test substance: REACH dossier "read-across"
Method: OECD Test Guideline 301F

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Further information on ecology**Ecotoxicology Assessment**

Results of PBT assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Observe all Federal, State, and Local Environmental regulations.

SECTION 14. TRANSPORT INFORMATION

DOT UN/ID No. : UN 1262
Proper shipping name : OCTANES
Class : 3
Packing group : II
Hazard Labels : 3

IATA UN/ID No. : UN 1262
Description of the goods : OCTANES
Class : 3
Packaging group : II
Hazard Labels : 3
Packing instruction (cargo aircraft) : 364
Packing instruction (passenger aircraft) : 353
Packing instruction (passenger aircraft) : Y341

IMDG UN/ID No. : UN 1262
Description of the goods : OCTANES
Class : 3
Packaging group : II
Hazard Labels : 3
EmS Number : F-E, S-E
Marine pollutant : yes

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SECTION 15. REGULATORY INFORMATION**Inventories**

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemicals Act (AICC), as amended : On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) : All components of this product are on the Canadian DSL

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Existing Chemicals Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. Inventory of Chemicals and Chemical Substances (PICCS) : On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances (IECSC) : On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

National regulatory information

US. EPA CERCLA Hazardous Substances (40 CFR 302) : The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

Reportable quantity: 1000 lbs

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	: 2,2,4-Trimethylpentane; (Isooctane)	540-84-1
SARA 302 Components	: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.	
SARA 313 Components	: 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	
CERCLA Reportable Quantity	: 1000 lbs	
California Prop. 65	: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.	
Massachusetts RTK	: 2,2,4-Trimethylpentane; (Isooctane)	540-84-1
New Jersey RTK	: 2,2,4-Trimethylpentane; (Isooctane)	540-84-1
Pennsylvania RTK	: 2,2,4-Trimethylpentane; (Isooctane)	540-84-1

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 1	1
Flammability	: 3	3
Physical Hazard	: 0	
Instability	:	0

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Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Previous Issue Date: 10/02/2016

Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group