

Material Safety Data Sheet

2,2,4-Trimethylpentane

Section 1 – PRODUCT AND COMPANY IDENTIFICATION

1. Product Identifier	2,2,4-Trimethylpentane; Isooctane
2. Recommended Use & Uses advised against	Uses for Laboratory and R&D only
3. Information of Supplier	SAMCHUN PURE CHEMICAL CO.,LTD ADDRESS; (Mogok-dong) 117, Sandan-ro 16Beon-gil, Pyeongtaek-si, Gyeonggi-do, Korea Emergency Phone; 82-31-668-0700/3 Department; Safety & Environment dep. Web site; http://www.samchun.com

Section 2 – HAZARDS and DANGER IDENTIFICATION

1.GHS Classification· Identification	Flammable liquid	Category2
	Acute toxic(Skin)	Category3
	Serious Eye Damage/Eye Irritation	Category2
	Skin Corrosion/Skin Irritation	Category2
	Specific Target Organ Toxicity (Single Exposure)	Category3 -Anesthetic action
	Acute Aquatic Toxicity	Category1
	Chronic Aquatic Toxicity	Category1
	Aspiration hazard	Category1

2. Label and Mark including Precautionary Statement

◦Label elements



◦Signal word

Danger

◦Hazard · Danger statement

H225 Highly flammable liquid and vapour
H311 Toxic in contact with skin
H315 Causes skin irritation
H319 Causes serious eye irritation
H336 May cause drowsiness or dizziness
H304 May be fatal if swallowed and enters airways
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

◦Precautionary statement

Precaution P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P280 Wear protective gloves/protective clothing/eye protection/face protection
P264 Wash thoroughly after handling.

Precaution	P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment
Measures	P303+P361+P353 SKIN (or hair) all contaminated clothing IF ON Take off. Rinse skin with water / shower. P370+P378 In case of fire: Use (Section 5. explosions, according to the fire-fighting extinguishing agent suitable method) for extinction P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 Specific treatment (see Section 4. on this label). P302+P352 IF ON SKIN: Wash with plenty of water P361+P364 Take off immediately all contaminated clothing, Wash before reuse P332+P313 If skin irritation occurs: Get medical advice/attention. P362+P364 Take off contaminated clothing and wash before reuse P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P337+P313 If eye irritation persists: Get medical advice/attention. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P331 Do NOT induce vomiting. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician P391 Collect spillage P403+P235 Store in a well-ventilated place. Keep cool.
Storage	P405 Store locked up P403+P233 Store in a well-ventilated place. Keep container tightly closed.
Dispose	P501 Dispose of contents/container under related law and regulations

3. Other Hazard-Risk which are not included in the classification criteria

NFPA index(0~4steps) : Health=1, Fire=3, Reaction=0

Section 3 – COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Name	Other Name	CAS No.	Content (%)
2,2,4-Trimethylpentane	Isooctane	540-84-1	100

Section 4 – FIRST AID MEASURES

1. Eye Contact	Rinse with plenty of water for at least 15minutes and get medical attention immediately.
2. Skin Contact	Take off contaminated cloths and shoes immediately, wash with plenty of water and soap for at least 15minutes.
3. Inhalation	Move victim to fresh air. If breathing is difficult, give artificial respiration and get medical attention immediately.
4. Ingestion	Do not induce vomiting. Get medical advice/attention immediately.
5. Immediate medical attention and Notes for physician	Keep the medical personnel aware of the materials involved and take protective action.

Section 5 – FIRE-FIGHT MEASURES

1. Suitable extinguish media	Powder extinguisher, foam extinguisher, water, carbon dioxide Inappropriate extinguishing media: N/A
2. Special hazards arising from the substance	Thermal decomposition products: Carbon oxides
3. Special protective equipment and Precautions for fire-fighters	Move containers from fire area if you can do it without risk. When extinguishing a fire, be sure to wear personal protective equipment. If it is not possible to extinguish the fire, withdraw immediately. Keep containers cool by spraying with water for a long time, even after the fire is out. Isolate hazardous areas and deny access to people.

Section 6 – ACCIDENTIAL RELEASE MEASURES

1. Personal precautions and Emergency procedures	Do not touch spilled material. Avoid inhalation and skin contact. In case of confined space, wear air respirator and ventilate and remove all sources of ignition.
2. Environmental precautions	Minimize leak/spill, collect and keep leak/spill in container
3. Methods and material for containment and cleaning up	Soak up with sand, clay and other inert absorbent material

Section 7 – HANDLING AND STORAGE

1. Precautions for safe Handling	Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. All containers should be grounded.
2. Conditions for safe storage	Keep container tightly closed in a dry, cool and well-ventilated place. Keep away from incompatible materials. Avoid contact with oxidizing agents.

Section 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

1. Occupational exposure limit, biological exposure limit

National law of Safety management of

N/A

2. Appropriate Engineering controls	Ensure compliance with applicable exposure limits and operate local exhaust ventilation when working.
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3. Personal protective equipment

◦ Respiratory protection	Because it is concerned about the harmfulness of human body due to chemical substances, it is recommended to wear respiratory protective equipment with canister mask or gas filter in consideration of physical and chemical characteristics when handling.
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Respiratory protection should be certified by the Health and Safety Authority.

It is concerned about the harmfulness of the human body depending on the working environment, it should wear respirator, air-purifying respirator

◦ Eye-protection	Wear safety glasses when handling as they may cause human health hazards due to chemicals. Install eye wash facilities and emergency eyewash stations near chemical handling sites
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◦ Hand protection	Wear safety gloves when handling, as it is likely to harm human health due to chemicals
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◦ Skin and body protection	Wear chemical protective clothing when handling, as it is likely to harm human health due to chemicals
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Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

1. Physical state and color	Liquid	2. Odor	Gasoline odor
3. threshold	N/A	4. pH	N/A
5. Melting/Freezing point	-107°C	6. Boiling point/range	98~99°C
7. Flashing point	-12°C	8. Evaporation speed	N/A
9. Flammability(solid,gas)	N/A	10. Flash or Explosion limit upper / lower	6% / 1.1%
11. Vapor pressure	51mbar@20°C	12. Solubility	Insoluble
13. Vapor density	0.69	14. Gravity	N/A
15. n-octanol-water Partition coefficient	N/A	16. Self ignition temp(°C)	417°C
17. Cracking temp(°C)	N/A	18. Viscosity	0.51 mPa s@22°C
19. Molecular Weight	114.23		

Section 10 – STABILITY AND REACTIVITY

1. Chemical stability and Possibility of Hazardous Reactions	Stable under normal temp. and pressure Not polymerize
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2. Conditions to Avoid	Avoid contact with incompatible materials Avoid heat, flames, sparks and other sources of ignition.
3. Incompatible Materials	Oxidizing agent, reducing agent, oxygen, acid
4. Hazardous Decomposition Products	Thermal decomposition products : Carbon oxides

Section 11 – TOXICOLOGICAL INFORMATION

1. Information on the likely routes of exposure.

Respiratory tract irritation, nausea, difficulty breathing, headache, etc.
Oral exposure may cause diarrhea, dyspnea, headache, and lung congestion.
Skin contact may cause irritation such as mild erythema, dry skin, and pain.
May cause irritation in eye contact

2. Health hazard information

◦Acute toxic	Oral : LD50 > 2500mg/kg Rat Skin : LD50 > 690mg/kg Rat Inhalation : Vapour LD50 > 34.7 mg/l 4hr Rat
◦Serious skin corrosive / irritation	Causes skin irritation
◦Serious eye damage / irritation	Causes eye irritation
◦Respiratory sensitization	N/A
◦Skin sensitization	N/A
◦Carcinogenicity	N/A
◦Germ cell Mutagenicity	N/A
◦Reproductive toxic	N/A
◦Specific target organ toxicity (single exposure)	May cause drowsiness or dizziness
◦Specific target organ toxicity (repeated exposure)	N/A
◦Aspiration hazard	Inhalation pulmonary edema and hemorrhagic stimulation are reported

Section 12 – ECOLOGICAL INFORMATION

1.Acquatic and Terrestrial eco toxicity	Fish toxicity : LC50 1.287mg/l 96hr Invertebrate toxicity : EC50 0.988mg/l 48hr Sea algae : EC50 1.16mg/l 96hr
2.Persistence and degradability	Persistence : log Kow 4.5 Degradability : N/A
3.Bioaccumulative potential	Concentrations : BCF 540 Bioaccumulative : 13% 3.2day
4.Mobility in soil	N/A
5.Other adverse effects	N/A

Section 13 – Disposable considerations

1.Waste methods	Dispose in accordance with local regulations.
2.Waste warning	Dispose prohibited substances and waste separately from others.

Section 14 – TRANSPORT INFORMATION

1. UN No.	1262
2.Proper shipping Name	Octane
3.Hazard class	3
4.Packing group	II

5. Marine pollutant	N/A
6. Particular safety Measures for transportation	Fire emergency : F-E Emergency measures RELEASE : S-E

Section 15 – REGULATORY INFORMATION

1. Occupation safety and health acts	Non-described
2. Chemical Substances Control Act	Non-described
3. National law of Safety management of hazardous material	4 Class 1 Petroleum (Water-insoluble liquid) 200L
4. National law of management of Wastes	Designated Waste
5. Other domestic and foreign law	EU classification information (confirmed classification result): F; R11Xn; R65Xi; R38R67N; R50-53 EU classification information (Risk phrases): R11, R38, R50 / 53, R65, R67 EU classification information (Safety phrase): S2, S9, S16, S29, S33, S60, S61, S62

Section 16 – OTHER INFORMATION

1. Material source	A chemical information MSDS Safety and Health Agency National Institute of Environmental Research Chemical Information Systems Korea Industrial Technology National Fire Hazardous Materials Information System
1. The 1 st edition	2002.07.30
2. Revision and The final revision	7 / 2019.01.03
. Other references	

* The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.