

**Trade name:** GC/MS Standard Samples**Product no.:** 225-23020-02; 225-23020-02SE**Current version :** 4.0.0, issued: 25.08.2022**Replaced version:** 3.0.0, issued: 04.11.2019**Region:** GB**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier****Trade name****GC/MS Standard Samples****1.2 Relevant identified uses of the substance or mixture and uses advised against****Relevant identified uses of the substance or mixture**

for research use only

**Uses advised against**

No data available.

**1.3 Details of the supplier of the safety data sheet****Address**Shimadzu Europa GmbH  
Albert-Hahn-Str. 6-10  
47269 Duisburg

Telephone no. +49 (0)203 - 7687-0

Fax no. +49 (0)203 - 711045

**Information provided by / telephone**

Tel.: +49 (0)203 - 7687-0

**Advice on Safety Data Sheet**

sdb\_info@umco.de

**1.4 Emergency telephone number**

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Aquatic Acute 1; H400

Aquatic Chronic 1; H410

Asp. Tox. 1; H304

Flam. Liq. 2; H225

Skin Irrit. 2; H315

STOT SE 3; H336

**Classification information**

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)****Hazard pictograms**

GHS02



GHS07



GHS08



GHS09

**Signal word**

Danger

**Hazardous component(s) to be indicated on label:**

2,2,4-trimethylpentane

**Hazard statement(s)**

H225

Highly flammable liquid and vapour.

H304

May be fatal if swallowed and enters airways.

H315

Causes skin irritation.

H336

May cause drowsiness or dizziness.

H410

Very toxic to aquatic life with long lasting effects.

**Precautionary statement(s)**

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P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P273 Avoid release to the environment.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
 P331 Do NOT induce vomiting.  
 P370+P378 In case of fire: Use water spray, extinguishing powder, foam or CO2 to extinguish.  
 P391 Collect spillage.

**2.3 Other hazards**

No data available.

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Not applicable. The product is not a substance.

**3.2 Mixtures****Hazardous ingredients**

No	Substance name	Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration %
1	<b>2,2,4-trimethylpentane</b>		
	540-84-1 208-759-1 601-009-00-8 -	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Asp. Tox. 1; H304 Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336	< 100.00 wt%

Full Text for all H-phrases and EUH-phrases: pls. see section 16

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
1	C	-	-	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

**SECTION 4: First aid measures****4.1 Description of first aid measures****General information**

In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. If the patient is likely to become unconscious, place and transport in stable sideways position.

**After inhalation**

Remove affected person from the immediate area. Ensure supply of fresh air. Irregular breathing/no breathing: artificial respiration. Call a doctor immediately.

**After skin contact**

Wash off immediately with soap and water.

**After eye contact**

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

**After ingestion**

Do not induce vomiting. Call a doctor immediately. Rinse out mouth and give plenty of water to drink. Never give anything by mouth to an unconscious person.

**4.2 Most important symptoms and effects, both acute and delayed**

No data available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available.

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Alcohol-resistant foam; Extinguishing powder; Carbon dioxide; Water spray jet

**Unsuitable extinguishing media**

High power water jet

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In the event of fire, the following can be released: Carbon monoxide (CO); Carbon dioxide (CO<sub>2</sub>)

**5.3 Advice for firefighters**

Use self-contained breathing apparatus. Wear protective clothing. Cool endangered containers with water spray jet. Suppress gases/vapours/mists with water spray jet.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Refer to protective measures listed in sections 7 and 8. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Keep away from ignition sources.

**For emergency responders**

No data available. Personal protective equipment (PPE) - see Section 8.

**6.2 Environmental precautions**

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

**6.3 Methods and material for containment and cleaning up**

Pick up with absorbent material (e.g., sand, sawdust, general-purpose binder). Send in suitable containers for recovery or disposal.

**6.4 Reference to other sections**

No data available.

**SECTION 7: Handling and storage****7.1 Precautions for safe handling****Advice on safe handling**

Provide good ventilation at the work area (local exhaust ventilation, if necessary). If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn. Risks inherent to handling the product must be minimised by applying the appropriate protective and preventive measures. Working processes should - so far as possible, according to the state of the art - be designed to rule out bodily contact or the release of hazardous substances.

**General protective and hygiene measures**

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Avoid contact with eyes and skin. Remove soiled or soaked clothing immediately. Do not inhale vapours. Wash hands before breaks and after work. Provide eye wash fountain in work area. Have emergency shower available.

**Advice on protection against fire and explosion**

Vapours can form an explosive mixture with air. Take precautionary measures against static charges. Keep away from sources of heat and ignition. Use explosion-proof equipment/fittings and non-sparking tools.

**7.2 Conditions for safe storage, including any incompatibilities****Technical measures and storage conditions**

Keep container tightly closed in a cool, well-ventilated place. Protect from heat and direct sunlight.

**Requirements for storage rooms and vessels**

Containers which are opened must be carefully closed and kept upright to prevent leakage. Always keep in containers of same material as the original.

**Incompatible products**

Do not store together with: oxidizing agents; Bases; Reducing agents

**7.3 Specific end use(s)**

No data available.

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters**

No parameters available for monitoring.

**8.2 Exposure controls****Appropriate engineering controls**

No data available.

**Personal protective equipment****Respiratory protection**

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

**Eye / face protection**

Safety glasses with side protection shield (EN 166)

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In case of intensive contact, wear protective gloves (EN 374). Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

**Other**

Normal chemical work clothing.

**Environmental exposure controls**

No data available.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

<b>State of aggregation</b>		
liquid		
<b>Form</b>		
liquid		
<b>Colour</b>		
colourless		
<b>Odour</b>		
characteristic		
<b>pH value</b>		
No data available		
<b>Boiling point / boiling range</b>		
Value	99.3	°C
<b>Melting point/freezing point</b>		
Value	-107	°C
<b>Decomposition temperature</b>		
No data available		
<b>Flash point</b>		
Value	-8	°C
<b>Ignition temperature</b>		
No data available		
<b>Auto-ignition temperature</b>		
Value	417	°C
<b>Flammability</b>		
No data available		
<b>Lower explosion limit</b>		
Value	1.1	%
<b>Upper explosion limit</b>		
Value	6.0	%
<b>Vapour pressure</b>		
No data available		
<b>Relative vapour density</b>		
Value	3.97	
Comments	Air = 1	
<b>Relative density</b>		
Value	0.692	
Reference temperature	20	°C
<b>Density</b>		
No data available		
<b>Solubility in water</b>		
Comments	insoluble	
<b>Solubility</b>		
No data available		
<b>Partition coefficient n-octanol/water (log value)</b>		

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No data available

**Kinematic viscosity**

Value	0.9419	mm <sup>2</sup> /s
Reference temperature	40	°C
Type	kinematic	
Method	Cannon-Fenske JJS K 2283	

**Particle characteristics****9.2 Other information****Other information**

The physical data is that of the main component/s.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No data available.

**10.2 Chemical stability**

Stable under recommended storage and handling conditions (See section 7).

**10.3 Possibility of hazardous reactions**

No data available.

**10.4 Conditions to avoid**

Heat, naked flames and other ignition sources. Protect from sun. Static discharges.

**10.5 Incompatible materials**

Oxidizing agents

**10.6 Hazardous decomposition products**

No data available.

**SECTION 11: Toxicological information****11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute oral toxicity**

No data available

**Acute dermal toxicity**

No data available

**Acute inhalational toxicity**

No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/irritation**

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Reproduction toxicity**

No data available

**Carcinogenicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Information on other hazards**

Endocrine disrupting properties

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No data available.

**Other information**

Exercise customary precautions when handling chemicals.

**SECTION 12: Ecological information****12.1 Toxicity****Toxicity to fish (acute)**

No data available

**Toxicity to fish (chronic)**

No data available

**Toxicity to Daphnia (acute)**

No data available

**Toxicity to Daphnia (chronic)**

No data available

**Toxicity to algae (acute)**

No data available

**Toxicity to algae (chronic)**

No data available

**Bacteria toxicity**

No data available

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Endocrine disrupting properties**

No data available.

**12.7 Other adverse effects**

No data available.

**12.8 Other information****Other information**

Do not discharge product unmonitored into the environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**

Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

**SECTION 14: Transport information****14.1 Transport ADR/RID/ADN**

Class	3
Classification code	F1
Packing group	II
Hazard identification no.	33
UN number	UN1262
Proper shipping name	OCTANES
Technical name	2,2,4-trimethylpentane
Tunnel restriction code	D/E
Label	3

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substance mark

Symbol "fish and tree"

**14.2 Transport IMDG**

Class	3
Packing group	II
UN number	UN1262
Proper shipping name	OCTANES
Technical name	2,2,4-trimethylpentane
EmS	F-E, S-E
Marine Pollutant (according Index IMDG Code)	P
Label	3
Marine pollutant mark	Symbol "fish and tree"

**14.3 Transport ICAO-TI / IATA**

Class	3
Packing group	II
UN number	UN1262
Proper shipping name	Octanes
Technical name	2,2,4-trimethylpentane
Label	3

**14.4 Other information**

No data available.

**14.5 Environmental hazards**

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

**14.6 Special precautions for user**

No data available.

**14.7 Maritime transport in bulk according to IMO instruments**

Not relevant

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

**REACH candidate list of substances of very high concern (SVHC) for authorisation**

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

**Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES**

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII. No 3, 40

The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

No	Substance name	CAS no.	EC no.	No
1	2,2,4-trimethylpentane	540-84-1	208-759-1	75

**Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances**

This product is subject to Part I of Annex I, risk category: E1, P5b

If the properties of the substance/product give rise to more than one classification, for the purposes of 2012/18/UE, the lowest qualifying quantities set out in Part 1 and Part 2 of Annex I shall apply.

**15.2 Chemical safety assessment**

A chemical safety assessment has not been carried out for this mixture.

**SECTION 16: Other information****Sources of key data used to compile the data sheet:**

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

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**Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)**  
H400 Very toxic to aquatic life.

**Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)**  
C Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

**Creation of the safety data sheet**

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This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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