

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision
Supersedes Version

5
4.00***

Revision Date
Issuing date

25-Jun-2021
25-Jun-2021

SECTION 1: Identification of the substance / mixture and of the company / undertaking

1.1. Product identifier

Identification of the
substance/preparation

2-Methylpentanoic acid

Chemical Name

2-Methylvaleric acid

CAS-No

97-61-0

EC No.

202-594-9

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Transported isolated intermediate (1907/2006)

Uses advised against

None

1.3. Details of the supplier of the safety data sheet

Company/Undertaking
Identification

OQ Chemicals GmbH
Rheinpromenade 4A
D-40789 Monheim
Germany

Product Information

Product Stewardship
FAX: +49 (0)208 693 2053
email: sc.psq@oq.com

1.4. Emergency telephone number

Emergency telephone number +44 (0) 1235 239 670 (UK)
available 24/7

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This substance is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation)

Skin corrosion/irritation Category 1C, H314

Serious eye damage/eye irritation Category 1, H318

Additional information

For full text of Hazard- and EU Hazard-statements see SECTION 16.

2.2. Label elements

Labelling according to Regulation 1272/2008/EC and its amendments (CLP Regulation).

Hazard pictograms

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5



Signal word

Danger

Hazard statements

H314: Causes severe skin burns and eye damage.

Precautionary statements

P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.

2.3. Other hazards

Vapour/air-mixtures are explosive at intense warming
Components of the product may be absorbed into the body through the skin

PBT and vPvB assessment Not required

SECTION 3: Composition / information on ingredients

3.1. Substances

Component	CAS-No	1272/2008/EC	Concentration (%)
2-Methylvaleric acid	97-61-0	Skin Corr. 1C; H314 Eye Dam. 1; H318	> 98,5

For full text of Hazard- and EU Hazard-statements see SECTION 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

Skin

Wash off immediately with soap and plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

Eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

Call a physician immediately. Do not induce vomiting without medical advice.

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

Main symptoms

cough, shortness of breath, nausea.

Special hazard

Lung irritation.

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

General advice

Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically. If ingested, flush stomach and compensate acidosis.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

foam, dry chemical, carbon dioxide (CO₂), water spray

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Under conditions giving incomplete combustion, hazardous gases produced may consist of:

carbon monoxide (CO)

carbon dioxide (CO₂)

Combustion gases of organic materials must in principle be graded as inhalation poisons

Vapours are heavier than air and may spread along floors

Vapour/air-mixtures are explosive at intense warming

5.3. Advice for firefighters

Special protective equipment for firefighters

Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

Precautions for firefighting

Cool containers / tanks with water spray. Water run-off and vapor cloud may be corrosive. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.

For emergency responders: Personal protection see section 8.

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

6.3. Methods and material for containment and cleaning up

Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

Methods for cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

6.4. Reference to other sections

For personal protective equipment see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.

Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Advice on the protection of the environment

See Section 8: Environmental exposure controls.

Incompatible products

bases
amines
oxidizing agents

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material. Vapour/air-mixtures are explosive at intense warming.

Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care.

Temperature class

T2

7.3. Specific end use(s)

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

Transported isolated intermediate (1907/2006)

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Exposure limits European Union

No exposure limits established

Exposure limits UK

No exposure limits established.

DNEL & PNEC

This substance is registered as intermediate under strictly controlled conditions.

2-Methylvaleric acid, CAS: 97-61-0

Workers

No data available

General population

No data available

Environment

No data available

8.2. Exposure controls

Special adaptations (REACH)

Not applicable.

Appropriate Engineering controls

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General industrial hygiene practice

Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Eye protection

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

Equipment should conform to EN 166

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

Hand protection

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

Suitable material	nitrile rubber
Evaluation	according to EN 374: level 6
Glove thickness	approx 0,55 mm
Break through time	> 480 min
Suitable material	polyvinylchloride
Evaluation	Information derived from practical experience
Glove thickness	approx 0,8 mm

Skin and body protection

Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

Respiratory protection

Respirator with A filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to EN 136 or EN 140 and EN 143.

Environmental exposure controls

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

Additional advice

Further details on substance data can be found in the registration dossier under the following link:
<http://echa.europa.eu/information-on-chemicals/registered-substances>.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	liquid
Colour	colourless
Odour	unpleasant
Odour threshold	No data available
pH	3,0 (1 g/l in water @ 25 °C (77 °F))
Melting point/range	=< -90 °C (Pour point)
Method	DIN ISO 3016
Boiling point/range	196 °C @ 1013 hPa
Method	OECD 103
Flash point	93 °C @ 1013 hPa
Method	ISO 2719
Evaporation rate	No data available
Flammability (solid, gas)	Does not apply, the substance is a liquid
Lower explosion limit	1,3 Vol %
Upper explosion limit	No data available

Vapour pressure

Values [hPa]	Values [kPa]	Values [atm]	@ °C	@ °F	Method
2	0,2	0,002	20	68	
135	13,5	0,135	120	248	

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

Vapour density	4,0 (Air = 1) @ 20 °C (68 °F)		
Relative density			
Values	@ °C	@ °F	Method
0,923	20	68	DIN 51757
Solubility	12,2 g/l @ 20 °C, in water, OECD 105		
log Pow	2,4 @ 25 °C (77 °F), OECD 117		
Autoignition temperature	395 °C @ 989 hPa		
Method	DIN 51794		
Decomposition temperature	No data available		
Viscosity	2,847 mPa*s @ 20 °C		
Method	ASTM D445, dynamic		
Explosive properties	Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties		
Oxidizing properties	Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties		

9.2. Other information

Molecular weight	116,16
Molecular formula	C6 H12 O2
Dissociation constant	pKa 4,9 @ 24,1 °C (75,4 °F) OECD 112
Refractive index	1,413 @ 20 °C
Surface tension	56,6 mN/m (1 g/l @ 20°C (68°F)), OECD 115

SECTION 10: Stability and Reactivity

10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

10.5. Incompatible materials

bases, amines, oxidizing agents.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

11.1. Information on toxicological effects

Likely routes of exposure Ingestion, Inhalation, Eye contact, Skin contact

Acute toxicity				
2-Methylvaleric acid (97-61-0)				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	2040 mg/kg	rat, male	OECD 401
Dermal	LD50	2500 mg/kg	rabbit	
Inhalative	LC0	9 mg/l (8 h)	rat	OECD 403

2-Methylvaleric acid, CAS: 97-61-0

Assessment

Based on available data, the classification criteria are not met for:

Acute oral toxicity
Acute dermal toxicity
Acute inhalation toxicity
STOT SE

Irritation and corrosion				
2-Methylvaleric acid (97-61-0)				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	corrosive	OECD 404	4h
Eyes	rabbit	severe irritation		5 % Substance

2-Methylvaleric acid, CAS: 97-61-0

Assessment

The available data lead to the classification given in section 2
For respiratory irritation, no data are available

Sensitization				
2-Methylvaleric acid (97-61-0)				
Target Organ Effects	Species	Evaluation	Method	
Skin	Human experience	not sensitizing	Maximisation Test	2 %, in Petrolatum

2-Methylvaleric acid, CAS: 97-61-0

Assessment

Based on available data, the classification criteria are not met for:
Skin sensitization
For respiratory sensitization, no data are available

2-Methylvaleric acid, CAS: 97-61-0

Assessment

Due to lack of data, a classification is not possible for:
STOT RE

Carcinogenicity, Mutagenicity, Reproductive toxicity					
2-Methylvaleric acid (97-61-0)					
Type	Dose	Species	Evaluation	Method	
Developmental Toxicity	NOAEL: 250 mg/kg/d (6-15 d)	rat		Oral	Teratogenicity
Developmental Toxicity	LOAEL: 187,5 mg/kg/d (6-15 d)	rat		Oral	Maternal toxicity
Mutagenicity		Salmonella	negative	OECD 471	

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

		typhimurium Escherichia coli		(Ames)	
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2-Methylvaleric acid, CAS: 97-61-0

CMR Classification

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

Evaluation

In vitro tests did not show mutagenic effects

2-Methylvaleric acid, CAS: 97-61-0

Main symptoms

cough, shortness of breath, nausea.

Target Organ Systemic Toxicant - Single exposure

Based on available data, the classification criteria are not met for:

STOT SE

Target Organ Systemic Toxicant - Repeated exposure

Due to lack of data, a classification is not possible for:

STOT RE

Aspiration toxicity

no data available

Other adverse effects

Components of the product may be absorbed into the body through the skin.

Note

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:

<http://echa.europa.eu/information-on-chemicals/registered-substances>.

SECTION 12: Ecological information

12.1. Toxicity

No data available

12.2. Persistence and degradability

2-Methylvaleric acid, CAS: 97-61-0

Biodegradation

71,8 % (10 d), Sewage, domestic, non-adapted, aerobic, OECD 301 D.

Abiotic Degradation		
2-Methylvaleric acid (97-61-0)		
Type	Result	Method
Hydrolysis	No data available	
Photolysis	No data available	

12.3. Bioaccumulative potential

2-Methylvaleric acid (97-61-0)		
Type	Result	Method
log Pow	2,4 @ 25 °C (77 °F)	measured, OECD 117
BCF	No data available	

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

12.4. Mobility in soil

2-Methylvaleric acid (97-61-0)		
Type	Result	Method
Surface tension	56,6 mN/m (1 g/l @ 20°C (68°F))	OECD 115
Adsorption/Desorption	no data available	
Distribution to environmental compartments	no data available	

12.5. Results of PBT and vPvB assessment

2-Methylvaleric acid, CAS: 97-61-0

PBT and vPvB assessment

Not required

12.6. Other adverse effects

2-Methylvaleric acid, CAS: 97-61-0

No data available

Note

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product Information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Hazardous waste according to European Waste Catalogue (EWC)

Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

SECTION 14: Transport information

ADR/RID

14.1. UN number	UN 3265
14.2. UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (2-Methylpentanoic acid)
14.3. Transport hazard class(es)	8
14.4. Packing group	III
14.5. Environmental hazards	no
14.6. Special precautions for user	
ADR Tunnel restriction code	(E)
Classification Code	C3

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

Hazard Number 80

ADN

ADN: Container and Tanker

14.1. UN number

UN 3265

14.2. UN proper shipping name

Corrosive liquid, acidic, organic, n.o.s.
(2-Methylpentanoic acid)

14.3. Transport hazard class(es)

8

14.4. Packing group

III

14.5. Environmental hazards

no

14.6. Special precautions for user

Classification Code

C3

Hazard Number

80

ICAO-TI / IATA-DGR

14.1. UN number

UN 3265

14.2. UN proper shipping name

Corrosive liquid, acidic, organic, n.o.s.
(2-Methylpentanoic acid)

14.3. Transport hazard class(es)

8

14.4. Packing group

III

14.5. Environmental hazards

no

14.6. Special precautions for user

no data available

IMDG

14.1. UN number

UN 3265

14.2. UN proper shipping name

Corrosive liquid, acidic, organic, n.o.s.
(2-Methylpentanoic acid)

14.3. Transport hazard class(es)

8

14.4. Packing group

III

14.5. Environmental hazards

no

14.6. Special precautions for user

EmS

F-A, S-B

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation 1272/2008, Annex VI

not listed

DI 2012/18/EU (Seveso III)

Category

not subject

DI 1999/13/EC (VOC Guideline)

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

Component	Status
2-Methylvaleric acid CAS: 97-61-0	regulated

International Inventories

2-Methylvaleric acid, CAS: 97-61-0

AICS (AU)
DSL (CA)
IECSC (CN)
EC-No. 2025949 (EU)
ENCS (2)-608 (JP)
ISHL (2)-608 (JP)
KECI KE-24709 (KR)
INSQ (MX)
PICCS (PH)
TSCA (US)
NZIoC (NZ)
TCSI (TW)

National regulatory information Great Britain

Releases to air (Pollution Inventory Substances)

not subject

Releases to water (Pollution Inventory Substances)

not subject

Releases to sewer (Pollution Inventory Substances)

not subject

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019 No. 758 ***

Component	Status
2-Methylvaleric acid CAS: 97-61-0	The substance will not be pre-registered.***

For details and further information please refer to the original regulation

15.2. Chemical safety assessment

The Chemical Safety Report (CSR) is not required.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

Abbreviations

A table of terms and abbreviations can be found under the following link:

SAFETY DATA SHEET



2-Methylpentanoic acid
10110

Version / Revision 5

http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf

Training advice

For effective first-aid, special training / education is needed.

Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

Further information for the safety data sheet

Changes against the previous version are marked by ***. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage (www.chemicals.oq.com).

The annex is not required because the substance is registered as an intermediate under REACH

Disclaimer

For industrial use only. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. OQ makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

End of Safety Data Sheet