

Safety data sheet
according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

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

- **1.1 Product identifier**
- **Trade name: 2-Methylpropan-1-ol**
- **Article number:** 1870
- **CAS Number:**
78-83-1
- **EC number:**
201-148-0
- **Index number:**
603-108-00-1
- **Registration number** 01-2119484609-23-XXXX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
The product is not intended for use by consumers
For professional users only
- **Life cycle stages**
F Formulation or re-packing
IS Use at industrial Sites
- **Sector of Use**
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU9 Manufacture of fine chemicals
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
SU24 Scientific research and development
SU8 Manufacture of bulk, large scale chemicals (including petroleum products)
SU12 Manufacture of plastics products, including compounding and conversion
- **Product category**
PC19 Intermediate
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC40 Extraction agents
- **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
- **Application of the substance / the mixture**
Industrial use
Laboratory chemical
Chemical analytics
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Th. Geyer GmbH & Co. KG
Dornierstr. 4 – 6
D-71272 Renningen

(Contd. on page 2)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

(Contd. of page 1)

Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417

www.thgeyer.de

sicherheitsdatenblaetter@thgeyer.de

· **Further information obtainable from:** Product management department

· **1.4 Emergency telephone number:**

National Poisons Information Service

City Hospital

Dudley Road

Birmingham B18 7QH

Tel.:Emergency: (00 44) 87 06 00 62 66

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS02 GHS05 GHS07

· **Signal word** Danger

· **Hazard statements**

H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

(Contd. of page 2)

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.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**
CAS: 78-83-1 2-methylpropan-1-ol
- **Identification number(s)**
- **EC number:** 201-148-0
- **Index number:** 603-108-00-1

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
First aider needs to protect himself.
Immediately remove any clothing soiled by the product.
- **After inhalation:**
Remove person from danger zone.
Supply fresh air.
Call a doctor immediately.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**
Wash with plenty of soap and water, take off soiled clothes and shoes.
After prolonged contact (accidental/forced) or any signs of skin changes (redness or other signs of inflammation), consult a doctor.
Take into account possible simultaneous inhalation.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
Remove any contact lenses if possible.
Continue rinsing.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Try not to vomit. Swallow activated carbon and sodium sulphate.
A person vomiting while laying on their back should be turned onto their side.
Call a doctor immediately.
- **Information for doctor:** Please observe safety data sheet/label.
- **4.2 Most important symptoms and effects, both acute and delayed**
Cramp
Vertigo
Gastric or intestinal disorders
Nausea
Aspiration hazard
- **Hazards**
Danger of pulmonary oedema.
Danger of impaired breathing.

(Contd. on page 4)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

(Contd. of page 3)

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

In case of lung irritation, administer glucocorticoid dose aerosol.
 If swallowed, gastric irrigation with added, activated carbon.
 Medical supervision for at least 48 hours.
 Later observation for pneumonia and pulmonary oedema.

SECTION 5: Firefighting measures

• **5.1 Extinguishing media**

• **Suitable extinguishing agents:**

Water spray, powder, carbon dioxide or foam. Fight larger fires with water spray or alcohol resistant foam.

• **For safety reasons unsuitable extinguishing agents:** Water with full jet.

• **5.2 Special hazards arising from the substance or mixture**

Formation of toxic gases is possible during heating or in case of fire.

In case of fire, the following can be released:

Carbon oxides (CO, CO₂)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

Vapours are heavier than air and spread over the ground.

Explosive mixtures with air are possible with strong heating.

Combustible.

• **5.3 Advice for firefighters**

• **Protective equipment:**

Wear fully protective suit.

Wear self-contained respiratory protective device.

Do not inhale explosion gases or combustion gases.

• **Additional information**

Cool endangered receptacles with water spray.

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Safely prevent extinguishing water from entering groundwater or surface water.

SECTION 6: Accidental release measures

• **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Clear the danger zone.

Ensure adequate ventilation.

Particular danger of slipping on leaked/spilled product.

Keep away from ignition sources.

Avoid contact with eyes and skin.

• **6.2 Environmental precautions:**

Explosion hazard.

Do not allow to enter sewers/surface or ground water.

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

Cover the sewerage system.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Dispose of the material collected according to regulations.

• **6.4 Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

(Contd. of page 4)

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Store in cool, dry place in tightly closed receptacles.

Keep away from heat and direct sunlight.

Apply the general protective and hygienic measures when handling chemicals.

Information about fire - and explosion protection:

Use explosion-proof apparatus / fittings and spark-proof tools.

Traces of flammable substances may collect in the steam chamber of enclosed systems. Keep clear of ignition sources.

Fumes can combine with air to form an explosive mixture.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Prevent any seepage into the ground.

Store only in the original receptacle.

Information about storage in one common storage facility:

Away from sources of ignition and heat.

Store away from oxidising agents.

Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

Storage class: 3

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 78-83-1 2-methylpropan-1-ol

WEL Short-term value: 231 mg/m³, 75 ppm

Long-term value: 154 mg/m³, 50 ppm

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Appropriate engineering controls No further data; see section 7.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

Respiratory protection:

Not necessary if room is well-ventilated.



Use suitable respiratory protective device in case of insufficient ventilation.

(Contd. on page 6)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

(Contd. of page 5)

· Hand protection



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Nitrile rubber, NBR

Material thickness > 0.4 mm

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Level 6 for applications > 480 min

· Eye/face protection



Tightly sealed goggles

· Body protection:



Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state

Fluid

· Colour:

Colourless

· Odour:

Sweetish

· Melting point/freezing point:

-108 °C

· Boiling point or initial boiling point and boiling range

108 °C

· Flammability

Flammable.

· Lower and upper explosion limit

· Lower:

1.7 Vol %

· Upper:

12 Vol %

· Flash point:

27 °C

· Auto-ignition temperature:

390 °C

· Decomposition temperature:

Not determined.

· pH

7

· Viscosity:

· Kinematic viscosity

Not determined.

· Dynamic at 20 °C:

3.95 mPas

· Solubility

· water at 20 °C:

100 g/l

· Partition coefficient n-octanol/water (log value)

Not determined.

· Vapour pressure at 20 °C:

12 hPa

(Contd. on page 7)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

(Contd. of page 6)

<ul style="list-style-type: none"> · Density and/or relative density · Density at 20 °C: 0.8 g/cm³ Not determined. · Relative density Not determined. · Vapour density Not determined.
<ul style="list-style-type: none"> · 9.2 Other information · Appearance: · Form: Fluid · Important information on protection of health and environment, and on safety. · Ignition temperature: Not determined. · Explosive properties: Product is not explosive. However, formation of explosive air/vapour mixtures are possible. · Molecular weight 74.12 g/mol · Change in condition · Evaporation rate Not determined.
<ul style="list-style-type: none"> · Information with regard to physical hazard classes · Explosives Void · Flammable gases Void · Aerosols Void · Oxidising gases Void · Gases under pressure Void · Flammable liquids Flammable liquid and vapour. · Flammable solids Void · Self-reactive substances and mixtures Void · Pyrophoric liquids Void · Pyrophoric solids Void · Self-heating substances and mixtures Void · Substances and mixtures, which emit flammable gases in contact with water Void · Oxidising liquids Void · Oxidising solids Void · Organic peroxides Void · Corrosive to metals Void · Desensitised explosives Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable when stored and handled properly.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Reacts with strong oxidising agents.
Reacts with reducing agents.
- **10.4 Conditions to avoid**
Heat, flames and sparks.
Vapours form explosive mixtures with air.
- **10.5 Incompatible materials:** Avoid contact with other chemicals.
- **10.6 Hazardous decomposition products:**
Flammable gases/vapours

(Contd. on page 8)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

In case of fire, formation of dangerous fire gases and vapours possible.

(Contd. of page 7)

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

Oral	LD50	2,460 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rabbit)

- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** May cause respiratory irritation. May cause drowsiness or dizziness.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Subacute to chronic toxicity:** -
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
Observe local (country-specific) regulations and laws.
This product and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Chemicals must be disposed of in accordance with the respective national regulations.

- **European waste catalogue**

07 00 00	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 01 00	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals

(Contd. on page 9)

E

Safety data sheet

according to 1907/2006/EC, Article 31

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Version number 6

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Trade name: 2-Methylpropan-1-ol

(Contd. of page 8)

07 01 04*	other organic solvents, washing liquids and mother liquors
HP3	Flammable
HP4	Irritant - skin irritation and eye damage
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· 14.1 UN number or ID number · ADR, IMDG, IATA	UN1212
· 14.2 UN proper shipping name · ADR · IMDG, IATA	1212 ISOBUTANOL (ISOBUTYL ALCOHOL) ISOBUTANOL (ISOBUTYL ALCOHOL)
· 14.3 Transport hazard class(es) · ADR	
	
· Class · Label	3 (F1) Flammable liquids. 3
· IMDG, IATA	
	
· Class · Label	3 Flammable liquids. 3
· 14.4 Packing group · ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	Not applicable.
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids. 30 F-E,S-D A
· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code	3 D/E

(Contd. on page 10)

E

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

(Contd. of page 9)

<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> · UN "Model Regulation": 	UN 1212 ISOBUTANOL (ISOBUTYL ALCOHOL), 3, III

SECTION 15: Regulatory information

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

· Inventory of Hazardous Chemicals

CAS: 78-83-1	2-methylpropan-1-ol
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- **Poisons Act**
- **Regulated explosives precursors** Substance is not listed.
- **Regulated poisons** Substance is not listed.
- **Reportable explosives precursors** Substance is not listed.
- **Reportable poisons** Substance is not listed.
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**



GHS02 GHS05 GHS07

- **Signal word** Danger
- **Hazard statements**
 - H226 Flammable liquid and vapour.
 - H315 Causes skin irritation.
 - H318 Causes serious eye damage.
 - H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.
- **Precautionary statements**
 - P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
 - 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.
 - P403+P235 Store in a well-ventilated place. Keep cool.
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category** P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40, 75
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.

(Contd. on page 11)

Safety data sheet

according to 1907/2006/EC, Article 31

revised on: 19.03.2024

Version number 6

Creation Date: 22.01.2016

Trade name: 2-Methylpropan-1-ol

(Contd. of page 10)

- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.
- **National regulations:**
- **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. The application, use and processing of our products are beyond our control and are therefore exclusively your responsibility.

- **Department issuing SDS:** Product management
- **Contact:** Product management
- **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- *** Data compared to the previous version altered.**

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