We create chemistry

Safety Data Sheet
3-METHYLBUTANOL-1

1. Identification

Product identifier used on the label

3-METHYLBUTANOL-1

Recommended use of the chemical and restriction on use

Recommended use*: process chemical, solvent(s)
Recommended use*: process chemical; solvent(s)
Unsuitable for use: Not intended for sale to or use by the general public.

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number
24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)
Other means of identification
Chemical family: alcohol

2. Hazards Identification

According to Regulation 2024 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Flam. Liq.	3	Flammable liquids
Skin Irrit.	2	Skin irritation
Eye Dam.	1	Serious eye damage
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure

Aquatic Chronic	2	Hazardous to the aquatic environment - chronic

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H226	Flammable liquid and vapour.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P273	Avoid release to the environment.
P271	Use only outdoors or in a well-ventilated area.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing mist or vapour or spray.
P243	Take action to prevent static discharges.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P264	Wash contaminated body parts thoroughly after handling.
P240	Ground and bond container and receiving equipment.
P242	Use non-sparking tools.

Precautionary Statements (Response):

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 or physician.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P391	Collect spillage.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use alcohol-resistant foam, carbon dioxide, dry powder or water spray for extinction.

Precautionary Statements (Storage):

P233	Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary Statements (Disposal):

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

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.
See section 12 - Results of PBT and vPvB assessment.

Labeling of special preparations (GHS):
Repeated exposure may cause skin dryness or cracking.

3. Composition / Information on Ingredients

According to Regulation 2024 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

3-methylbutan-1-ol
- CAS Number: 123-51-3
- Content (W/W): >= 98.5 - <= 99.9%
- Synonym: 3-Methyl-1-butanol; Isoamyl alcohol

pentan-1-ol
- CAS Number: 71-41-0
- Content (W/W): > 0.0 - <= 1.0%
- Synonym: 1-Pentanol; Pentyl alcohol, n-Amyl alcohol

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:
Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:
In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

If swallowed:
Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting unless told to by a poison control center or doctor. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, vomiting, weakness, nausea, headache, dizziness

Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far
Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
dry powder, water spray, carbon dioxide, alcohol-resistant foam

Unsuitable extinguishing media for safety reasons:
water jet

Additional information:
Use extinguishing measures to suit surroundings.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Flammable liquid Cool endangered containers with water-spray. See SDS section 7 - Handling and storage.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear. Special protective equipment for firefighters

Further information:
Evacuate area of all unnecessary personnel. Fight fire from maximum distance.

Extend fire extinguishing measures to the surroundings. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Further accidental release measures:
High risk of slipping due to leakage/spillage of product.

Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

Personal precautions, protective equipment and emergency procedures
Handle in accordance with good industrial hygiene and safety practice.

Avoid all sources of ignition: heat, sparks, open flame. Use antistatic tools.

Environmental precautions
Substance/product is RCRA hazardous due to its properties.

Methods and material for containment and cleaning up
Pick up with suitable appliance and dispose of. Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling
See SDS section 10 - Stability and reactivity. See SDS section 5 - Fire fighting measures.

Avoid all sources of ignition: heat, sparks, open flame. Ground and/or bond all equipment to prevent electrostatic charges.

Protection against fire and explosion:
Avoid all sources of ignition: heat, sparks, open flame. Ground all transfer equipment properly to prevent electrostatic discharge.

Conditions for safe storage, including any incompatibilities
No applicable information available.

Further information on storage conditions: Avoid extreme heat. Keep away from sources of ignition - No smoking.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

3-methylbutan-1-ol	ACGIH, US:	STEL value 125 ppm ;
	ACGIH, US:	TWA value 100 ppm ;
	OSHA Z1:	PEL 100 ppm 360 mg/m3 ;
	NIO ID, US:	IDLH 500 ppm ; IDLH values based on the 1994 Revised Criteria
	NIO ID, US:	LEL 1.2 % ;

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-

contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Wear chemical resistant protective gloves.

Eye protection:
Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures:
Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to prevent contact. Avoid inhalation of vapours/mists. Employees should shower at the end of the shift. Wash soiled clothing immediately.

9. Physical and Chemical Properties

Physical state:	liquid	
Form:	liquid	
Odour:	odourless	
Odour threshold:	not determined	
Colour:	colourless	
pH value:	6.5	(internal method)
glass transition temperature:	-147 °C	(measured)
Freezing point:	No data available.	
Melting point:	No data available.	
Boiling point:	130.7 °C (1,013.25 hPa)	(measured)
Boiling range:	No data available.	
Sublimation point:	No applicable information available.	
Flash point:	43.5 °C	(ISO 13736, closed cup)
Flammability:	Flammable.	(derived from flash point)
Lower explosion limit:	1.0 %(V) (37.4 °C)	(air)
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Autoignition:	335 °C	(DIN 51794)
Vapour pressure:	3 hPa (20 °C) dynamic	(measured)
Density:	0.8080 g/cm3 (20 °C)	(DIN 53217-5)
Relative density:	0.8080 (20 °C)	
Relative vapour density:	3.03 (20 °C) Heavier than air.	(calculated)

Partitioning coefficient n-octanol/water (log Pow):	1.35 (23 °C)	(measured)
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.	
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	4.3 mPa.s (20 °C)	
Viscosity, kinematic:	5.32 mm2/s (20 °C)	(DIN 51562)
Solubility in water:	26,400 mg/l (19.8 °C) Literature data.	
Solubility (quantitative):	No applicable information available.	
Solubility (qualitative):	soluble solvent(s): organic solvents,	
Molecular weight:	88.15 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

Particle characteristics
Particle size distribution: The substance / product is marketed or used in a non solid or granular form.

10. Stability and Reactivity

Reactivity
When heated can give off ignitable vapours.

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.

Chemical stability
The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions
No hazardous reactions if stored and handled as prescribed/indicated.

Conditions to avoid
Avoid all sources of ignition: heat, sparks, open flame.

Incompatible materials
strong oxidizing agents
strong acids, bases

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Virtually nontoxic after a single ingestion. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard. Of low toxicity after short-term skin contact. The European Union (EU) has classified this substance as 'harmful' after inhalation.

Oral
Type of value: LD50
Species: rat
Value: > 5,000 mg/kg (BASF-Test)

Dermal
Type of value: LD50
Species: rabbit (male)
Value: approx. 3,216 mg/kg (similar to OECD guideline 402)

Assessment other acute effects
Assessment of STOT single:
Causes temporary irritation of the respiratory tract.

Irritation / corrosion
Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes.

Skin
Species: rabbit
Result: Irritant.
Method: Draize test

Eye
Species: rabbit
Result: irreversible damage
Method: Draize test

Sensitization

Assessment of sensitization: There is no evidence of a skin-sensitizing potential. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

In vitro/in chemico test battery
Species: In vitro assay
Result: Non-sensitizing.
Method: In vitro skin sensitization test battery

Aspiration Hazard
not applicable

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No adverse effects were observed after repeated oral exposure in animal studies. No adverse effects were observed after repeated inhalative exposure in animal studies. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Genetic toxicity
Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in studies with mammals.

Carcinogenicity
Assessment of carcinogenicity: A long-term carcinogenity study which does not meet the current requirements did not show a carcinogenic effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity
Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. No adverse effects on embryonic or fetal development were observed.

Medical conditions aggravated by overexposure
Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See SDS section 11 - Toxicological information.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Toxic to aquatic organisms based on long-term (chronic) toxicity study data.

Toxicity to fish

LC50 (96 h) > 120 mg/l, Salmo gairdneri, syn. O. mykiss (OECD 203; ISO 7346; 84/449/EWG, C.1, static)
Nominal concentration.

Aquatic invertebrates
EC50 (48 h) > 100 mg/l, Daphnia magna (DIN 38412 Part 11, static)
Nominal concentration.

Aquatic plants
EC50 (72 h) > 100 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)
Nominal concentration.

Chronic toxicity to fish
No observed effect concentration (35 d) 10 mg/l, Brachydanio rerio (OECD Guideline 210, Flow through.)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to aquatic invertebrates
EC10 (21 d) 0.059 mg/l, Daphnia magna (OECD Guideline 211, semistatic)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Assessment of terrestrial toxicity
No data available.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
OECD Guideline 209 aerobic
activated sludge, domestic/EC10 (3 h): 370 mg/l
Nominal concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Readily biodegradable (according to OECD criteria).

Elimination information

84 % BOD of COD (27 d) (OECD 301F; ISO 9408; 92/69/EWG, C.4-D) (aerobic, activated sludge, domestic)

Assessment of stability in water
According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

Assessment bioaccumulation potential
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Bioaccumulation potential
No data available.

Mobility in soil

Assessment transport between environmental compartments
The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

Additional information

Adsorbable organically-bound halogen(AOX):
This product contains no organically-bound halogen.

13. Disposal considerations

Waste disposal of substance:
Incinerate or dispose of in a RCRA-licensed facility. Dispose of in a RCRA-licensed facility. Do not discharge into waterways or sewer systems without proper authorization. Hazardous waste number D001.

Container disposal:
Empty containers with less than 1 inch of residue may be landfilled at a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. If containers are not empty, they must be disposed of in a RCRA-licensed facility.

RCRA: D001

14. Transport Information

Land transport
USDOT

Hazard class:	3
Packing group:	III
ID number:	UN 1105
Hazard label:	3, EHSM
Proper shipping name:	PENTANOLS

Sea transport
IMDG

Hazard class:	3
Packing group:	III
ID number:	UN 1105
Hazard label:	3, EHSM
Marine pollutant:	NO
Proper shipping name:	PENTANOLS

Air transport
IATA/ICAO

Hazard class:	3
Packing group:	III
ID number:	UN 1105
Hazard label:	3
Proper shipping name:	PENTANOLS

15. Regulatory Information

Federal Regulations

Registration status:
Chemical TSCA, US

All substances are TSCA listed and active.

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

CERCLA RQ	CAS Number	Chemical name
100 LBS	71-41-0	pentan-1-ol

State regulations

State RTK	CAS Number	Chemical name
NJ	123-51-3	3-methylbutan-1-ol
	71-41-0	pentan-1-ol
PA	71-41-0	pentan-1-ol
	123-51-3	3-methylbutan-1-ol

NFPA Hazard codes:
Health: 2 Fire: 2 Reactivity: 0 Special:

HMIS III rating
Health: 2 Flammability: 2 Physical hazard: 0

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Flam. Liq.	3	Flammable liquids
Eye Dam.	1	Serious eye damage
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
Skin Irrit.	2	Skin irritation
Acute Tox.	5 (dermal)	Acute toxicity
Aquatic Chronic	2	Hazardous to the aquatic environment - chronic

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2025/10/14

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operations on society and the environment during production, storage, transport, use and disposal of our products.

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END OF DATA SHEET