

## Material Safety Data Sheet

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Version 1.8

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

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1 - Product and Company Information

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Product Name	2-METHYLBUTYRIC ACID, 98%
Product Number	193070
Company	Sigma-Aldrich Pty. Ltd. 12 Anella Avenue Castle Hill NSW 2154 Australia
Technical Phone #	+61 2 9841 0555 (1800 800 097)
Fax	+61 2 9841 0500 (1800 800 096)
Emergency Phone #	+44 8701906777 (1800 448 465)

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
(+/-)-2-METHYLBUTYRIC ACID	116-53-0	204-145-2	None
Formula	C5H10O2		
Molecular Weight	102.13 AMU		
Synonyms	Active valeric acid * Butyric acid, 2-methyl- (6CI,8CI) * Ethylmethylethylacetic acid * 2-Methylbutanoic acid * alpha-Methylbutyric acid * 2-Methylbutyric acid * Methylmethylethylacetic acid		

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3 - Hazards Identification

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## SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Harmful in contact with skin and if swallowed. Causes burns.

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

## AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

## AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

## AFTER INGESTION

If swallowed, wash out mouth with water provided person is

conscious. Call a physician. Do not induce vomiting.

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## 5 - Fire Fighting Measures

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### EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

### SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

### SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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## 6 - Accidental Release Measures

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### PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

### METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

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## 7 - Handling and Storage

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### HANDLING

Directions for Safe Handling: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

### STORAGE

Conditions of Storage: Keep tightly closed.

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## 8 - Exposure Controls / Personal Protection

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### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

### PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

Special Protective Measures: Faceshield (8-inch minimum).

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## 9 - Physical and Chemical Properties

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### Appearance

Physical State: Liquid  
Color: Colorless  
Odor: Stench.

### Property

### Value

At Temperature or Pressure

pH	N/A	
BP/BP Range	176.5 °C	760 mmHg
MP/MP Range	N/A	
Flash Point	74 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	0.5 mmHg	20 °C
SG/Density	0.936 g/cm3	
Partition Coefficient	Log Kow: 1.18	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

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## 10 - Stability and Reactivity

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### STABILITY

Stable: Stable.

Materials to Avoid: Bases, Oxidizing agents, Reducing agents.

### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

### HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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## 11 - Toxicological Information

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RTECS NUMBER: EK7897000

### ACUTE TOXICITY

LD50

Oral

Rat

1870 UL/KG

Remarks: Gastrointestinal:Changes in structure or function of salivary glands. Gastrointestinal:Hypermotility, diarrhea. Other changes

LD50

Skin

Rabbit

1460 UL/KG

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Other changes. Behavioral:Ataxia. Gastrointestinal:Other changes.

### SIGNS AND SYMPTOMS OF EXPOSURE

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Exposure can cause: Nausea, dizziness, and headache.

#### ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: Harmful if absorbed through skin.

Eye Contact: Causes burns.

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: Harmful if swallowed.

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#### 12 - Ecological Information

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No data available.

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#### 13 - Disposal Considerations

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#### SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.

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#### 14 - Transport Information

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#### RID/ADR

UN#: 3265

Class: 8

PG: II

Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.

#### IMDG

UN#: 3265

Class: 8

PG: II

Proper Shipping Name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

Marine Pollutant: No

Severe Marine Pollutant: No

Technical Name: Required

#### IATA

UN#: 3265

Class: 8

PG: II

Proper Shipping Name: Corrosive liquid, acidic, organic, n.o.s.

Inhalation Packing Group I: No

Technical Name: Required

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#### 15 - Regulatory Information

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#### CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: C

Corrosive.

R-PHRASES: 21/22 34

Harmful in contact with skin and if swallowed. Causes burns.  
S-PHRASES: 26 36/37/39 45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

#### COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

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#### 16 - Other Information

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#### WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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