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

1.1 Product identifier

Trade name

3-Hydroxy-3-methyl butyric acid

Stock number:

625-08-1

CAS Number:

625-08-1

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

Identified use:

SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007.280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com

Informing department:

Product safety Tel + +049 (0) 7275 988687-0
Carechem 24: +44 (o) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz, www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

1.4 Emergency telephone number:

Carechem 24: +44 (0) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz, www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.
Information concerning particular hazards for human and environment: Not applicable
Other hazards that do not result in classification No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

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

Hazard pictograms

GHS07

Signal word

Warning

Hazard statements

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P321 Specific treatment (see on this label).
P405 Store locked up.
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# Designation:

625-08-1 3-Hydroxy-3-methyl butyric acid

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.

After skin contact

Instantly wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.
Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents

CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Protective equipment:

Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/sit.

6.2 Environmental precautions:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Safety data sheet
according to 1907/2006/EC, Article 31

Trade name 3-Hydroxy-3-methyl butyric acid

Prevention of secondary hazards: No special measures required.
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 information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:
No information known.

7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers:
No special requirements.

Information about storage in one common storage facility:
Store away from oxidizing agents.

Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.

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

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters
Components with critical values that require monitoring at the workplace:
Not required.

Additional information:
No data

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.

Breathing equipment:
Use breathing protection with high concentrations.

Protection of hands:
Check protective gloves prior to each use for their proper condition.
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.

Material of gloves
Impervious gloves

Penetration time of glove material
Not determined

Eye protection:
Safety glasses

Face protection
Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form: Liquid
Colour: Light yellow
Smell: Not determined
Odour threshold: Not determined.

pH-value:
Not determined.

Change in condition
Melting point/Melting range:
Not determined
Boiling point/Boiling range:
128 °C ((7mm Hg))
Sublimation temperature / start:
Not determined

Flash point:
> 110 °C

Inflammability (solid, gaseous)
Not determined.

Ignition temperature:
Not determined.

Decomposition temperature:
Not determined.

Self-ignimmability:
Not determined.

Danger of explosion:
Product is not explosive.

Critical values for explosion:
Lower:
Not determined
Upper:
Not determined

Steam pressure:
Not determined
Density at 20 °C
1,1 g/cm³ ((Approx))
Relative density
Not determined.

Vapour density
Not determined.

Evaporation rate
Not determined.

Solubility in / Miscibility with
Water: Fully miscible
Partition coefficient (n-octanol/water):
Not determined.

Viscosity:

dynamic:
Not determined.

kinematic:
Not determined.

9.2 Other information
No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No information known.

10.2 Chemical stability
Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:
No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions
No dangerous reactions known.

10.5 Incompatible materials:
Oxidizing agents

(Contd. of page 3)
Sect. 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:
No effects known.

LD/LC50 values that are relevant for classification:
No data

Skin irritation or corrosion:
Causes skin irritation.

Eye irritation or corrosion:
Causes serious eye irritation.

Sensitization:
No sensitizing effect known.

Germ cell mutagenicity:
No effects known.

Reproductive toxicity:
No effects known.

Specific target organ system toxicity - repeated exposure:
No effects known.

Specific target organ system toxicity - single exposure:
May cause respiratory irritation.

Aspiration hazard:
No effects known.

Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Sect. 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.

Additional ecological information:
Do not allow material to be released to the environment without proper governmental permits.

Water hazard class: 1 (Self-assessment): slightly hazardous for water.

Avoid transfer into the environment.

Sect. 13: Disposal considerations

13.1 Waste treatment methods

Recommendation:
Hand over to disposers of hazardous waste.

Must be specially treated under adherence to official regulations.

Consult state, local or national regulations for proper disposal.

Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.

Recommended cleaning agent:
Water, if necessary with cleaning agent.

Sect. 14: Transport information

UN-Number
ADR, IMDG, IATA
None

14.2 UN proper shipping name
ADR, IMDG, IATA
None

14.3 Transport hazard class(es)
ADR, IMDG, IATA
Class
None

Packing group
ADR, IMDG, IATA
None

14.5 Environmental hazards:
Not applicable.

14.6 Special precautions for user:
Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

Transport/Additional information:
Not dangerous according to the above specifications.

Sect. 15: Regulatory information

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

Australian Inventory of Chemical Substances
Substance is not listed.

Standard for the Uniform Scheduling of Drugs and Poisons
Substance is not listed.

National regulations
Information about limitation of use:
For use only by technically qualified individuals.

Employment restrictions concerning young persons must be observed.

Water hazard class:
Water hazard class 1 (Self-assessment): slightly hazardous for water.

Other regulations, limitations and prohibitive regulations
ELINCS (European List of Notified Chemical Substances)
Substance is not listed.

Substances of very high concern (SVHC) according to REACH, Article 57
Substance is not listed.

REACH - Pre-registered substances
Substance is not listed.

15.2 Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

Sect. 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Abbreviations and acronyms:
ADR: Accord européen sur le transport 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

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>GHS: Globally Harmonized System of Classification and Labelling of Chemicals</td>
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<tr>
<td>CAS: Chemical Abstracts Service (division of the American Chemical Society)</td>
</tr>
<tr>
<td>LC50: Lethal concentration, 50 percent</td>
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<tr>
<td>LD50: Lethal dose, 50 percent</td>
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