SIGMA-ALDRICH

Material Safety Data Sheet

Version 3.0 Revision Date 04/15/2008 Print Date 07/28/2010

| RODUCT AND COMPAN | TIDENTIFICATION | | | |
|--|--|---------------------------------------|---------------|--|
| Product name | | | | |
| Product name | : DL-VALINE | E | | |
| Product Number | : V0375 | | | |
| Brand | : Sigma | | | |
| Company | : Sigma-Aldric | h | | |
| oompany | 3050 Spruce Street | | | |
| | SAINT LOUI | S MO 63103 | | |
| Talankana | USA | 20 | | |
| Telephone Fax | : +180032558 : +180032550 | | | |
| Emergency Phone # | : (314) 776-65 | | | |
| | · · | | | |
| OMPOSITION/INFORMA | TION ON INGREDIE | NTS | | |
| Synonyms | | 3-methylbutanoic acid | | |
| | (±)-α-Aminois | sovaleric acid | | |
| Formula | : C ₅ H ₁₁ NO ₂ | | | |
| Molecular Weight | : 117.15 g/mo | I | | |
| CAS-No. | EC-No. | Index-No. | Concentration | |
| DL-Valine | | L | | |
| 516-06-3 | 208-220-0 | - | | |
| | | | | |
| | | | | |
| AZARDS IDENTIFICATIO | N | | | |
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| | | | | |
| Emergency Overview | | | | |
| OSHA Hazards | vordo | | | |
| OSHA Hazards No known OSHA haz | zards | | | |
| OSHA Hazards No known OSHA haz HMIS Classification | | | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: | zards 0 0 | | | |
| OSHA Hazards No known OSHA haz HMIS Classification | 0 | | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: | 0 0 | | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: Physical hazards: NFPA Rating Health Hazard: | 0 0 | | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: Physical hazards: NFPA Rating Health Hazard: Fire: | 0 0 0 0 | | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: Physical hazards: NFPA Rating Health Hazard: Fire: Reactivity Hazard: | 0 0 0 | | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: Physical hazards: NFPA Rating Health Hazard: Fire: Reactivity Hazard: Potential Health Effects | 0 0 0 0 0 0 | | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: Physical hazards: NFPA Rating Health Hazard: Fire: Reactivity Hazard: Potential Health Effects Inhalation | 0 0 0 0 0 0 May be harmful if i | inhaled. May cause respirat | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: Physical hazards: NFPA Rating Health Hazard: Fire: Reactivity Hazard: Potential Health Effects Inhalation Skin | 0 0 0 0 0 May be harmful if i May be harmful if i | absorbed through skin. May | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: Physical hazards: NFPA Rating Health Hazard: Fire: Reactivity Hazard: Potential Health Effects Inhalation Skin Eyes | 0 0 0 0 0 May be harmful if i May be harmful if i May cause eye irri | absorbed through skin. May tation. | | |
| OSHA Hazards No known OSHA haz HMIS Classification Health Hazard: Flammability: Physical hazards: NFPA Rating Health Hazard: Fire: Reactivity Hazard: Potential Health Effects Inhalation Skin | 0 0 0 0 0 May be harmful if i May be harmful if i May cause eye irri May be harmful if i | absorbed through skin. May tation. | | |

4. FIRST AID MEASURES

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration

In case of skin contact Wash off with soap and plenty of water.

In case of eye contact Flush eyes with water as a precaution.

If swallowed Never give anything by mouth to an unconscious person. Rinse mouth with water.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point

Ignition

no data available

no data available

temperature Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Avoid dust formation.

Environmental precautions Do not let product enter drains.

Methods for cleaning up Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Storage

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

For prolonged or repeated contact use protective gloves.

Eye protection Safety glasses

Hygiene measures General industrial hygiene practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

| Form | powder |
|-----------------------|-------------------|
| Colour | white |
| Safety data | |
| рН | no data available |
| Melting point | 295 °C (563 °F) |
| Boiling point | no data available |
| Flash point | no data available |
| Ignition temperature | no data available |
| Lower explosion limit | no data available |
| Upper explosion limit | no data available |
| Water solubility | no data available |

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Materials to avoid Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure

| IARC: | No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
|--------|---|
| ACGIH: | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. |
| NTP: | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| OSHA: | No component of this product present at levels greater than or equal to 0.1% is identified as |
| | Sigma-Aldrich Corporation |

a carcinogen or potential carcinogen by OSHA.

Potential Health Effects

| Inhalation | May be harmful if inhaled. May cause respiratory tract irritation. | |
|------------|---|--|
| Skin | n May be harmful if absorbed through skin. May cause skin irritatio | |
| Eyes | May cause eye irritation. | |
| Ingestion | May be harmful if swallowed. | |

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

no data available

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations.

Contaminated packaging Dispose of as unused product.

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG Not dangerous goods

ΙΑΤΑ

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards No known OSHA hazards

TSCA Status On TSCA Inventory

DSL Status All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

| No Components Listed | | |
|--|--|-----------------|
| Pennsylvania Right To Know Components | | |
| | CAS-No. | Revision Date |
| DL-Valine | 516-06-3 | |
| New Jersey Right To Know Components | | |
| | CAS-No. | Revision Date |
| DL-Valine | 516-06-3 | |
| California Prop. 65 Components | | |
| This product does not contain any chemicals known to Sta | te of California to cause cancer, birt | h, or any other |
| eproductive defects. | | ,, |

16. OTHER INFORMATION

Further information

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