



MATERIAL SAFETY DATA SHEET

Revision Date : 2017-01-01

1. IDENTIFICATION OF THE SUBSTANCE/TREPARATION AND THE COMPANY/UNDERTAKING

Product name:

3-methyl-2-oxovalerate(2-hydroxy-4-(methylthio)butyrate)

Calcium

Supplier:

BINBO BIOLOGICAL CO.,LTD

FENGCHENG ONE ROAD

Xi'an

China

Tel:

+86-13488214511

2.COMPOSITION/INFORMATION ON INGREDIENTS

| Components | ACGIH Exposure Limits: | OSHA Exposure Limits: |
|--|------------------------|-----------------------|
| Calcium | | |
| 3-methyl-2-oxovalerate(2-hydroxy-4-(methylthio)butyrate) | None | None |

3.HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May cause skin irritation and/or dermatitis

Principle routes of exposure:

Skin

Inhalation:

May cause irritation of respiratory tract

Ingestion:

May be harmful if swallowed

Skin contact:

May cause allergic skin reaction

Eye contact:

Avoid contact with eyes

Statements of hazard MAY CAUSE ALLERGIC SKIN REACTION.

Statements of Spill of Leak Label Eliminate all ignition sources. Absorb and/or contain spill with inert materials (e.g., sand, vermiculite). Then place in appropriate container. For large spills, use water spray to disperse vapors, flush spill area. Prevent runoff from entering waterways or sewers.



4. FIRST AID MEASURES

| | |
|---|---|
| General advice: | In the case of accident or if you fell unwell, seek medical advice immediately (show the label where possible). Move to fresh air, call a physician immediately. |
| Inhalation: | Rinse immediately with plenty of water and seek medical advice Do not induce vomiting without medical advice. |
| Skin contact: | In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| Ingestion: | No information available |
| Eye contact: | |
| Protection of first – aiders: | |
| Medical conditions aggravated by exposure: | None known |

5. FIRE-FIGHTING MEASURES

| | |
|---|---|
| Suitable extinguishing media: | Use dry chemical, CO ₂ , water spray or “alcohol” foam |
| Specific hazards: | Burning produces irritant fumes. |
| Special protective equipment for firefighters: | As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear |
| Flash point: | Not determined |
| Autoignition temperature: | Not determined |
| NFPA rating | Not determined |
| NFPA Health: | 1 |
| NFPA Flammability: | 1 |
| NFPA Reactivity: | 0 |

6. ACCIDENTAL RELEASE MEASURES

| | |
|-----------------------------------|---------------------------------------|
| Personal precautions: | |
| Environmental precautions: | Use personal protective equipment. |
| Methods for cleaning up: | Prevent product from entering drains. |



Sweep up and shovel into suitable containers for disposal

7. HANDLING AND STORAGE

Storage:

Room temperature

Handling:

Use only in area provided with appropriate exhaust ventilation.

Safe handling advice:

Wear personal protective equipment.

Incompatible products:

Oxidising and spontaneously flammable products

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures:

Ensure adequate ventilation.

Respiratory protection:

Breathing apparatus only if aerosol or dust is formed.

Skin and body protection:

Usual safety precautions while handling the product will provide adequate protection against this potential effect.

Safety glasses with side-shields

Eye protection:

PVC or other plastic material gloves

Hand protection:

Handle in accordance with good industrial hygiene and safety practice.

Hygiene measures:

9. PHYSICAL AND CHEMICAL PROPERTIES

Melting point/range:

No Data available at this time.

Boiling point/range:

No Data available at this time.

Density:

No data available

Vapor pressure:

No data available

Evaporation rate:

No data available

Vapor density:

No data available

Solubility (in water):

No data available

Flash point:

Not determined

Autoignition temperature:

Not determined

10. STABILITY AND REACTIVITY



Stability: Stable under recommended storage conditions.

Polymerization: None under normal processing.

Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapours such as carbon oxides.

Materials to avoid: Strong oxidising agents.

Conditions to avoid: Exposure to air or moisture over prolonged periods.

11. TOXICOLOGICAL INFORMATION

Product information

Acute toxicity

| Components | RTECS Number: | Selected LD50s and LC50s |
|---|---------------|--------------------------|
| Calcium 3-methyl-2-oxovalerate(2-hydroxy-4 -(methylthio)butyrate) | Not Available | Not Determined |

Chronic toxicity:

Chronic exposure may cause nausea and vomiting,
higher exposure causes unconsciousness.

Local effects:

Symptoms of overexposure may be headache,
dizziness, tiredness, nausea and vomiting.

Specific effects:

May include moderate to severe erythema (redness)
and moderate edema (raised skin), nausea, vomiting,
headache.

Primary irritation:

No data is available on the product itself.

Carcinogenic effects:

No data is available on the product itself.

Mutagenic effects:

No data is available on the product itself.

Reproductive toxicity:

No data is available on the product itself.

12. ECOLOGICAL INFORMATION

Mobility:

Bioaccumulation:

No data available

Ecotoxicity effects:

No data available

Aquatic toxicity:

No data available

May cause long-term adverse effects in the aquatic
environment.



| Components | U.S. DOT –Appendix B – Marine Pollutants | U.S. DOT –Appendix B – Severe Marine Pollutants | United Kingdom – The red List: |
|---|---|--|-----------------------------------|
| Calcium 3-methyl-2-oxov alate(2-hydro xy-4-(methylthio)butyrate) | Not Listed | Not Listed | Not Listed |

| Components | Germany VCI (WGK) | World Health Organization (WHO) – Drinking Water | Ecotoxicity – Fish Species Data |
|---|-------------------|---|------------------------------------|
| Calcium 3-methyl-2-oxov alate(2-hydro xy-4-(methylthio)butyrate) | Not Listed | Not Listed | Not Listed |

| Components | Ecotoxicity – Freshwater Algae Data | Ecotoxicity – Microtox Data | Ecotoxicity – Water Flea Data |
|---|--|--------------------------------|----------------------------------|
| Calcium 3-methyl-2-oxov alate(2-hydro xy-4-(methylthio)butyrate) | Not Listed | Not Listed | Not Listed |

| Components | EPA – ATSDR Priority List | EPA – HPV Challenge Program Chemical List | California – Priority Toxic Pollutants |
|---|---------------------------|--|---|
| Calcium 3-methyl-2-oxov alate(2-hydro xy-4-(methylthio)butyrate) | Not Listed | Not Listed | Not Listed |

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products:



Contaminated packaging:

Waste disposal must be in accordance with appropriate Federal, State and local regulations. This product, if unaltered by use, may be disposed of

treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.
Do not re-use empty containers.

14. TRANSPORT INFORMATION

UN/Id No:

Not regulated

DOT

Proper shipping name:

Not Regulated

TGD(Canada)

WHMIS hazard class:

Non - controlled

IMDG/IMO

IMDG – Hazard Classifications

Not Applicable

| Components | U.S. DOT –Appendix A Table 1 – Reportable Quantities |
|---|--|
| Calcium 3-methyl-2-oxovalerate(2-hydroxy-4-(methylthio)butyrate) | Not Listed |

| Components | U.S. DOT –Appendix B – Marine Pollutants | U.S. DOT –Appendix B – Severe Marine Pollutants |
|---|--|---|
| Calcium 3-methyl-2-oxovalerate(2-hydroxy-4-(methylthio)butyrate) | Not Listed | Not Listed |

IMO – labels:

15. REGULATORY INFORMATION

International Inventories



| Components | Inventory – United States TSCA – Sect.8(b) | Canada DSL Inventory List - |
|---|--|-----------------------------|
| Calcium 3-methyl-2-oxovalerate(2-hydroxy-4-(methylthio)butyrate) | Not Listed | Not Listed |

U.S. regulations:

| Components | California proposition 65 - | Massachusetts Right to Know List: | New Jersey Right to Know List: | Pennsylvania Right to Know List: |
|---|-----------------------------|-----------------------------------|--------------------------------|----------------------------------|
| Calcium 3-methyl-2-oxovalerate(2-hydroxy-4-(methylthio)butyrate) | NA | Not Listed | Not listed | Not listed |

| Components | Florida substance List: | Rhode Island Right to Know List: | Illinois – Toxic Air Contaminants | Connecticut – Hazardous Air |
|---|-------------------------|----------------------------------|-----------------------------------|-----------------------------|
| Calcium 3-methyl-2-oxovalerate(2-hydroxy-4-(methylthio)butyrate) | Not Listed | Not Listed | Not listed | Not listed |

| Components | SSARA 313 Emission reporting/Toxic Release Chemicals | CERCLA/SARA – Section 302 Extremely Haz of | NTP: | IARC: |
|---|--|--|------------|------------|
| Calcium 3-methyl-2-oxovalerate(2-hydroxy-4-(methylthio)butyrate) | | Not Listed | Not listed | Not listed |



滨渤生物科技有限公司
Binbo Biological Co., Ltd

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| 16. OTHER INFORMATION |
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Prepared by: Health & Safety

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End of safety data sheet