



MATERIAL SAFETY DATA SHEET

Revision Date : 2017-01-01

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

Product name: Vorinostat
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: |
|------------|------------------------|-----------------------|
| Vorinostat | 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: | No information available |
| Protection of first – aiders: | |
| Medical conditions aggravated by exposure: | None known |

5.FIRE-FIGHTING MEASURES

| | |
|---|---|
| Suitable extinguishing media: | Use dry chemical, CO2, 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: | Use personal protective equipment. |
| Environmental precautions: | Prevent product from entering drains. |
| Methods for cleaning up: | 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

Hygiene measures:

safety practice.

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 |
|------------|---------------|--------------------------|
| Vorinostat | 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: | No data available |
| Bioaccumulation: | No data available |
| Ecotoxicity effects: | No data available |
| Aquatic toxicity: | 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: |
|------------|--|---|--------------------------------|
| Vorinostat | Not Listed | Not Listed | Not Listed |

| Components | Germany VCI (WGK) | World Health Organization | Ecotoxicity – Fish Species |
|------------|-------------------|---------------------------|----------------------------|
| | | | |



| | | | |
|------------|------------|-------------------------------|-------------|
| | | (WHO) – Drinking Water | Data |
| Vorinostat | Not Listed | Not Listed | Not Listed |

| | | | |
|-------------------|--|------------------------------------|--------------------------------------|
| Components | Ecotoxicity – Freshwater Algae Data | Ecotoxicity – Microtox Data | Ecotoxicity – Water Flea Data |
| Vorinostat | Not Listed | Not Listed | Not Listed |

| | | | |
|-------------------|----------------------------------|--|---|
| Components | EPA – ATSDR Priority List | EPA – HPV Challenge Program Chemical List | California – Priority Toxic Pollutants |
| Vorinostat | Not Listed | Not Listed | Not Listed |

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products:

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.

Contaminated packaging:

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 |
| Vorinostat | Not Listed |



| Components | U.S. DOT –Appendix B – Marine Pollutants | U.S. DOT –Appendix B – Severe Marine Pollutants |
|------------|--|---|
| Vorinostat | Not Listed | Not Listed |

IMO – labels:

15. REGULATORY INFORMATION

International Inventories

| Components | Inventory – United States TSCA – Sect.8(b) | Canada DSL Inventory List - |
|------------|--|-----------------------------|
| Vorinostat | 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: |
|------------|-----------------------------|-----------------------------------|--------------------------------|----------------------------------|
| Vorinostat | NA | Not Listed | Not listed | Not listed |

| Components | Florida substance List: | Rhode Island Right to Know List: | Illinois – Toxic Air Contaminants | Connecticut – Hazardous Air |
|------------|-------------------------|----------------------------------|-----------------------------------|-----------------------------|
| Vorinostat | 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: |
|------------|--|--|------------|------------|
| Vorinostat | | Not Listed | Not listed | Not listed |

16. OTHER INFORMATION

Prepared by: Health & Safety

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End of safety data sheet