1 Identification

- Product identifier
- Trade name: Aerothionin
- Synonym
  \[(5S,5'S,10R,10'R)-N,N'-1,4-butanediylbis[7,9-dibromo-10-hydroxy-8-methoxy-1-oxa-2-azaspiro[4.5]deca-2,6,8-triene-3-carboxamide\]
- Article number: 18459
- CAS Number: 28714-26-3
- Application of the substance / the mixture: For research use only, not for human or veterinary use.
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier: Cayman Chemical Co.
    1180 E. Ellsworth Rd.
    Ann Arbor, MI 48108
    USA
  - Information department: Product safety department
  - Emergency telephone number:
    During normal opening times: +1 (734) 971-3335
    US/CANADA: 800-424-9300
    Outside US/CANADA: 703-741-5970

2 Hazard(s) identification

- Classification of the substance or mixture
  The substance is not classified, according to the Globally Harmonized System (GHS).
- Label elements
  - GHS label elements: None
  - Hazard pictograms: None
  - Signal word: None
  - Hazard statements: None
- Classification system:
  - NFPA ratings (scale 0 - 4)
    Health = 0
    Fire = 0
    Reactivity = 0
- HMIS-ratings (scale 0 - 4)
  - HEALTH: Health = 0
  - FIRE: Fire = 0
  - REACTIVITY: Reactivity = 0
- Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.

(Contd. on page 2)
3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
  28714-26-3 Aerothionin

4 First-aid measures

- Description of first aid measures
  - General information: No special measures required.
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Generally the product does not irritate the skin.
  - After eye contact: Rinse opened eye for several minutes under running water.
  - After swallowing: If symptoms persist consult doctor.
  - Information for doctor:
    - Most important symptoms and effects, both acute and delayed
      May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.
    - No further relevant information available.
  - Indication of any immediate medical attention and special treatment needed
    No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
  - Suitable extinguishing agents:
    Use fire fighting measures that suit the environment.
    A solid water stream may be inefficient.
  - Special hazards arising from the substance or mixture
    No further relevant information available.
  - Advice for firefighters
  - Protective equipment: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  Not required.
- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- Methods and material for containment and cleaning up: Pick up mechanically.
- 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 disposal information.
- Protective Action Criteria for Chemicals
  - PAC-1: Substance is not listed.
  - PAC-2: Substance is not listed.
  - PAC-3: Substance is not listed.
7 Handling and storage

- Handling:
  - Precautions for safe handling: No special measures required.
  - Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities:
- Storage:
  - Requirements to be met by storerooms and receptacles: No special requirements.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: None.
- Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters:
  - Components with limit values that require monitoring at the workplace: Not required.
  - Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls:
  - Personal protective equipment:
    - General protective and hygienic measures:
      The usual precautionary measures for handling chemicals should be followed.
    - Breathing equipment: Not required.
  - Protection of hands:
    The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
    Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
    Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
  - Material of gloves:
    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.
  - Penetration time of glove material:
    The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
  - Eye protection: Not required.

9 Physical and chemical properties

- Information on basic physical and chemical properties:
  - General Information:
    - Appearance:
      - Form: film
      - Color: colorless to white
      - Odor: Characteristic
    - Structural Formula: C24H26Br4N4O8
    - Molecular Weight: 818.1 g/mol
    - Odor threshold: Not determined.
### 10 Stability and reactivity

- **Reactivity**: No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided**: No decomposition if used according to specifications.
- **Possibility of hazardous reactions**: No dangerous reactions known.
- **Conditions to avoid**: No further relevant information available.
- **Incompatible materials**: strong oxidizing agents
- **Hazardous decomposition products**: carbon oxides, nitrogen oxides

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect**
- **on the skin**: No irritant effect.
- **on the eye**: No irritating effect.
### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
  - Water hazard class 1 (Self-assessment): slightly hazardous for water
  - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
  - **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
  - **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

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Safety Data Sheet  
acc. to OSHA HCS

Trade name: Aerothionin

(Contd. from page 5)

| · Environmental hazards:               | Not applicable.           |
| · Special precautions for user         | Not applicable.           |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable.           |
| · UN "Model Regulation":              | not regulated             |

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture  
  No further relevant information available.
· Sara
· Section 355 (extremely hazardous substances): Substance is not listed.
· Section 313 (Specific toxic chemical listings): Substance is not listed.
· TSCA (Toxic Substances Control Act): Substance is not listed.
· Hazardous Air Pollutants Substance is not listed.
· Proposition 65
· Chemicals known to cause cancer: Substance is not listed.
· Chemicals known to cause reproductive toxicity for females: Substance is not listed.
· Chemicals known to cause reproductive toxicity for males: Substance is not listed.
· Chemicals known to cause developmental toxicity: Substance is not listed.
· Carcinogenic categories
· EPA (Environmental Protection Agency) Substance is not listed.
· TLV (Threshold Limit Value established by ACGIH) Substance is not listed.
· NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is not listed.
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Department issuing SDS: Environment protection department.
· Contact: -
· Date of preparation / last revision 03/17/2021 / -
· Abbreviations and acronyms:
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  ACGIH: American Conference of Governmental Industrial Hygienists
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
  NIOSH: National Institute for Occupational Safety
  OSHA: Occupational Safety & Health
  TLV: Threshold Limit Value
  PEL: Permissible Exposure Limit
  REL: Recommended Exposure Limit