



Safety Data Sheet: **A23187, 4-Bromo**

1. Identification of the Substance and of the Manufacturer

1.1. Product identifiers

|              |  |                     |   |
|--------------|--|---------------------|---|
| Product name | <a href="#">A23187, 4-Bromo</a>  | Formula             | C <sub>29</sub> H <sub>36</sub> BrN <sub>3</sub> O <sub>6</sub> |
| Product Code | BROM   | RTECS               | Not listed  |
| CAS #        | <a href="#">76455-48-6</a>   | Molecular weight    | 602.52  |
| EC Number #  | <a href="#">634-762-6</a>  | Substance? Mixture? | Substance   |
| PUBCHEM      | <a href="#">115325</a>   | • RTECS             | Not listed @7-2025  |
| Comptox EPA  | Not listed @7-2025   | •                   | •   |
| Synonyms     | <ul style="list-style-type: none"> <li>• 6-bromo-5-(methylamino)-2-[[[(2S,3R,5R,8R,9R)-3,5,9-trimethyl-2-[(2S)-1-oxo-1-(1H-pyrrol-2-yl)propan-2-yl]-1,7-dioxaspiro[5.5]undecan-8-yl]methyl]-1,3-benzoxazole-4-carboxylic acid</li> <li>• 4-Bromo-calcium Ionophore A23187</li> </ul> |                     |   |
| Source       | Synthetic  | Date of version     | 19 July, 2025   |

1.2. Intended uses of the Substance and uses advised against

|  |  |
|--|--|
| 1.2.1. Intended use:   | 1.2.2. Uses advised against:   |
| Research and development.<br>Laboratory reagent.<br>To be used by professionals only | Not for drug,<br>Not to be used in humans or animals.<br>Not food additive |

1.3. Contacts

|   |   |
|---|---|
| 1.3.1. Details of the supplier of the SDS   | 1.3.2. Emergency Telephone number   |
| <b>FERMENTEK Ltd</b><br>4 Yatziv street, POB<br>47120<br>Jerusalem 97800,<br>Israel<br>Tel: +972 2 5853953<br>Fax: +972 2 5853943<br>eMail:<br>Fermentek@Fermentek.com<br>Website:<br>WWW.Fermentek.com | For chemical emergency spill, leak, fire,<br>exposure, or accident calls CHEMTREC day or<br>night:<br>Within USA and Canada: 1-800-424-9300.<br>Outside USA and Canada: +1 703-527-3887 |

*This company is the manufacturer of the product, and the supplier of the safety data sheet*

2. Hazards' identification

2.1. Classification of the substance or mixture

2.1.1. GHS Classification According to EU Reg. 1272/2008 and US OSHA 1910.1200)

|                              |         |   |
|------------------------------|---------|---|
| Acute toxicity, Oral         | Cat. 4  | ⚠ H302 Harmful if swallowed             |
| Acute toxicity, Inhalation   | Cat. 4  | ⚠ H332 Harmful in contact with skin     |
| Acute toxicity, Dermal       | Cat. 4  | ⚠ H312 Harmful if inhaled               |
| Skin irritation              | Cat. 2  | ⚠ H315 Causes skin irritation           |
| Eye irritation               | Cat. 2A | ⚠ H319 Causes serious eye irritation    |
| STOT SE - Respiratory system | Cat. 3  | ⚠ H335 May cause respiratory irritation |



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### 2.2. GHS Label elements, including precautionary statements

2.2.1. Pictogram: {} Signal word: {**Warning**}

#### 2.2.2. Hazard Statements

|                |   |
|----------------|---|
| H302+H312+H332 | Harmful if swallowed, in contact with skin or if inhaled. |
| H315           | Causes skin irritation.                                   |
| H319           | Causes serious eye irritation.                            |
| H335           | May cause respiratory irritation                          |

#### 2.2.3. GHS Precautionary Statements

|      |   |
|------|---|
| P201 | Obtain special instructions before use.   |
| P202 | Do not handle until all safety precautions have been read and understood.                         |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray  |
| P264 | Wash face, hands and any exposed skin thoroughly after handling                                   |
| P270 | Do not eat, drink or smoke when using this product  |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection. |

#### 2.2.4. GHS Response Statements

|                              |  |
|------------------------------|--|
| P301+P317, P330              | IF swallowed: Get medical help. Rinse mouth  |
| P302+P352,P317,P362+P364     | IF ON SKIN: wash with plenty of water. Get emergency medical help. Take off contaminated clothing and wash it before reuse.  |
| P332+P317                    | If skin irritation occurs: Get medical help.   |
| P304+P340+P312               | IF INHALED: Remove the person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  |
| P305+P351+P338,<br>P337+P317 | IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists: Get medical help. |
| P319                         | Get medical help if you feel unwell.   |

### 3. Composition/information on ingredients

| Substance          |  |  |
|--------------------|--|--|
| Substance name:    | A23187, 4-Bromo  |  |
| Concentration      | <=100%   |  |
| CAS Registry#:     | 76455-48-6   |  |
| EC#:               | 634-762-6  |  |
| Molecular Formula: | C <sub>29</sub> H <sub>36</sub> BrN <sub>3</sub> O <sub>6</sub>                          |  |
| Molecular Weight:  | 602.52   |  |
| Classification     | Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H302, H332, H312, H315, H319, H335 |  |
| Mixture?           | Substance  |  |

### 4. First Aid Measures

#### 4.1. Description of First Aid Measures

|                 |  |
|-----------------|--|
| General advice: | Immediate medical attention is required.                                       |
| Eye contact:    | Rinse out with plenty of water. Remove contact lenses                          |
| Skin Contact:   | Take off immediately all contaminated clothing. Rinse skin with water/ shower. |



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|             |  |
|-------------|--|
| Ingestion:  | Drink water (two glasses at most). Consult a doctor if feeling unwell. |
| Inhalation: | Fresh air.   |

### 4.2. Most important symptoms and effects, both acute and delayed

|                  |                   |
|------------------|-------------------|
| General symptoms | No data available |
|------------------|-------------------|

### 4.3. Indication of any immediate medical attention and special treatment needed

|                    |                        |
|--------------------|------------------------|
| Note to physicians | Treat symptomatically. |
|--------------------|------------------------|

## 5. Fire-fighting measures

### 5.1. Extinguishing media

|                                |  |
|--------------------------------|--|
| Suitable extinguishing media   | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| Unsuitable extinguishing media | None known   |

### 5.2. Other information

|                               |   |
|-------------------------------|---|
| Hazardous combustion products | Carbon oxides,<br>Nitrogen oxides,<br>Bromine vapours<br><chem>C29H36BrN3O6</chem>            |
| Advice for firefighters       | Wear self-contained breathing apparatus for fire fighting if necessary. Wear protective suit. |

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

|                      |  |
|----------------------|--|
| Personal precautions | Use personal protective equipment as required. Keep people away from and upwind of spill/leak. |
|----------------------|--|

### 6.2. Environmental precautions

|                           |   |
|---------------------------|---|
| Environmental precautions | Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. |
|---------------------------|---|

### 6.3. Methods and material for containment and cleaning up

|                          |  |
|--------------------------|--|
| Methods for containment: | Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.  |
| Methods for cleaning up: | Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Cover liquid spill with sand, earth or other non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, and vermiculite). Cover powder spill with plastic sheet or tarp to minimize spreading. Sweep up and shovel into suitable containers for disposal. |

## 7. Handling and storage

### 7.1. Precautions for safe handling

|                          |  |
|--------------------------|--|
| Advice on safe handling: | Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. |
|--------------------------|--|

### 7.2. Conditions for safe storage, including any incompatibilities

|                         |   |
|-------------------------|---|
| Storage Conditions:     | Keep container tightly closed in a dry and well-ventilated place.<br>Keep out of the reach of children.<br>Store at -20 °C. |
| Suitable packaging      | Must only be kept in original packaging.  |
| Incompatible materials: | None known based on information available.  |



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## 8. Exposure Controls/Personal Protection

### 8.1. Control parameters

| Control parameters | Components with workplace control parameters |
|--------------------|--|
|--------------------|--|

### 8.2. Exposure controls

|                                  |  |
|----------------------------------|--|
| Appropriate engineering controls | <p>Showers, Eyewash stations, Ventilation systems</p> <p>Avoid contact with skin, eyes and clothing.</p> <p>Wash hands before breaks and immediately after handling the product.</p> <p>Use fumehood for routine work.</p> |
|----------------------------------|--|

### 8.3. Personal protective equipment

| [PPE=Personal Protection Equipment] |   |
|-------------------------------------|---|
| PPE: Respiratory protection         | Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).                          |
| PPE: Hand Protection:               | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands   |
| PPE: Eye Protection:                | Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)   |
| PPE: Skin and Body Protection:      | Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. |

## 9. Physical and chemical properties

### 9.1. Physical / chemical properties

|                                    |                |
|------------------------------------|----------------|
| Physical State at room temperature | Solid / powder |
| Color                              | Yellow         |

No further safety relevant data are available

## 10. Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity:                        | No information available.   |
| Chemical stability:                | Stable under normal conditions.   |
| Conditions to avoid                | Heat, flames and sparks. Sunlight.  |
| Incompatible materials             | Strong reducers and oxidizers   |
| Possibility of Hazardous Reactions | None under normal processing  |
| Hazardous decomposition products   | Hazardous decomposition products formed under fire conditions.: Carbon oxides, Bromine vapors, Nitrate oxides |



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### 11. Toxicological information

#### 11.1. Information on toxicological effects

**To the best of our knowledge, the toxicological effects of this product have not been thoroughly studied yet.**

##### 11.1.1. Acute Toxicity

|  |  |
|--|--|
| Oral toxicity estimate:                      | Estimate: Oral, Mouse, LD50>200 mg/kg        |
| Inhalation toxicity estimate:                | LC inhalation estimate 1.5 mg/liter, 4 hours |
| Serious eye damage                           | No data available                            |
| Respiratory or skin sensitization/corrosion: | No data available                            |

##### 11.1.2. CRM (Carcinogene, Mutagene, Reproductive hazards)

|   |                   |
|---|-------------------|
| Germ cell mutagenicity:                 | No data available |
| Carcinogenicity:                        | No data available |
| Reproductive toxicity / Teratogenicity: | No data available |

#### 11.2. Additional information

|              |            |
|--------------|------------|
| RTECS number | Not listed |
|--------------|------------|

### 12. Ecological Information

|                       |  |
|-----------------------|--|
| Eco-Toxicity          | No further relevant information available  |
| Other adverse effects | No further relevant information available. |

### 13. Disposal Considerations

#### 13.1. Waste treatment methods

|                                       |   |
|---------------------------------------|---|
| Waste from residues / unused products | Dispose of in accordance with local regulations |
| Contaminated packaging                | Dispose of as unused product                    |

### 14. Transport information

#### 14.1. UN number, Proper Shipping Name, Transport Hazard Class, packing group

|  | US DOT   | US IATA  | US IMDG  | US ADR/RID                                       |
|--|--|--|--|--|
| UN Number<br>UN proper shipping name   | Not dangerous for transport<br>(A23187, 4-Bromo) | Not dangerous for transport<br>(A23187, 4-Bromo) | Not dangerous for transport<br>(A23187, 4-Bromo) | Not dangerous for transport<br>(A23187, 4-Bromo) |
| Transport Hazard Class & Packing Group | Not regulated                                    | Not regulated                                    | Not regulated                                    | Not regulated                                    |
| Additional information                 |  |  | Not marine pollutant                             |  |



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### 15. Regulatory information

#### 15.1. Compliance

##### <Europe>

This material safety data sheet complies with the requirements of  
**Regulation (EC) No. 1907/2006. Safety, health, and environmental regulations/legislation**

##### <USA>

This material safety data sheet complies with the requirements of  
**The Hazard Communication Standard (HCS) (29 CFR 1910.1200(g))**

#### 15.2. Safety, health and environmental regulations/legislation

|                                |  |
|--------------------------------|--|
| USA EPA / TSCA                 | This product is not listed on the USA EPA TSCA (it is for research)  |
| SARA 313                       | This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.    |
| SARA 311/312 Hazard Categories | Acute health hazard: Yes   |
| California Proposition 65      | This product does not contain any Proposition 65 chemicals.  |
| EU ECHA Status                 | This product is registered with the EU ECHA, Number <b>634-762-6</b><br>ANNEX III (criteria for 1 - 10 tonne registered substances): Not Listed<br>REACH: Not listed |

#### 15.3. Miscellaneous regulatory information

|                           |   |
|---------------------------|---|
| IEC-61249-2-21 and JS709C | Regarding Halogenes: This product is Organobromide; Bromine content w:e 5.8% (Br) |
|                           |   |

### 16. Other information

#### 16.1. Department issuing this SDS

|  |
|--|
| Quality systems and regulatory affairs |
|--|

#### 16.2. General Disclaimer

|   |
|---|
| <ul style="list-style-type: none"> <li>The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.</li> <li>The information given here is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification.</li> <li>The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.</li> </ul> |
|---|

#### 16.3. The users'/employers' responsibility:

|   |
|---|
| <ul style="list-style-type: none"> <li>A risk assessment should be performed by the employer/user prior to use of this product.</li> <li>All recommendations included in this document, are advisory in nature.</li> <li>The type of protective equipment must be selected based on the amount and concentration of all dangerous materials being used in the workplace.</li> </ul> |
|---|

#### 16.4. Abbreviations and acronyms:

|             |  |
|-------------|--|
| Acute Tox.: | Acute toxicity   |
| CAS:        | Chemical Abstracts Service (division of the American Chemical Society) |
| DOT:        | US Department of Transportation  |
| EINECS:     | European Inventory of Existing Commercial Chemical Substances          |





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|             |  |
|-------------|--|
| Eye Dam.:   | Serious eye damage/eye irritation                  |
| HMIS:       | Hazardous Materials Identification System (USA)    |
| IATA:       | International Air Transport Association            |
| IMDG:       | International Maritime Code for Dangerous Goods    |
| LC50:       | Lethal concentration, Median                       |
| LD50:       | Lethal dose, Median                                |
| NFPA:       | National Fire Protection Association (USA)         |
| NIOSH:      | National Institute for Occupational Safety         |
| OSHA:       | Occupational Safety & Health                       |
| PBT:        | Persistent, Bioaccumulative and Toxic              |
| PEL:        | Permissible Exposure Limit                         |
| REL:        | Recommended Exposure Limit                         |
| Repr.:      | Reproductive toxicity                              |
| Skin Irrit: | Skin corrosion/irritation                          |
| STOT RE:    | Specific target organ toxicity (repeated exposure) |
| TLV:        | Threshold Limit Value                              |
| vPvB:       | very Persistent and very Bioaccumulative           |

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