Safety Data Sheet: Aflatoxin-B1

1) Identification of the substance/mixture and of the Company

<table>
<thead>
<tr>
<th>Product identifiers</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name</td>
<td>Aflatoxin-B1</td>
</tr>
<tr>
<td>Product Code</td>
<td>AF</td>
</tr>
<tr>
<td>CAS #</td>
<td>1162-65-8</td>
</tr>
<tr>
<td>RTECS</td>
<td>GY1925000</td>
</tr>
<tr>
<td>EC Number #</td>
<td>214-603-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intended use</th>
<th>Uses advised against:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laboratory chemicals, Manufacture of substances, Research.</td>
<td>Not for drug, Not to be used in humans or animals. Not food additive</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Details of the supplier of the safety data sheet</th>
<th>Emergency Telephone number</th>
</tr>
</thead>
<tbody>
<tr>
<td>FERMENTEK ltd 4 Yatziv street, POB 47120 Jerusalem 97800, Israel</td>
<td>For chemical emergency spill, leak, fire, exposure, or accident calls CHEMTREC day or night: Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887</td>
</tr>
<tr>
<td>Tel: +972 2 5853953 Fax: +972 2 5853943 eMail: <a href="mailto:fermentek@fermentek.com">fermentek@fermentek.com</a> Website: <a href="http://www.fermentek.com">www.fermentek.com</a></td>
<td></td>
</tr>
</tbody>
</table>

REACH
A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

2) Hazards identification

Emergency Overview:
(USA) Highly Toxic
(EU) Very Toxic
(Canada) - D1A Very Toxic Material Causing Immediate and Serious Toxic Effects
Toxic by Ingestion/Inhalation
D2A Very Toxic Material Causing Other Toxic Effects
Reproductive Toxin/Teratogen/Mutagen/Carcinogen
Very toxic by inhalation, in contact with skin and if swallowed.
Target Organ(S): Blood.
2.1/2.2 Classification of the Substance or Mixture and Label Elements

GHS Hazards Classification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)

- Acute Toxicity, Oral (Category 1)
- Acute Toxicity, Inhalation (Category 2)
- Reproductive Toxicity (Category 1A)
- Carcinogenicity (Category 1B)

EU Classification (According to EU Regulation 67/548/EEC)

- Very toxic by inhalation and if swallowed.
- May cause cancer.
- May cause harm to the unborn child.

EU Risk and Safety Statements (According to EU Regulation 67/548/EEC)

- Hazard Statements: Very Toxic
- Risk Codes and Phrases:
  - R26/28: Very toxic by inhalation and if swallowed.
  - R45: May cause cancer
  - R61: May cause harm to the unborn child.

Safety Precaution Codes and Phrases

- S53: Avoid exposure - obtain special instruction before use.
- S45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
- S51: Use only in well-ventilated areas.

GHS Hazards Identification (According to EU Regulation 1272/2008 and US OSHA 1910.1200)

- Signal Word: Danger
- Signal Word: P201: Obtain special instructions before use.
- Signal Word: P281: Use personal protective equipment as required.
- Signal Word: P310: Immediately call a POISON CENTER or doctor/physician.
- Signal Word: P301/P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Signal Word: P304/P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

GHS Hazard Statements

- H300: Fatal if swallowed.
- H330: Fatal if inhaled.
- H360: May damage fertility or the unborn child.
- H350: May cause cancer.

GHS Precautionary Statements

3) Composition/information on ingredients

3.1 Substance

This product is a pure compound.

Product Name: Aflatoxin-B1 - Fermek

Synonyms:

IUPAC name:

Formula: C17H12O6

Molecular Weight: 312.3

CAS-No.: 1162-65-8

EU number: 214-603-3

Chemical characterization: Natural product
3.2 Mixtures
Not a mixture

4. First Aid Measures

4.1 Description of first aid measures
General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled: Move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact: Wash off with soap and plenty of water. Consult a physician.
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. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
Seizures, Jaundice, Vomiting, Diarrhea

5. Fire-fighting measures
5.1 Extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards: Carbon oxides may be formed.
5.3 Advice for firefighters Wear self contained breathing apparatus for fire fighting if necessary.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust. Evacuate personnel to safe areas.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains

6.3 Methods and materials for containment and cleaning up
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal. (see section 13)

7. Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Avoid exposure - obtain special instructions before use.
Provide appropriate exhaust ventilation at places where dust is formed.
Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities.
Store in cold place.
Keep container tightly closed in a dry and well-ventilated place.
The product may be light sensitive.

7.3 Specific end uses
Specific uses: For scientific research and development only. Not for use in humans or animals.
Exposure scenario: No information available.
8. Exposure Controls/Personal Protection

8.2 Exposure controls

Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. A laboratory fume hood, glove-box or other appropriate form of local exhaust ventilation should be used to avoid exposure.

Personal protective equipment

Eye/face protection
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).

Skin 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 EU Directive 89/686/EEC and the standard EN 374 derived from it. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of intended use by our users. It should remain under the responsibility of the users to select the protective equipment according to the nature of the intended use(s).

Body Protection
Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face 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).

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

9. Physical and chemical properties

Physical / chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State at room temperature</td>
<td>Solid</td>
</tr>
<tr>
<td>Soluble</td>
<td>in organic solvents</td>
</tr>
<tr>
<td>Color</td>
<td>Yellowish</td>
</tr>
<tr>
<td>Further information which is relevant to classification</td>
<td>None available</td>
</tr>
</tbody>
</table>

10. Stability and reactivity

Reactivity: No information available.
Chemical stability: Stable under normal conditions. May be light-sensitive.
Precautionary Statements: None under normal processing.
Conditions to avoid: Heat, flames and sparks
Incompatible materials: Strong reducers and oxidizers
Hazardous decomposition products: Carbon monoxide (CO). Carbon dioxide (CO2).
11. Toxicological information

11.1 Information on toxicological effects

Acute Toxicity:  
LD₅₀ (oral - monkey) 2.2 mg/kg  
LD₅₀ (oral - rat) 2.71 mg

Skin Corrosion/Irritation: No data available

Serious Eye Damage/Irritation: No data available

Respiratory or Skin Sensitization: No data available

Germ Cell Mutagenicity: Probably human mutagen. Laboratory results have shown mutagenicity in several model systems (including human).

Carcinogenicity: Known human carcinogen. This compound has been designated by the IARC as Group 1: Carcinogenic to humans.

Reproductive Toxicity/Teratogenicity: Probably human reproductive toxin/teratogen. Several laboratory studies have shown strong reproductive toxicity/teratogenicity in animal models. This effect may be extrapolated to have similar effects in humans.

STOT – Single exposure: No data available

STOT – Repeated Exposure: Liver

Potential Health Effects and Routes of Exposure

Skin Contact: May cause skin irritation.

Skin Absorption: May be harmful if absorbed through skin.

Eye Contact: May cause eye irritation.

Inhalation: May be fatal if inhaled.  
May be irritating to mucous membranes and upper respiratory tract.

Ingestion: May be fatal if swallowed.

Additional information: RTECS GY1925000

To the best of our knowledge, the toxicological, chemical and physical properties of this substance have not been investigated sufficiently.

12. Ecological Information

12.1 Toxicity: N.A.

12.2 Persistence and Degradability: N.A.

12.3 Bioaccumulative Potential: N.A.

12.4 Mobility in Soil: N.A.

12.5 Results of PBT, vPvB Assessment: No information available, as PBT/vPvB assessment has not been carried out;

12.6 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

UN number, Proper Shipping Name, Transport Hazard Class, packing group

<table>
<thead>
<tr>
<th>UN Number</th>
<th>US DOT</th>
<th>ADR/RID:</th>
<th>IMDG:</th>
<th>IATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN 2811</td>
<td>UN 2811 - Toxic solid, organic, n.o.s. (Aflatoxin B1)</td>
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<td>UN 2811 - Toxic solid, organic, n.o.s. (Aflatoxin B1)</td>
</tr>
</tbody>
</table>

Hazard Class & Packing Group: Class 6.1 pg 1

Additional Transport Information: 
When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore, packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.
15. Regulatory information

15.1 Safety, health and environmental regulations/legislation
DSL/NDSL (Canada) Not listed.
TSCA (USA) This product is not listed on the US EPA  TSCA.
ECHA(EU) Not registered

15.2 Chemical Safety Assessment
N.A.

16: Other information

Revision  Sunday, 30 December, 2018

Disclaimer
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. The information given 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. 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.

End of SDS