1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers
- Product name: Azadirachtin B
- Product Catalogue Number: 581592
- Brand: MedKoo Biosciences
- CAS-No: 106500-25-8

1.2 Relevant identified uses of the substance or mixture and uses advised against
- Identified uses: Laboratory chemicals, Synthesis of substances.

1.3 Details of the supplier of the safety data sheet
- Company: MedKoo Biosciences, Inc.
- 2500 Gateway Centre Blvd. Suite 400, Morrisville, NC 27560, USA
- Telephone: 919-636-5577
- Fax: 919-980-4831

1.4 Emergency telephone number
- Emergency Phone #: 911 (in USA) or local emergency phone#

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
- Skin irritation (Category 2), H315
- Serious eye damage (Category 1), H318
- Respiratory sensitisation (Category 1), H334
- Skin sensitisation (Category 1), H317
- Germ cell mutagenicity (Category 2), H341
- Reproductive toxicity (Category 2), H361
- Specific target organ toxicity - single exposure (Category 1), H370
- Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
- Chronic aquatic toxicity (Category 4), H413
- For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

<table>
<thead>
<tr>
<th>Pictogram:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal word:</td>
<td>Warning</td>
</tr>
<tr>
<td>Hazard statement(s)</td>
<td></td>
</tr>
<tr>
<td>H302:</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H315:</td>
<td>Causes skin irritation.</td>
</tr>
<tr>
<td>H317:</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>H319:</td>
<td>Causes serious eye irritation.</td>
</tr>
<tr>
<td>H334:</td>
<td>May cause allergy or asthma symptoms or breathing difficulties if inhaled.</td>
</tr>
<tr>
<td>H335:</td>
<td>May cause respiratory irritation.</td>
</tr>
<tr>
<td>H341:</td>
<td>Suspected of causing genetic defects.</td>
</tr>
<tr>
<td>H361:</td>
<td>Suspected of damaging fertility or the unborn child.</td>
</tr>
<tr>
<td>H370:</td>
<td>Causes damage to organs.</td>
</tr>
<tr>
<td>H413:</td>
<td>May cause long lasting harmful effects to aquatic life.</td>
</tr>
</tbody>
</table>
Precautionary statement(s)
P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/ eye protection/ face protection.
P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P302 + P352 + P332: IF ON SKIN: Wash with plenty of soap and water.
P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.
P311: Specific treatment (see supplemental first aid instructions on this label).
P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364: Take off contaminated clothing and wash before reuse.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

| Synonyms: | Azadirachtin B; Deacetylazadirachtinol; Azadirachtinol deacetyl; Azadirachtin-B. |
| Formula: | C33H42O14 |
| Molecular weight: | 662.685 |
| CAS-No: | 106500-25-8 |

Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azadirachtin B</td>
<td>Skin Irrit. 2; Eye Dam. 1; Resp. Sens. 1; Skin Sens. 1; Muta. 2; Repr. 2; STOT SE 3; Aquatic Chronic 4; H315, H317, H318, H334, H335, H341, H361, H413</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice
If medical attention is required, show this safety data sheet to the doctor.

If Inhaled
If inhaled, move person to fresh air. If not breathing, give artificial respiration and consult a physician.

In Case of Skin Contact
Wash affected area with soap and water. Consult a physician if any exposure symptoms are observed.

In Case of Eye Contact
Immediately rinse eyes with plenty of water for at least 15 minutes. Consult a physician.

If Swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Do NOT induce vomiting unless advised to do so by a physician or Poison Control Center. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions
Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
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. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place.

7.3 Specific end use(s)
For scientific research and development only. Not for use in humans or animals

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azadirachtin B</td>
<td>106500-25-8</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

8.2 Exposure controls
Appropriate engineering controls
A laboratory fume hood 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.

Full contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Data source
KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374. If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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

9.1 Information on basic physical and chemical properties

- Appearance Form: Color: White to Pale Yellow
  Form: crystalline solid powder
- Odour: No data available
- Odour Threshold: No data available
- pH: No data available
- Melting point/freezing point: >160°C (dec)
- Initial boiling point and boiling range: No data available
- Flash point: No data available
- Evaporation rate: No data available
### 9.2 Other safety information
No data available

### 10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available

10.2 Chemical stability: Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions: No data available.

10.4 Conditions to avoid: No data available

10.5 Incompatible materials: strong oxidizing agents

10.6 Hazardous decomposition products

   Other decomposition products - No data available

   In the event of fire: see section 5

### 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th></th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td></td>
</tr>
<tr>
<td>Inhalation:</td>
<td>No data available.</td>
</tr>
<tr>
<td>Dermal</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: No data available

Serious eye damage/eye irritation: No data available

Respiratory or skin sensitisation

Germ cell mutagenicity: No data available

Carcinogenicity: No data available

Reproductive Toxicity/Teratogenicity: No data available

Single Target Organ Toxicity - Single Exposure: No data available

Single Target Organ Toxicity - Repeated Exposure: No data available

Aspiration Hazard: No data available

Potential Health Effects and Routes of Exposure

Inhalation
May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion
May be harmful if swallowed.

Skin
May be harmful if absorbed through skin. May cause skin irritation.

Eyes
May cause eye irritation.

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

Additional Information: RTECS: Not available

12. ECOLOGICAL INFORMATION

12.1 Toxicity: Avoid release into the environment.
Runoff from fire control or dilution water may cause pollution.

12.2 Persistence and degradability: No data available

12.3 Bioaccumulative potential: No data available

12.4 Mobility in soil: No data available

12.5 Results of PBT and vPvB assessment: No data available

12.6 Other adverse effects: No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Dispose in accordance with local, state, and federal regulations.

Contaminated packaging
Dispose of as unused product.

Other Considerations
Product is not to be disposed of in sanitary sewers, storm sewers, or landfills.

14. TRANSPORT INFORMATION

DOT (US): Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods
Transport in accordance with local, state, and federal regulations.

15. REGULATORY INFORMATION

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Revision data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azadirachtin B</td>
<td>106500-25-8</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Pennsylvania Right To Know Components
Components | CAS-No. | Revision data
---|---|---
Azadirachtin B | 106500-25-8 | N/A

**New Jersey Right To Know Components**

Components | CAS-No. | Revision data
---|---|---
Azadirachtin B | 106500-25-8 | N/A

**California Prop. 65 Components**

Components | CAS-No. | Revision data
---|---|---
Azadirachtin B | 106500-25-8 | N/A

16. OTHER INFORMATION

**Full text of H-Statements referred to under sections 2 and 3.**

- Acute Tox. Acute toxicity
- Aquatic Chronic Chronic aquatic toxicity
- Eye Dam. Serious eye damage
- Eye Irrit. Eye irritation
- Flam. Liq. Flammable liquids
- H225 Highly flammable liquid and vapour.
- H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H341 Suspected of causing genetic defects.
- H361 Suspected of damaging fertility or the unborn child.
- H370 Causes damage to organs.
- H413 May cause long lasting harmful effects to aquatic life.
- Muta. Germ cell mutagenicity
- Repr. Reproductive toxicity
- Resp. Sens. Respiratory sensitisation
- Skin Irrit. Skin irritation
- Skin Sens. Skin sensitisation
- STOT SE Specific target organ toxicity - single exposure

**HMIS Rating**

- Health hazard: 2
- Chronic Health Hazard: *
- Flammability: 0
- Physical Hazard 0

**NFPA Rating**

- Health hazard: 2
- Fire Hazard: 0
- Reactivity Hazard: 0

**Further information**

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**Preparation Information**