

MATERIAL SAFETY DATA SHEET

Product: **Polymyxin B sulfate**

01 - IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

Identification of the manufacturer

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Identification of the product

1.1. Commercial product name: Polymyxin B sulfate
synonym: Aerosporin

02 - COMPOSITION / INFORMATION ON INGREDIENTS

2.1. Chemical characterization (substance):

CAS-No.: 1405-20-5
Chemical characteristics: cyclic polypeptide
EC-No.:
Formula: $C_{43}H_{82}N_{16}O_{12} \cdot x H_2SO_4$

03 - HAZARDS IDENTIFICATION

3.1. Critical hazards to man and environment:

Physical/chemical hazards: Not applicable
Human health hazards: Caution!
May be harmful if swallowed.
May cause damage to the following organs: kidneys, gastrointestinal tract, muscle tissue

04 - FIRST-AID MEASURES

4.1. General information: -

4.2. After inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

4.3. After contact with the skin:

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

4.4. After contact with the eyes:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

4.5. After swallowing:

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

5 - FIRE-FIGHTING MEASURES

5.1. Suitable extinguishing media:

Small fire: Use dry chemical powder.
Large fire: Use water spray, fog or foam. Do not water jet.

5.2. Extinguishing media which must not be used for safety reasons:

None known.

5.3. Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases:

Hazardous combustion products: These products are nitrogen oxides (NO, NO₂).

5.4. Special protective equipment for fire fighting:

Be sure to use approved/certified respirator or equivalent.

06 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions:

Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might be sufficient, consult specialist before handling this product.

6.2 Environmental precautions:

Cover any spilled material in accordance with regulations to prevent dispersal by wind. Observe local bye-laws.

6.3 Methods for cleaning up:

Use appropriate tools to put the spilled solid a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements. In case of large spill and leak use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

07 - HANDLING AND STORAGE

7.1 Handling

Keep away from heat. Keep away from sources of ignition. Empty bags pose risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the bag or the label.

7.2 Storage

Keep bag tightly closed. Keep bag in cool, well-ventilated area. Do not store above 20°C (68°F).
Packing materials: Use original bag.

08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Further information for system design and engineering measures:

Observe information in section 7. Use process enclosures, local ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

8.2 Personal protection equipment

General protection and hygiene measures:

Do not eat, drink or smoke when handling. Avoid contact with eyes and skin. Do not breathe dust.

Respiratory protection:

When dust formation fine dust mask without protection rating.

Hand protection:

Protective gloves recommended.

Eye protection:

Protective goggles.

09 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance

Form:	solid - powder
Colour:	white or almost white powder, hygroscopic
Odour:	odourless or faint odour

9.2 Safety parameters

Melting point:	> 240 °C
Boiling point:	not applicable
Flash point:	not applicable
Ignition temperature:	805°C

Lower explosion point:	no data at hand
Upper explosion point:	no data at hand
Bulk density:	approx. 250 kg/m ³
Solubility in water:	easily soluble in cold water
pH-value:	not established
Viscosity:	not applicable

9.3. Further information

Explosive properties:	This material is assumed to be combustible. As with all dry powder it is advisable to ground mechanical equipment in contact with dry material to dissipate the potential buildup of static electricity.	
Risk of explosion of the product in presence of mechanical impact:	Not available.	
Risk of explosion of the product in presence of static discharge:	Not available.	

10 - STABILITY AND REACTIVITY

10.0. General information:	Reacts with strong oxidation agents.
10.1. Conditions to avoid:	Not available.
10.2. Materials to avoid:	Oxidizing agent.
10.3. Hazardous decomposition products:	These products are nitrogen oxides (NO, NO ₂).

11 - TOXICOLOGICAL INFORMATION

11.0. General information:	
11.1. Acute toxicity:	LD 50: Not available
	LC 50: Not available
Local effects:	
Skin irritation:	Not available
Chronic toxicity:	Repeated or prolonged exposure is not known to aggravate medical condition.
Other toxic effect on humans:	Not available. Hazardous in case of ingestion. Exposure can cause nausea, headache and vomiting. Repeated or prolonged exposure to the substance can produce kidney damage. May cause convulsion.

12 - ECOLOGICAL INFORMATION

12.1. Information on elimination (persistence and degradability)
Further information:
No data known.
12.2. Behaviour in environmental compartments
Further information:
No harmful effects expected.
12.3. Ecotoxicological effects
No likelihood of damaging effect on water organisms.
Effects in sewage treatment plants (bacteria toxicity: respiration -/reproduction inhibition):
According to present experience, no adverse effects on water purification plants.
12.4. Further ecological information
General information:
Do not introduce into waters and into soil.

13 - DISPOSAL CONSIDERATIONS

13.1. Material
Recommendation: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

13.2. Contaminated packaging

Recommendation:

Recommended cleaning agent: Water.

14 - TRANSPORT INFORMATION**International transport regulations****Land – Road/Railway****ADR/RID Class:**

Not controlled ADR (Europe).

Sea**IMDG Class:**

Not controlled under IMDG.

Air**IATA – DGR Class:**

Not controlled under IATA.

Special provisions for transport:

Not applicable.

15. REGULATORY INFORMATION