1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Material Name: Cefobid (sterile cefoperazone, USP)

<table>
<thead>
<tr>
<th>Trade Name:</th>
<th>CEFOBID®; MAGNAMYCIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synonyms:</td>
<td>Cefoperzone sodium for injection</td>
</tr>
<tr>
<td>Chemical Family:</td>
<td>Cephalosporin antibiotic</td>
</tr>
<tr>
<td>Intended Use:</td>
<td>Pharmaceutical product used as antibiotic agent</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

Appearance: White powder

Signal Word: DANGER

Statement of Hazard: May cause allergic skin reaction. May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.

Additional Hazard Information:

Short Term: Inhalation of significant quantities of this substance could result in the health effects described in ‘Known clinical effects’. Ingestion of this material can cause effects similar to those seen in clinical use including cholinergic crisis, characterized by severe nausea, vomiting, salivation, sweating, slow heart rate, low blood pressure, muscle weakness, respiratory depression. May cause effects similar to those seen in clinical use including transient diarrhea, nausea and abdominal pain. Individuals sensitive to this material or other materials in its chemical class may develop allergic reactions. Pseudomembranous colitis (manifested by watery diarrhea, urge to defecate, abdominal cramps, low-grade fever, bloody stools, and abdominal pain) may also occur. Concomitant administration of aminoglycosides and cephalosporins has caused nephrotoxicity. Individuals who are sensitive to beta lactam antibiotics, both penicillins and cephalosporins, may experience contact or systemic hypersensitivity and anaphylaxis upon exposure to this drug.

Known Clinical Effects:

EU Indication of danger: Harmful

Irritant

EU Hazard Symbols: Xn

EU Risk Phrases:
2. HAZARDS IDENTIFICATION

Australian Hazard Classification (NOHSC):
R42 - May cause sensitization by inhalation.
R43 - May cause sensitization by skin contact.

Note:
This document has been prepared in accordance with standards for workplace safety, which require the inclusion of all known hazards of the active substance or its intermediates regardless of the potential risk. The precautionary statements and warnings included may not apply in all cases. Your needs may vary depending upon the potential for exposure in your workplace.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Hazardous Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cefoperazone sodium</td>
<td>62893-20-3</td>
<td>263-751-5</td>
<td>Xn;R42</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Xi;R43</td>
<td></td>
</tr>
</tbody>
</table>

Additional Information: Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety.

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Eye Contact:
Flush with water while holding eyelids open for at least 15 minutes. Seek medical attention immediately.

Skin Contact:
Remove contaminated clothing. Flush area with large amounts of water. Use soap. Seek medical attention. For information on potential delayed effects, see Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.

Ingestion:
Never give anything by mouth to an unconscious person. Wash out mouth with water. Do not induce vomiting unless directed by medical personnel. Seek medical attention immediately.

Inhalation:
Remove to fresh air and keep patient at rest. Seek medical attention immediately.

Symptoms and Effects of Exposure:
For information on potential signs and symptoms of exposure, See Section 2 - Hazards Identification and/or Section 11 - Toxicological Information.

5. FIRE FIGHTING MEASURES

Extinguishing Media:
Use carbon dioxide, dry chemical, or water spray.

Hazardous Combustion Products:
Emits toxic fumes of carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides and other sulfur-containing compounds.

Fire Fighting Procedures:
Wear approved positive pressure, self-contained breathing apparatus and full protective turn out gear.

Fire / Explosion Hazards:
Fine particles (such as dust and mists) may fuel fires/explosions.
6. ACCIDENTAL RELEASE MEASURES

Health and Safety Precautions: Personnel involved in clean-up should wear appropriate personal protective equipment (see Section 8). Minimize exposure.

Measures for Cleaning / Collecting: Contain the source of spill if it is safe to do so. Collect spilled material by a method that controls dust generation. A damp cloth or a filtered vacuum should be used to clean spills of dry solids. Clean spill area thoroughly.

Measures for Environmental Protections: Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release.

Additional Consideration for Large Spills: Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

7. HANDLING AND STORAGE

General Handling: Minimize dust generation and accumulation. Avoid breathing dust. When handling, use appropriate personal protective equipment (see Section 8). Wash hands and any exposed skin after removal of PPE. Refer to Section 12 - Ecological Information, for information on potential effects on the environment. Releases to the environment should be avoided. Review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure or environmental releases. Potential points of process emissions of this material to the atmosphere should be controlled with dust collectors, HEPA filtration systems or other equivalent controls.

Storage Conditions: Store as directed by product packaging.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Cefoperazone sodium

Pfizer OEL TWA-8 Hr: 1000µg/m³, Sensitizer

Engineering Controls: Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate unless the process generates dust, mist or fumes. Keep airborne contamination levels below the exposure limits listed above in this section.

Environmental Exposure Controls: Refer to specific Member State legislation for requirements under Community environmental legislation.

Personal Protective Equipment: Refer to applicable national standards and regulations in the selection and use of personal protective equipment (PPE).

- Hands: Impervious gloves are recommended if skin contact with drug product is possible and for bulk processing operations.
- Eyes: Wear safety glasses or goggles if eye contact is possible.
- Skin: Impervious protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations.
- Respiratory protection: If the applicable Occupational Exposure Limit (OEL) is exceeded, wear an appropriate respirator with a protection factor sufficient to control exposures to below the OEL.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Powder

Molecular Formula: C25H26N9NaO8S2

Solubility: Soluble: Water
9. PHYSICAL AND CHEMICAL PROPERTIES

pH: 4.5 - 6.5 (25% aqueous solution)

Polymerization: Will not occur

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of use.
Conditions to Avoid: Fine particles (such as dust and mists) may fuel fires/explosions.
Incompatible Materials: As a precautionary measure, keep away from strong oxidizers

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: (Species, Route, End Point, Dose)

Cefoperazone sodium
Rate Oral LD50 > 15 g/kg
Mouse Oral LD50 > 12 g/kg

Acute Toxicity Comments: A greater than symbol (>) indicates that the toxicity endpoint being tested was not achievable at the highest dose used in the test.

Irritation / Sensitization: (Study Type, Species, Severity)

Skin Irritation / Sensitization
Hypersensitivity reactions, including cross reactions (with penicillins) and anaphylaxis, are common among the cephalosporins. No data available

Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

Cefoperazone sodium
3 Month(s) Dog Intravenous 200 mg/kg/day NOAEL Thymus Blood
3 Month(s) Dog Intramuscular 125 mg/kg/day NOAEL Thymus Blood

Reproduction & Developmental Toxicity: (Study Type, Species, Route, Dose, End Point, Effect(s))

Cefoperazone sodium
Embryo / Fetal Development Monkey Intravenous 50 mg/kg/day LOEL Maternal toxicity, Not teratogenic
Reproductive & Fertility-Males Rat Subcutaneous 1000 mg/kg/day LOAEL Fertility
2 Generation Reproductive Toxicity Rat No route specified 500 mg/kg/day NOAEL No effects at maximum dose
Embryo / Fetal Development Rat Subcutaneous 1000 mg/kg/day NOAEL No effects at maximum dose

Genetic Toxicity: (Study Type, Cell Type/Organism, Result)

Cefoperazone sodium
Bacterial Mutagenicity (Ames) Salmonella, E. coli Negative
In Vivo Dominant Lethal Assay Mouse Negative
Cytogenetics Bone Marrow Negative

Carcinogen Status: Not listed as a carcinogen by IARC, NTP or US OSHA.
12. ECOLOGICAL INFORMATION

Environmental Overview: The environmental characteristics of this material have not been fully evaluated. Releases to the environment should be avoided.

13. DISPOSAL CONSIDERATIONS

Disposal Procedures: Dispose of waste in accordance with all applicable laws and regulations. Member State specific and Community specific provisions must be considered. Considering the relevant known environmental and human health hazards of the material, review and implement appropriate technical and procedural waste water and waste disposal measures to prevent occupational exposure and environmental release. It is recommended that waste minimization be practiced. The best available technology should be utilized to prevent environmental releases. This may include destructive techniques for waste and wastewater.

14. TRANSPORT INFORMATION

Not regulated for transport under USDOT, EUADR, IATA, or IMDG regulations.

15. REGULATORY INFORMATION

EU Symbol: Xn
EU Indication of danger: Harmful
EU Safety Phrases: Irritant

EU Risk Phrases: R42 - May cause sensitization by inhalation.
R43 - May cause sensitization by skin contact.

EU Safety Phrases: S22 - Do not breathe dust.
S24 - Avoid contact with skin.
S36/37 - Wear suitable protective clothing and gloves.

OSHA Label: DANGER
May cause allergic skin reaction.
May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.

Canada - WHMIS: Classifications

WHMIS hazard class:
Class D, Division 2, Subdivision A
Class D, Division 2, Subdivision B
15. REGULATORY INFORMATION

Cefoperazone sodium
Australia (AICS): Listed
EU EINECS/ELINCS List 263-751-5

16. OTHER INFORMATION

Text of R phrases mentioned in Section 3
R42 - May cause sensitization by inhalation.
R43 - May cause sensitization by skin contact.

Data Sources: Pfizer proprietary drug development information. Publicly available toxicity information.

Reasons for Revision: Updated Section 1 - Identification of the Substance/Preparation and the Company/Undertaking. Updated Section 2 - Hazard Identification. Updated Section 3 - Composition / Information on Ingredients. Updated Section 4 - First Aid Measures. Updated Section 6 - Accidental Release Measures. Updated Section 7 - Handling and Storage. Updated Section 8 - Exposure Controls / Personal Protection. Updated Section 13 - Disposal Considerations. Updated Section 15 - Regulatory Information.

Prepared by: Toxicology and Hazard Communication
Pfizer Global Environment, Health, and Safety Operations

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End of Safety Data Sheet