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

Product Identifier

Material Name: PENICILLIN G PROCAINE FOR SUSPENSION
Trade Name:
PENICILLIN G PROCAINE INJECTION, SUSPENSION
Synonyms:
PENICILLIN G PROCAINE INJECTION, SUSPENSION
Chemical Family: Penicillin

Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

Intended Use:
Pharmaceutical product used as antibiotic agent

Details of the Supplier of the Safety Data Sheet

Pfizer Inc
Pfizer Pharmaceuticals Group
235 East 42nd Street
New York, New York 10017
1-800-879-3477

Emergency telephone number:
CHEMTREC (24 hours): 1-800-424-9300
Contact E-Mail: pfizer-MSDS@pfizer.com

2. HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS - Classification
Respiratory Sensitization: Category 1
Skin Sensitization: Category 1

US OSHA Specific - Classification
Physical Hazard: Combustible Dust
EU Classification:
EU Indication of danger: Harmful
EU Risk Phrases:
R42/43 - May cause sensitization by inhalation and skin contact.

Label Elements

Signal Word: Danger
Hazard Statements:
May form combustible dust concentrations in air
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
Precautionary Statements:

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P284 - Wear respiratory protection
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P302+ P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P501 - Dispose of contents/container in accordance with all local and national regulations

Other Hazards
Australian Hazard Classification (NOHSC):

No data available

Note:
This document has been prepared in accordance with standards for workplace safety, which requires the inclusion of all known hazards of the product or its ingredients regardless of the potential risk. The precautionary statements and warning 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>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>EU Classification</th>
<th>GHS Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penicillin G procaine</td>
<td>54-35-3</td>
<td>200-205-7</td>
<td>Xn;R42/43</td>
<td>Resp. Sens.1 (H334) Skin Sens.1 (H317)</td>
<td>*</td>
</tr>
<tr>
<td>Citric acid</td>
<td>77-92-9</td>
<td>201-069-1</td>
<td>Xi; R36</td>
<td>Eye Irrit. 2A (H319)</td>
<td>**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
<th>EU EINECS/ELINCS List</th>
<th>EU Classification</th>
<th>GHS Classification</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium citrate</td>
<td>68-04-2</td>
<td>200-675-3</td>
<td>Not Listed</td>
<td>Not Listed</td>
<td>**</td>
</tr>
</tbody>
</table>

Additional Information:
* Proprietary
** to adjust pH
Ingredient(s) indicated as hazardous have been assessed under standards for workplace safety. In accordance with 29 CFR 1910.1200, the exact percentage composition of this mixture has been withheld as a trade secret.

For the full text of the R phrases and CLP/GHS abbreviations mentioned in this Section, see Section 16
4. FIRST AID MEASURES

**Description of First Aid Measures**

**Eye Contact:** Immediately flush eyes with water for at least 15 minutes. If irritation occurs or persists, get medical attention.

**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.

**Most Important Symptoms and Effects, Both Acute and Delayed**

**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.

**Medical Conditions Aggravated by Exposure:** None known

**Indication of the Immediate Medical Attention and Special Treatment Needed**

**Notes to Physician:** None

5. FIRE FIGHTING MEASURES

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

**Special Hazards Arising from the Substance or Mixture**

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

**Fire / Explosion Hazards:** Dust can form an explosive mixture in air. Fine particles (such as dust and mists) may fuel fires/explosions.

**Advice for Fire-Fighters**

Wear approved positive pressure, self-contained breathing apparatus and full protective turn out gear. Evacuate area and fight fire from a safe distance.

6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions, Protective Equipment and Emergency Procedures**

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

**Environmental Precautions**

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

**Methods and Material for Containment and Cleaning Up**

**Measures for Cleaning / Collecting:** Remove all sources of ignition. Contain the source of the spill if it is safe to do so. Collect spilled material by a method that controls dust generation. Avoid use of a filtered vacuum to clean spills of dry solids. Clean spill area thoroughly.

**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

Precautions for Safe Handling
Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes, skin and clothing. When handling, use appropriate personal protective equipment (see Section 8). 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.

Conditions for Safe Storage, Including any Incompatibilities
Storage Conditions: Store as directed by product packaging.
Specific end use(s): Pharmaceutical product

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters
The purpose of the Occupational Exposure Band (OEB) classification system is to separate substances into different Hazard categories when the available data are sufficient to do so, but inadequate to establish an Occupational Exposure Limit (OEL). The OEB given is based upon an analysis of all currently available data; as such, this value may be subject to revision when new information becomes available.

Penicillin G procaine
Pfizer Occupational Exposure Band (OEB): OEB 1 - Sensitizer (control exposure to the range of 1000ug/m³ to 3000ug/m³)

Exposure Controls
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 air contamination levels below the exposure limits or within the OEB range listed above in this section.

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

Hands: Wear two layers of disposable gloves.
Eyes: Wear safety glasses or goggles if eye contact is possible.
Skin: Wear protective clothing when working with large quantities.
Respiratory protection: If airborne exposures are within or exceed the Occupational Exposure Band (OEB) range, wear an appropriate respirator with a protection factor sufficient to control exposures to the bottom of the OEB range.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Crystalline powder
Odor: Odorless
Molecular Formula: Mixture
Color: White
Odor Threshold: No data available.
Molecular Weight: Mixture

Solvent Solubility: No data available
Water Solubility: No data available
pH: No data available.
Melting/Freezing Point (°C): No data available
Boiling Point (°C): No data available.
Partition Coefficient: (Method, pH, Endpoint, Value)
Penicillin V Potassium
No data available
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Substance</th>
<th>Property</th>
<th>Data Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Evaporation Rate</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Vapor Density</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Relative Density</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance</th>
<th>Flammability</th>
<th>Data Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penicillin G potassium</td>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Flammability (Solids)</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Flash Point (Liquid)</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Upper Explosive Limits (Liquid)</td>
<td>No data available</td>
</tr>
<tr>
<td></td>
<td>Lower Explosive Limits (Liquid)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

| Reactivity               | No data available             |
| Chemical Stability       | Stable under normal conditions of use. |
| Possibility of Hazardous Reactions | Oxidizing Properties: No data available |
|                         | 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 |
|                         | Hazardous Decomposition      | No data available |
|                         | Products:                   |                   |

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

General Information: The information included in this section describes the potential hazards of various forms of the active ingredient. The remaining information describes the potential hazards of the individual ingredients.

Short Term: Individuals who are allergic to penicillin antibiotics could have allergic reaction, possibly severe. If an allergic reaction occurs, the worker should be removed to the nearest emergency room and the appropriate therapy instituted.

Known Clinical Effects: May cause effects similar to those seen in clinical use including transient diarrhea, nausea and abdominal pain. 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.

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>Species</th>
<th>Route</th>
<th>End Point</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citric acid</td>
<td>Rat</td>
<td>Oral</td>
<td>LD50</td>
<td>3000 mg/kg</td>
</tr>
</tbody>
</table>
**11. TOXICOLOGICAL INFORMATION**

**Penicillin G potassium**
Mouse  Oral  LD50  6257 mg/kg  
Rat  Oral  LD50  8900mg/kg  
Rabbit  Oral  LD50  5848mg/kg

**Penicillin G procaine**
Mouse  Oral  LD50  > 2000 mg/kg  
Rat  Oral  LD50  > 2000mg/kg

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

Citric acid  
Eye Irritation  Rabbit  Severe  
Skin Irritation  Rabbit  Mild

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

**Penicillin V Potassium**
14 Day(s)  Rat  Oral  2400 mg/kg/day  NOAEL  None identified  
14 Day(s)  Mouse  Oral  2400 mg/kg/day  NOAEL  None identified  
13 Week(s)  Rat  Oral  750 mg/kg/day  LOEL  Gastrointestinal system  
13 Week(s)  Mouse  Oral  250 mg/kg/day  LOEL  Gastrointestinal system

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

**Penicillin V Potassium**
*In Vitro* Bacterial Mutagenicity (Ames)  Negative  
*In Vitro* Cell Transformation Assay  Mouse Lymphoma  Positive with activation  
Sister Chromatid Exchange  Chinese Hamster Ovary (CHO) cells  Positive without activation  
Sister Chromatid Exchange  Chinese Hamster Ovary (CHO) cells  Negative with activation

**Carcinogenicity: (Duration, Species, Route, Dose, End Point, Effect(s))**

**Penicillin V Potassium**
2 Year(s)  Rat  Oral  1000 mg/kg/day  NOEL  Not carcinogenic  
2 Year(s)  Mouse  Oral  1000 mg/kg/day  NOEL  Not carcinogenic

**Carcinogen Status:** None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

---

**12. ECOLOGICAL INFORMATION**

**Environmental Overview:** The use and/or disposal of this material, its metabolites and degradation products is not expected to cause adverse effects upon animals, plants, humans, other organisms, or the environment.

**Toxicity:**

**Aquatic Toxicity: (Species, Method, End Point, Duration, Result)**
Penicillin G potassium

*Daphnia magna* (Water Flea)  LC50  48 Hours  > 1000 mg/L

*Nitzschia fonticola* (Diatom)  LC50  630 Days  2000 mg/L

Aquatic Toxicity Comments: A greater than symbol (>) indicates that aquatic toxicity was not observed at the maximum dose tested.

Persistence and Degradability: No data available

Bio-accumulative Potential: No data available

Mobility in Soil: No data available

### 13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods: 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

The following refers to all modes of transportation unless specified below.

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

### 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

**Canada - WHMIS: Classifications**

**WHMIS hazard class:**
Class D, Division 2, Subdivision A

**Sodium citrate**

CERCLA/SARA 313 Emission reporting Not Listed
15. REGULATORY INFORMATION

- **California Proposition 65**: Not Listed
- **Inventory - United States TSCA - Sect. 8(b)**: Present
- **Australia (AICS)**: Present
- **EU EINECS/ELINCS List**: 200-675-3

**Penicillin G procaine**
- **CERCLA/SARA 313 Emission reporting**: Not Listed
- **California Proposition 65**: Not Listed
- **Inventory - United States TSCA - Sect. 8(b)**: Present
- **Australia (AICS)**: Present
- **Standard for the Uniform Scheduling for Drugs and Poisons**: Schedule 4
- **EU EINECS/ELINCS List**: 200-205-7

**Citric acid**
- **CERCLA/SARA 313 Emission reporting**: Not Listed
- **California Proposition 65**: Not Listed
- **Inventory - United States TSCA - Sect. 8(b)**: Present
- **Australia (AICS)**: Present
- **EU EINECS/ELINCS List**: 201-069-1

16. OTHER INFORMATION

Text of R phrases and GHS Classification abbreviations mentioned in Section 3

- Sensitization, skin-Cat.1; H317 - May cause an allergic skin reaction
- Sensitization, respiratory-Cat.1; H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
- Serious eye damage/eye irritation-Cat.2A; H319 - Causes serious eye irritation

Xi - Irritant
Xn - Harmful

R36 - Irritating to eyes.
R42/43 - May cause sensitization by inhalation and skin contact.

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

Reasons for Revision:
- Updated Section 2 - Hazard Identification. Updated Section 5 - Fire Fighting Measures.
- Updated Section 6 - Accidental Release Measures. Updated Section 8 - Exposure Controls / Personal Protection.

Revision date: 12-Apr-2015
Prepared by:
- Product Stewardship Hazard Communication
- Pfizer Global Environment, Health, and Safety Operations

Pfizer Inc believes that the information contained in this Material Safety Data Sheet is accurate, and while it is provided in good faith, it is without warranty of any kind, expressed or implied. If data for a hazard are not included in this document there is no known information at this time.

End of Safety Data Sheet