SAFETY DATA SHEET

PrepEase® His-Tagged Protein Purification Resin

Section 1. Identification

GHS product identifier : PrepEase® His-Tagged Protein Purification Resin
Code : 78796
Other means of identification : Not available.
Supplier/Manufacturer : 3420 Central Expressway, Santa Clara CA 95051
In case of emergency : Chemtrec: 1 800 424 9300
Outside USA & Canada: +1 703 527 3887

Section 2. Hazards identification

OSHA/HCS status : Nickel Complexes in Resin This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : Nickel Complexes in Resin SKIN SENSITIZATION - Category 1A

GHS label elements
Hazard pictograms : ⚠️

Signal word : Nickel Complexes in Resin Warning
Hazard statements : Nickel Complexes in Resin May cause an allergic skin reaction.
Precautionary statements
General : Nickel Complexes in Resin Not applicable.
Prevention : Nickel Complexes in Resin Wear protective gloves. Avoid breathing dust. Contaminated work clothing should not be allowed out of the workplace.
Response : Nickel Complexes in Resin IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.
Storage : Nickel Complexes in Resin Not applicable.
Disposal : Nickel Complexes in Resin Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements : None known.
Hazard not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel Complexes in Resin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>silicon dioxide</td>
<td>95 - 100</td>
<td>7631-86-9</td>
</tr>
</tbody>
</table>

Any concentration shown as a range is to protect confidentiality or is due to batch variation.
Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

**Description of necessary first aid measures**

**Eye contact**
- Nickel Complexes in Resin
  - Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.

**Inhalation**
- Nickel Complexes in Resin
  - Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact**
- Nickel Complexes in Resin
  - Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion**
- Nickel Complexes in Resin
  - Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Most important symptoms/effects, acute and delayed**

**Potential acute health effects**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Nickel Complexes in Resin</th>
<th>No known significant effects or critical hazards.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Nickel Complexes in Resin</td>
<td>No known significant effects or critical hazards.</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Nickel Complexes in Resin</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Nickel Complexes in Resin</td>
<td>No known significant effects or critical hazards.</td>
</tr>
</tbody>
</table>
Section 4. First aid measures

**Eye contact**: Nickel Complexes in Resin  
No specific data.

**Inhalation**: Nickel Complexes in Resin  
No specific data.

**Skin contact**: Nickel Complexes in Resin  
Adverse symptoms may include the following: irritation, redness.

**Ingestion**: Nickel Complexes in Resin  
No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician**
Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments**
No specific treatment.

**Protection of first-aiders**
No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**See toxicological information (Section 11)**

Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media**: Nickel Complexes in Resin  
Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media**: Nickel Complexes in Resin  
None known.

**Specific hazards arising from the chemical**

**Hazardous thermal decomposition products**: Nickel Complexes in Resin  
Decomposition products may include the following materials: metal oxide/oxides.

**Special protective actions for fire-fighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel**
No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders**
If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions**
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures: Nickel Complexes in Resin

Advice on general occupational hygiene: Nickel Complexes in Resin

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

条件 for safe storage, including any incompatibilities: Nickel Complexes in Resin

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel Complexes in Resin</td>
<td>NIOSH REL (United States, 10/2013).</td>
</tr>
<tr>
<td>silicon dioxide</td>
<td>TWA: 6 mg/m³ 10 hours.</td>
</tr>
</tbody>
</table>
Section 8. Exposure controls/personal protection

**Individual protection measures**

**Hand protection**
- Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Eye/face protection**
- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products. For mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

**Hand protection**
- Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products. Check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection**
- Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection**
- Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**
- Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Nickel Complexes in Resin</th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid.</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Flammable limits</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
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<td></td>
</tr>
<tr>
<td>Molecular formula</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Boiling/condensation point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Melting/freezing point</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>
Section 9. Physical and chemical properties

Volatile: Nickel Complexes in Resin Not available.
Evaporation rate: Nickel Complexes in Resin Not available.
Viscosity: Nickel Complexes in Resin Not available.
Solubility: Nickel Complexes in Resin Not available.
Physical/chemical properties comments: Nickel Complexes in Resin Not available.

Section 10. Stability and reactivity

Reactivity: Nickel Complexes in Resin No specific test data related to reactivity available for this product or its ingredients.
Chemical stability: Nickel Complexes in Resin The product is stable.
Possibility of hazardous reactions: Nickel Complexes in Resin Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid: Nickel Complexes in Resin No specific data.
Incompatible materials: Nickel Complexes in Resin No specific data.
Hazardous decomposition products: Nickel Complexes in Resin Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity
Not available.

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel Complexes in Resin</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 25 milligrams</td>
<td>-</td>
</tr>
<tr>
<td>silicon dioxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sensitization
Not available.

Mutagenicity
Not available.

Carcinogenicity
Not available.

Classification

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>OSHA</th>
<th>IARC</th>
<th>NTP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel Complexes in Resin</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>silicon dioxide</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproductive toxicity
Not available.

Teratogenicity
Not available.
Section 11. Toxicological information

Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure: Not available.

Potential acute health effects
Eye contact :
Inhalation :
Skin contact :
Ingestion :

Symptoms related to the physical, chemical and toxicological characteristics
Eye contact :
Inhalation :
Skin contact :
Ingestion :

Potential chronic health effects
Not available.

General :
Carcinogenicity :
Mutagenicity :
Teratogenicity :
Developmental effects :
Fertility effects :

Numerical measures of toxicity
Acute toxicity estimates
Not available.
Section 11. Toxicological information

Interactive effects:

Other information:

Section 12. Ecological information

Toxicity
Not available.

Persistence and degradability
Not available.

Bioaccumulative potential
Not available.

Mobility in soil

<table>
<thead>
<tr>
<th>Soil/water partition coefficient (K_{oc})</th>
<th>Mobility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel Complexes in Resin</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

Other adverse effects
No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods:
The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

<table>
<thead>
<tr>
<th>DOT Classification</th>
<th>TDG Classification</th>
<th>Mexico Classification</th>
<th>ADR/RID Classification</th>
<th>IMDG Classification</th>
<th>IATA Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Section 14. Transport information

Environmental hazards

|-----|-----|-----|-----|-----|-----|-----|

Additional information

Special precautions for user: **Transport within user’s premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not available.

Section 15. Regulatory information

**U.S. Federal regulations**

- **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
- **United States inventory (TSCA 8b):** Not determined.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs):** Not listed
**Clean Air Act Section 602 Class I Substances:** Not listed
**Clean Air Act Section 602 Class II Substances:** Not listed
**DEA List I Chemicals (Precursor Chemicals):** Not listed
**DEA List II Chemicals (Essential Chemicals):** Not listed

**SARA 302/304**

Composition/information on ingredients

No products were found.

**SARA 304 RQ:** Not applicable.

**SARA 311/312**

**Classification:** Immediate (acute) health hazard

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Fire hazard</th>
<th>Sudden release of pressure</th>
<th>Reactive</th>
<th>Immediate (acute) health hazard</th>
<th>Delayed (chronic) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel Complexes in Resin</td>
<td>95 - 100</td>
<td>No.</td>
<td>No.</td>
<td>No.</td>
<td>Yes.</td>
<td>No.</td>
</tr>
<tr>
<td>silicon dioxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**State regulations**

- **Massachusetts:** The following components are listed: AMORPHOUS SILICA
- **New York:** None of the components are listed.
- **New Jersey:** None of the components are listed.
- **Pennsylvania:** The following components are listed: SILICA

**International regulations**
Section 15. Regulatory information

Chemical Weapon Convention List Schedules I, II & III Chemicals
Not listed.

Montreal Protocol (Annexes A, B, C, E)
Not listed.

Stockholm Convention on Persistent Organic Pollutants
Not listed.

Rotterdam Convention on Prior Inform Consent (PIC)
Not listed.

UNEP Aarhus Protocol on POPs and Heavy Metals
Not listed.

Canada
WHMIS (Canada) : Nickel Complexes in Resin Not controlled under WHMIS (Canada).

Canadian lists
Canadian NPI : None of the components are listed.
CEPA Toxic substances : None of the components are listed.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

- Flammability: 0
- Health: 1
- Instability/Reactivity: 0
- Special:

History
- Date of issue/Date of revision: 12/17/2015.
- Date of previous issue: 12/16/2015.
- Version: 2

Key to abbreviations
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- UN = United Nations

Indicates information that has changed from previously issued version.
Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.