

### Heparin in 50% Dextrose, USP

Revision Date 21-OCT-2024

Revision Number 1

#### 1. Identification of the Substance/Mixture and the Company/Undertaking

##### Product Identifier

**Product Name** Heparin in 50% Dextrose, USP

##### Other means of identification

**Product Code** USP-HDS-500-10-VY-1, USP-HDS-500-10-VY-5, USP-HDS-500-10-VYP-1, USP-HDS-500-10-VYP-5, USP-HDS-500-50-VY-1, USP-HDS-500-50-VYP-1, USP-HDS-500-1.5-BD3PB-50, USP-HD25-100-0.5NJ1P-50

##### Synonyms

**Heparin** Heparin sodium, Sodium heparin, Sodium acid heparin, anti-coagulant  
**Dextrose** Glucose

**Chemical Family** Mixture

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

**Recommended use** Anti-coagulant catheter lock solution for use in laboratory animal research only.

**Restrictions on use** Not for Human Use. This product contains no preservatives.

##### Details of the supplier of the safety data sheet

**Manufacturer** Instech Laboratories, Inc.  
450 S. Gravers Road  
Plymouth Meeting, PA 19462  
Phone:610-941-0132  
Fax: 610-941-0134  
Email: [orders@instechlabs.com](mailto:orders@instechlabs.com)

---

**INSTECH****Heparin in 50% Dextrose, USP****2. Hazard(s) Identification****Classification of Substance or Mixture**

|                             |   |
|-----------------------------|---|
| <b>GHS - Classification</b> | Not classified as hazardous   |
| <b>Physical hazards</b>     | Not classified  |
| <b>Health hazards</b>       | Category 2B: May cause eye damage/eye irritation<br>Category 3: May cause mild skin irritation. |
| <b>OSHA defined hazards</b> | Not classified  |
| <b>Label elements</b>       | Not classified  |

**Physical Hazards**

|   |                       |
|---|-----------------------|
| <b>Explosives</b>   | No significant hazard |
| <b>Flammable gases</b>  | Not applicable        |
| <b>Flammable aerosols</b>   | Not applicable        |
| <b>Oxidizing gases</b>  | Not applicable        |
| <b>Gases under pressure</b>   | Not applicable        |
| <b>Flammable liquids</b>  | Not applicable        |
| <b>Flammable solids</b>   | Not classified        |
| <b>Self-reactive substances and mixtures</b>                                      | Not applicable        |
| <b>Pyrophoric liquids</b>   | Not applicable        |
| <b>Pyrophoric solids</b>  | Not applicable        |
| <b>Self-heating substances and mixtures</b>                                       | Not applicable        |
| <b>Substances and mixtures which, in contact with water, emit flammable gases</b> | Not applicable        |
| <b>Oxidizing liquids</b>  | Not applicable        |
| <b>Oxidizing solids</b>   | Not applicable        |
| <b>Organic peroxides</b>  | Not applicable        |
| <b>Corrosive to metals</b>  | Not applicable        |

**Human Health Hazards**

|  |  |
|--|--|
| <b>Acute toxicity (Oral)</b>               | Category 5: LD <sub>50</sub> g/kg (very low) |
| <b>Acute toxicity (Dermal)</b>             | Category 5, provisional (very low)           |
| <b>Acute toxicity (Inhalation: Gases)</b>  | Not applicable                               |
| <b>Acute toxicity (Inhalation: Vapors)</b> | Not applicable                               |
| <b>Acute toxicity (Inhalation: Dusts)</b>  | Not applicable                               |

**INSTECH****Heparin in 50% Dextrose, USP**

|   |  |
|---|--|
| <b>Acute toxicity (Inhalation: Mists)</b> | Not applicable                                   |
| <b>Skin corrosion/irritation</b>          | Category 3, May cause mild skin irritation       |
| <b>Serious eye damage/eye irritation</b>  | Category 2B, May cause eye damage/eye irritation |
| <b>Respiratory sensitization</b>          | No data available.                               |
| <b>Skin sensitization</b>                 | Category 3, May cause mild skin irritation.      |
| <b>Germ cell mutagenicity</b>             | No data available.                               |
| <b>Carcinogenicity</b>                    | No data available.                               |
| <b>Reproductive toxicity</b>              | No data available.                               |
| <b>Aspiration hazard</b>                  | No data available.                               |

**Environmental Hazards**

|  |                    |
|--|--------------------|
| <b>Acute toxicity to aquatic environment</b>       | No data available. |
| <b>Chronic toxicity to the aquatic environment</b> | No data available. |

**3. Composition/information on ingredients****Substance**

| Hazardous Ingredients | CAS# | EC# | GHS Classification | %   |
|-----------------------|------|-----|--------------------|-----|
| N/A                   | N/A  | N/A | N/A                | N/A |

| Ingredients                            | CAS#      | EC#       | GHS Classification | %   |
|--|-----------|-----------|--------------------|-----|
| Heparin Sodium, USP                    | 9041-0-1  | 9041-08-1 | Not Listed         | *   |
| Water for Injection, USP Sterile Grade | 7732-18-5 | 231-791-2 | Not Listed         | *   |
| Glucose (Dextrose), Anhydrous          | 50-99-7   | 604-408-5 | Not Listed         | 50% |

**Additional Information:**

\* The exact percentage (concentration) of composition corresponds with the label on the product.

# INSTECH

## Heparin in 50% Dextrose, USP

### 4. First Aid Measures

#### Description of first aid measures

|                       |   |
|-----------------------|---|
| <b>General advice</b> | Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact and ingestion. First aid measures are not specific for Heparin in 50% Dextrose, USP and do not imply that toxicity from the material is expected. If you feel respiratory symptoms or are unwell after exposure to Heparin in 50% Dextrose, USP see a physician. Serious health should always be investigated because heparin alone is unlikely to cause these symptoms other than cough if inhaled, or if ingested or applied to skin. |
| <b>Inhalation</b>     | Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. See medical advice if discomfort or irritation persists. If breathing is difficult, give oxygen.  |
| <b>Ingestion</b>      | Heparin is expected to be broken down rapidly in the stomach. Ingestion of large amounts might induce nausea and vomiting as a nonspecific effect. Treat symptomatically and obtain medical attention if required. Follow general measures for ingestion of foreign substances: Do not induce vomiting. Call a physician or a poison control center. Do not give anything by mouth to an unconscious person.  |
| <b>Skin</b>           | Take off contaminated clothing and shoes immediately. Wash affected area with soap and water. Clean contaminated clothing by washing before reuse. Seek medical attention if irritation or discomfort persists.   |
| <b>Eye</b>            | Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lenses if needed. Immediately get medical assistance.  |

#### Most important symptoms and effects, both acute and delayed

**Symptoms** No information available.

#### Indication of any immediate medical attention and special treatment needed

**Note to physicians** Treat symptomatically.

### 5. Fire Fighting Measures

**Suitable Extinguishing Media** As for primary cause of fire. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Specific Hazards Arising from the Substance or Mixture

### Heparin in 50% Dextrose, USP

|   |  |
|---|--|
| <b>Hazardous combustion products</b>                  | May produce toxic fumes of nitrogen, sulfur oxides, carbon dioxide, and carbon monoxide, carbon sodium during fires.               |
| <b>Unsuitable extinguishing media</b>                 | No data available  |
| <b>Specific hazards arising from the chemical</b>     | No data available  |
| <b>Explosion data</b>                                 | No data available  |
| <b>Sensitivity to mechanical impact</b>               | No data available  |
| <b>Sensitivity to static discharge</b>                | No data available  |
| <b>Special protective equipment for fire-fighters</b> | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

#### 6. Accidental Release Measures

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

|                             |   |
|-----------------------------|---|
| <b>Personal precautions</b> | Ensure adequate ventilation. Avoid contact with skin, eyes, or clothing. Use personal protective equipment as required. |
| <b>Other Information</b>    | Refer to protective measures listed in Sections 7 and 8.  |

##### Methods and material for containment and cleaning up

|                                |  |
|--------------------------------|--|
| <b>Methods for containment</b> | Prevent further leakage or spillage if safe to do so.  |
| <b>Methods for cleaning up</b> | Follow facility-specific procedures for spill response. When cleaning spills, wear appropriate personal protective equipment. Place waste in an appropriately labeled, sealed container for disposal. Care should be taken to avoid environmental release. |

#### 7. Handling and Storage

##### Precautions for safe handling

|                                |   |
|--------------------------------|---|
| <b>Advice on safe handling</b> | Do not handle until all safety precautions have been read.<br>Do not eat, drink, or smoke when using this product.<br>Wear protective gloves/protective clothing/eye protection/face protection.<br>Avoid contact with eyes, skin, and clothing.<br>Wash hands thoroughly after handling.<br>Releases to the environment should be avoided. |
|--------------------------------|---|

### Heparin in 50% Dextrose, USP

Wash contaminated clothing before reuse.

#### Conditions for safe storage, including any incompatibilities

##### Storage Conditions

Store in a cool, dry place 15°C-25°C (59°F-77°F)  
 Keep containers tightly closed in a dry, cool, and well-ventilated place.  
 Protect from sunlight.  
 Keep out of reach of children.  
 Avoid excessive heat.  
 Do not freeze.

#### 8. Exposure Control/Personal Protection

##### Control Parameters

##### Exposure Limits

| Chemical Name                   | ACGIH TLV   | OSHA PEL  | NIOSH IDLH        |
|---------------------------------|---|---|-------------------|
| Heparin Sodium, USP<br>9041-0-1 | 10 mg/m <sup>3</sup> TWA<br>3 mg/m <sup>3</sup> TWA | 15 mg/m <sup>3</sup> TWA<br>5 mg/m <sup>3</sup> TWA | No data available |

##### Exposure control

Engineering controls should be used as the primary means to control exposures. General room ventilation is adequate.

##### Hand protection

Impervious gloves (e.g., Nitrile, etc.) are recommended if skin contact with drug product is possible and for bulk processing operations. (Protective gloves must meet the standards in accordance with EN374, ASTM F1001 or international equivalent.)

##### Eyes/ face protection

Wear safety glasses or goggles if eye contact is possible. (Eye protection must meet the standards in accordance with EN166, ANSI Z87.1 or international equivalent.)

##### Skin and body protection

Impervious disposable protective clothing is recommended if skin contact with drug product is possible and for bulk processing operations. (Protective clothing must meet the standards in accordance with EN13982, ANSI 103 or international equivalent.)

##### Respiratory protection

Under normal conditions of use, 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 (e.g., particulate respirator with a half mask, P3 filter). (Respirators must meet the standards in accordance with EN140, EN143, ASTM F2704-10 or international equivalent.)

**INSTECH****Heparin in 50% Dextrose, USP****General hygiene considerations**

Avoid contact with skin, eyes, or clothing.

**9. Physical and Chemical Properties****Information on basic physical and chemical properties**

|                          |                          |
|--------------------------|--------------------------|
| <b>Physical state</b>    | Aqueous solution         |
| <b>Visual appearance</b> | Liquid                   |
| <b>Color</b>             | Colorless                |
| <b>Odor</b>              | Odorless                 |
| <b>Odor threshold</b>    | No information available |

| <b><u>Property</u></b>                | <b><u>Values</u></b> | <b><u>Remarks / Method</u></b> |
|---------------------------------------|----------------------|--------------------------------|
| <b>Molecular weight</b>               | No data available    | None known                     |
| <b>Specific gravity</b>               | 1.170 s.g.           | None known                     |
| <b>Solvent solubility</b>             | No data available    | None known                     |
| <b>Water solubility</b>               | No data available    | None known                     |
| <b>Solubility</b>                     | In Water             | None known                     |
| <b>Insoluble</b>                      | No data available    | None known                     |
| <b>pH</b>                             | 5.0-7.5              | None known                     |
| <b>Freezing/Melting point (°C)</b>    | No data available    | None known                     |
| <b>Boiling point (°C)</b>             | No data available    | None known                     |
| <b>Decomposition temperature (°C)</b> | No data available    | None known                     |
| <b>Evaporation rate (Gram/s)</b>      | No data available    | None known                     |
| <b>Vapor pressure (kPa)</b>           | No data available    | None known                     |
| <b>Vapor density (g/mL)</b>           | No data available    | None known                     |

**10. Stability and Reactivity**

|   |  |
|---|--|
| <b>Reactivity</b>                         | No information available.                    |
| <b>Chemical stability</b>                 | Stable under recommended storage conditions. |
| <b>Possibility of hazardous reactions</b> | None under normal processing.                |
| <b>Conditions to avoid</b>                | No data available                            |
| <b>Incompatible materials</b>             | None known based on information supplied.    |
| <b>Hazardous decomposition products</b>   | None known based on information supplied.    |

### Heparin in 50% Dextrose, USP

|  |   |
|--|---|
| <b>Chemically stability</b>                  | Stable under normal conditions of use.  |
| <b>Incompatibility with other substances</b> | As a precautionary measure, keep away from strong oxidizers. Heparin is incompatible with ethanol and should not be used with ethanol lock therapy. |

#### 11. Toxicological Information

##### Information on likely routes of exposure

##### Product Information

|                     |  |
|---------------------|--|
| <b>Inhalation</b>   | Specific test data for the substance or mixture is not available.            |
| <b>Eye contact</b>  | Category 2B, May cause eye irritation. May cause redness, itching, and pain. |
| <b>Skin contact</b> | Category 3, May cause mild skin irritation.                                  |
| <b>Ingestion</b>    | Specific test data for the substance or mixture is not available.            |

##### Symptoms related to the physical, chemical, and toxicological characteristics

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | May cause redness and tearing of the eyes. Prolonged contact may cause redness and irritation. |
|-----------------|--|

##### Acute toxicity

##### Numerical measures of toxicity

| Chemical Name                               | Oral LD50              | Dermal LD50       | Inhalation LC50   |
|---|------------------------|-------------------|-------------------|
| Heparin Sodium, USP<br>9041-0-1             | = >2 mg/kg ( Rat )     | Category 5        | No data available |
| Glucose (Dextrose),<br>Anhydrous<br>50-99-7 | = >25800 mg/kg ( Rat ) | No data available | No data available |

##### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|   |  |
|---|--|
| <b>Skin corrosion/irritation</b>          | Category 3, May cause skin irritation. Classification based on data available for ingredients. |
| <b>Serious eye damage/ eye irritation</b> | May be irritating to eyes. Classification based on data available for ingredients.             |
| <b>Respiratory or skin sensitization</b>  | No information available.  |

# INSTECH

## Heparin in 50% Dextrose, USP

|                                 |  |
|---------------------------------|--|
| <b>Germ cell mutagenicity</b>   | No information available.  |
| <b>Reproductive toxicity</b>    | No information available.  |
| <b>STOT - single exposure</b>   | No information available.  |
| <b>STOT - repeated exposure</b> | No information available.  |
| <b>Target organ effects</b>     | Kidney, eyes, skin.  |
| <b>Aspiration hazard</b>        | No information available.  |
| <b>Other adverse effects</b>    | No information available.  |
| <b>Interactive effects</b>      | No information available.  |
| <b>Known clinical effects</b>   | Clinical use of this drug has caused hemorrhage, gastrointestinal bleeding, increased bleeding time. Individuals sensitive to this material or other materials in its chemical class may develop allergic reactions. |

### 12. Ecological Information

**Environmental properties have not been investigated. Releases to the environment should be avoided.**

|                                      |                           |
|--------------------------------------|---------------------------|
| <b>Persistence and degradability</b> | No information available. |
| <b>Bioaccumulation</b>               | No information available. |
| <b>Other adverse effects</b>         |                           |
| <b>Heparin</b>                       | Highly biodegradable      |
| <b>Dextrose</b>                      | No information available. |

### 13. Disposal Considerations

#### **Waste treatment methods**

**Waste from residues/unused products** Waste must be disposed of in accordance with federal, state, and local environmental control waste generator to properly characterize all materials according to applicable regulatory entities.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport Information

# INSTECH

## Heparin in 50% Dextrose, USP

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

### 15. Regulatory Information

#### International Inventories

##### **TSCA**

|          |                  |
|----------|------------------|
| Heparin  | Listed inventory |
| Dextrose | Not listed       |

|                      |                |
|----------------------|----------------|
| <b>DSL/NDSL (EU)</b> | Not classified |
|----------------------|----------------|

##### **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

#### US Federal Regulations

|                                       |            |
|---------------------------------------|------------|
| <b>SARA 311/312 Hazard Categories</b> | Not listed |
|---------------------------------------|------------|

|               |            |
|---------------|------------|
| <b>CERCLA</b> | Not listed |
|---------------|------------|

#### US State Regulations

|                                  |            |
|----------------------------------|------------|
| <b>California Proposition 65</b> | Not listed |
|----------------------------------|------------|

|   |            |
|---|------------|
| <b>U.S. State Right-to-Know Regulations</b> | Not listed |
|---|------------|

#### U.S. EPA Label Information

|  |                |
|--|----------------|
| <b>EPA Pesticide Registration Number</b> | Not applicable |
|--|----------------|

### 16. Other Information

### Heparin in 50% Dextrose, USP

**Data Sources:** Publicly available toxicity information. Instech Laboratories, Inc is proprietary drug development information.

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.

Instech Laboratories, Inc. believes that the information contained in this 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.

#### 17. Version History

| Version History |             |               |   |                                   |
|-----------------|-------------|---------------|---|-----------------------------------|
| Version         | Approved By | Revision Date | Description of Change   | Author                            |
| 0               | JNewdeck    | 01-JUN-2024   | N/A   | Sterile Solutions Department      |
| 1               | JNewdeck    | 21-OCT-2024   | Added codes USP-HDS-500-10-VY-1, USP-HDS-500-10-VYP-1, USP-HD25-100-0.5NJ1P-50 to Section 1. Removed sodium hydroxide and hydrochloric acid from Section 3. | Flush & Lock Solutions Department |
|                 |             |               |   |                                   |

End of Safety Data Sheet