

Safety Data Sheet

ZOLEDRONIC ACID (HYDRATE)**EFFECTIVE DATE: 2015-06-05**

1 Product and Company Identification

- 1.1 Product Name:** Zoledronic Acid (Hydrate)
- 1.2 Product Identifier:** (1-Hydroxy-2-imidazol-1-ylethylidene)diphosphonic acid monohydrate
- 1.3 Catalog Number:** 73572
- 1.4 Product Use:** Laboratory Chemical
- 1.5 Manufacturer/Supplier:** STEMCELL Technologies
Suite 500-1618 Station Street
Vancouver, British Columbia V6A 1B6 Canada
- 1.6 In Case of Emergency Call:** 1-800-667-0322

2 Hazards Identification

2.1 Classification of the substance or mixture

Skin Corrosion/Irritation, Category 2

Serious Eye Damage/Eye Irritation, Category 2

Target Organ Systemic Toxicity (single exposure), Category 3

2.2 Label elements

Pictogram

**Signal word** Warning

Hazard statement(s)

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Precautionary statement(s)

P264 Wash {hands} thoroughly after handling.

P280 Wear {protective gloves/protective clothing/eye protection/face protection}.

P362 Take off contaminated clothing and wash it before reuse.

P261 Avoid breathing {dust/fume/gas/mist/vapours/spray}.

P302+352 IF ON SKIN: Wash with plenty of soap and water.

P332+313 If skin irritation occurs, get medical advice/attention.

P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+313 If eye irritation persists, get medical advice/attention.

P304+340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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P312 Call a {POISON CENTER/doctor/...} if you feel unwell.

2.3 Other hazards No data available

3 Composition / Information on Ingredients

3.1 Substances

Synonyms P,P'-[1-hydroxy-2-(1H-imidazol-1-yl)ethylidene]bis-phosphonic acid, monohydrate, Zoledronate

Molecular formula C₅H₁₀N₂O₇P₂ · H₂O

Molecular weight 290.1

Hazardous Components (Chemical Name)	CAS #	Concentration	EC #
(1-Hydroxy-2-imidazol-1-ylethylidene) diphosphonic acid monohydrate	165800-06-6	100%	N/A

4 First Aid Measures

4.1 Description of first aid measures

4.1.1 If inhaled

Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

4.1.2 In case of skin contact

Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

4.1.3 In case of eye contact

Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

4.1.4 If swallowed

Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

4.2 Most important symptoms and effects, both acute and delayed

The toxicological properties of this product have not been fully evaluated.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5 Fire Fighting Measures

5.1 Extinguishing Media

5.1.1 Suitable Extinguishing Media

Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray.

Use water spray to cool fire-exposed containers.

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5.1.2 Unsuitable Extinguishing Media

A solid water stream may be inefficient.

5.2 Special hazards arising from the substance or mixture

5.2.1 Flammable Properties and Hazards

No data available

5.2.2 Flash Pt

No data available

5.2.3 Autoignition Pt

No data available

5.2.4 Explosive Limits

LEL: No data available

UEL: No data available

5.2.5 Hazardous Combustion Products

No data available

5.3 Fire Fighting Instructions

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

6 Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid raising and breathing dust, and provide adequate ventilation.

As conditions warrant, wear a NIOSH approved (or equivalent) self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental precautions

Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and materials for containment and cleaning up

Contain spill and collect, as appropriate.

Transfer to a chemical waste container for disposal in accordance with local regulations.

7 Handling and Storage

7.1 Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/spray.

Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage

Keep container tightly closed.

Store in accordance with information listed on the product insert.

8 Exposure Controls/Personal Protection

8.1 Exposure limits

73572-SDS_GHS

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Component	CAS #	Value	Control parameters
(1-Hydroxy-2-imidazol-1-ylethylidene) diphosphonic acid monohydrate	165800-06-6	No data available	No data available

8.2 Engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.3 Personal protective equipment

8.3.1 Eye/face protection

Safety glasses

8.3.2 Skin protection

Compatible chemical-resistant gloves
 Lab coat

8.3.3 Respiratory protection

NIOSH (US) or CEN (EU) approved respirator, as conditions warrant.

8.3.4 General hygiene considerations

Do not take internally.
 Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
 Wash thoroughly after handling.

8.3.5 Environmental exposure controls

No data available

9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	A crystalline solid
Odour	No data available
Odour threshold	No data available
pH	No data available
Melting point/freezing point	No data available
Boiling point/boiling range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Solubility	~1.6 mg/mL in PBS (pH 7.2)
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available

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Viscosity

No data available

10 Stability and Reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	Stable
10.3 Possibility of hazardous reactions	No data available
10.4 Conditions to avoid	No data available
10.5 Incompatible materials	No data available
10.6 Hazardous decomposition products	No data available

11 Toxicological Information

11.1 Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Other: No data available

11.2 Skin corrosion/irritation

No data available

11.3 Serious eye damage/eye irritation

No data available

11.4 Respiratory and/or skin sensitization

No data available

11.5 Germ cell mutagenicity

No data available

11.6 Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

11.7 Reproductive toxicity

No data available

11.8 Specific target organ toxicity - single exposure

No data available

11.9 Specific target organ toxicity - repeated exposure

No data available

11.10 Aspiration hazard

No data available

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11.11 Potential health effects

- Inhalation: Material may be irritating to the mucous membranes and upper respiratory tract. May be harmful by inhalation. May cause respiratory irritation.
- Ingestion: May be harmful by ingestion.
- Skin: Causes skin irritation. May be harmful by skin absorption.
- Eyes: Causes serious eye irritation.

11.12 Signs and symptoms of exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

11.13 RTECS # No data available

12 Ecological Information

- 12.1 Toxicity** Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
- 12.2 Persistence and degradability** No data available
- 12.3 Bioaccumulative potential** No data available
- 12.4 Mobility in soil** No data available
- 12.5 Other adverse effects** No data available

13 Disposal Considerations

- 13.1 Waste disposal method**
Dispose in accordance with local, provincial/state, and federal regulations.
- 13.2 Contaminated packaging**
Dispose of as unused product.

14 Transport Information

- 14.1 UN number** No data available
- 14.2 UN proper shipping name**
DOT Not dangerous goods
ADR/RID Not dangerous goods
IMDG Not dangerous goods
IATA Not dangerous goods
- 14.3 Transport hazard class(es)** No data available
- 14.4 Packing group** No data available
- 14.5 Environmental hazards** No data available
- 14.6 Special precautions** No data available

15 Regulatory Information

15.1 US EPA SARA Title III

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(1-Hydroxy-2-imidazol-1-ylethylidene) diphosphonic acid monohydrate	165800-06-6	No	No	No

15.2 Other US EPA or State Lists

Hazardous Components (Chemical Name)	CAS #	CAA HAP, ODC	CWA NPDES	TSCA	CA PROP.65
(1-Hydroxy-2-imidazol-1-ylethylidene) diphosphonic acid monohydrate	165800-06-6	No	No	No	No

15.3 EU

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

15.4 Canada

WHMIS Classification: D2B Toxic Material Causing Other Toxic Effects.

This SDS was prepared in accordance with Hazardous Products Regulations (HPR) and WHMIS 2015.

16 Other Information

16.1 Prepared by: Quality Control, STEMCELL Technologies Inc.

16.2 Revision: N/A

16.3 Notice: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. STEMCELL Technologies Inc. shall not be held liable for any damage resulting from handling or from contact with the product. The information contained in this Safety Data Sheet (SDS) is current as of the Effective Date shown in this document and may be subject to amendment by STEMCELL Technologies Inc.

16.4 Disclaimer: **THIS PRODUCT IS FOR RESEARCH USE ONLY. NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES.**