

Material Safety Data Sheet CHONDROITIN SULFATE

Section 1 - Product Identification

Synonyms : Bovine, Chondroitin Sulfate A
Molecular Weight : 463.363 g/mol
Chemical Formula : CaCO_3
Company Identification : Tradeasia International Pte. Limited
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Recommended use of the chemical and restrictions on use

The product is used in industrial manufacturing, in particular in :

- Food industry
- Construction
- Pharmaceuticals

Section 2 – Composition/Information on Ingredients

Chemical Name	EC No/CAS No	Purity, %
(2S,3S,4S,5R,6R)-6-[(2R,3R,4R,5R,6R)-3-acetamido-2,5-dihydroxy-6-sulfooxyoxan-4-yl]oxy-3,4,5-trihydroxyoxane-2-carboxylic acid	246-551-2; 9007-28-7	min. 99.9

Section 3 – Hazards Identification

3.1. Potential Acute Health Effects: Very Hazardous when in contact with eyes and skin. Inflammation in eyes when in contact.

3.2. Potential Chronic Health Effects: Not available.

Section 4 – First-Aid Measures

4.1. Description of first aid measures

Skin contact

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap..

Eye contact

Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used.

Inhalation

Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Ingestion

Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Note to physicians

Treat symptomatically and supportively.

4.2. Most important symptoms and effects, both acute and delayed

N.A.

4.3. Indication of any immediate medical attention and special treatment needed

N.A.

Section 5 – Fire Fighting Measures

5.1. Flammability of the Product: May be combustible at high temperature.

5.2. Auto-Ignition Temperature: Not available.

5.3. Flash Points: Not available.

5.4. Flammable Limits: Not available.

5.5. Products of Combustion: Not available.

5.6. Fire Hazards in Presence of Various Substances: Not available.

5.7. Explosion Hazards in Presence of Various Substances: Not available.

5.8. Fire Fighting Media and Instructions: Not available.

Section 6 – Accidental Release Measures

6.1. Small Spill: Use appropriate tools to place the spilled solid in disposable container. Clean the contaminated surface with water.

6.2. Large Spill: Use a shovel for disposing followed by cleaning the contaminated surface with water.

Section 7 – Handling and Storage

7.1. Precautions for safe Handling

Do not ingest. Do not breathe dust. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, acids..

7.2. Conditions for safe storage, including any incompatibilities

Container tightly closed and placed in cool environment.

Section 8 – Exposure Controls/Personal Protection

8.1. Appropriate engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

8.2. Individual protection measures, such as personal protective equipment (PPE)

Personal Protection: Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

8.3. Exposure Limits: Not available.

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance : White powder

Odour : Odorless

Odour threshold : N.A.

pH @ 20°C : N.A.

Melting point : 190-194°C

Boiling point : Decomposes

Flash point : N.A.

Evaporation rate : N.A.
Flammability : N.A.
Upper/lower flammability or explosive limits : N.A.
Vapour pressure : Negligible @ 20°C
Vapour density : N.A.
Relative density : N.A.
Solubility in water : Insoluble in water.
pyridine & hot alc
Partition coefficient: n-octanol/water : N.A
Auto-ignition temperature : N.A.
Viscosity : N.A.

9.2. Other information

Molecular weight : 463.363 g/mol
Specific gravity : N.A.

Section 10 – Stability and Reactivity

- 10.1. Stability:** The product is stable.
10.2. Instability Temperature: Not available.
10.3. Conditions of Instability: Not available.
10.4. Incompatibility with various substances: Not available.
10.5. Corrosivity: Not considered to be corrosive for glass.
10.6. Special Remarks on Reactivity: Not available.
10.7. Polymerization: No.

Section 11 – Toxicological Information

- 11.1. Routes of Entry:** Inhalation, ingestion and eye contact.
11.2. Toxicity to Animals: Acute oral toxicity (LD50): >10000 mg/kg [Mouse].
11.3. Chronic Effects on Humans: Not available.
11.4. Other Toxic Effects on Humans: Hazardous in case of inhalation. Very hazardous in case of skin contact (irritant), of ingestion.
11.5. Special Remarks on Toxicity to Animals: Not available.
11.6. Special Remarks on Chronic Effects on Humans: N.A.
11.7. Special Remarks on other Toxic Effects on Humans: Not available.

Section 12 – Ecological Information

- 12.1. Products of Biodegradation:** Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
12.2. Toxicity of the Products of Biodegradation: Highly toxic.
12.3. Remarks on the Products of Biodegradation: N.A.

Section 13 – Disposal Considerations

13.1. Disposal methods

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14 – Transport Information

- 14.1. UN number :** N.A.
14.2. UN proper shipping name : N.A
14.3. Transport of hazard classes : N.A
14.4. Packing group : N.A
14.5. Environmental hazards : N.A.

14.6. Special precautions for user : N.A

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: N.A.

Section 15 – Regulatory Information

15.1. Federal and State Regulations: No products were found.

15.2. Other Regulations: Not available.

15.3. Other Classifications:

15.3.1. WHMIS (Canada): Not controlled under WHMIS (Canada).

15.3.2 DSCL (EEC): This product is not classified according to the EU regulations.

15.3.3. HMIS (U.S.A.): Health Hazard: 2 Fire Hazard: 1 Reactivity: 0 Personal Protection: E

15.3.4. National Fire Protection Association (U.S.A.): Health: 2 Flammability: 1 Reactivity: 0

15.4. Protective Equipment: Gloves. Lab coat.

Section 16 : Additional Information

16.1. Mainly changes made to the previous version of this Material Safety Data Sheet (MSDS):

- This MSDS complies with ISO 11014; the requirements of UN-GHS

Revision No	Revision content
05	<ul style="list-style-type: none">• This SDS is updated in accordance with the GHS (Rev.6) (2015)-Guidance on the Compilation of Safety data Sheets.• This SDS is updated in line with Eti Maden Corporate identity.

16.2. List of abbreviation and acronyms used in this MSDS

SDS : Safety Data Sheets

Index N° : atomic number of the element most characteristic of the properties of the substance

CAS No : Chemical Abstracts Service number

EC No : EINECS Number : European Inventory of Existing Commercial Substances

Repr. Cat. 2 : Substance presumed human reproductive toxicant

Acute Oral Cat. 5 : Substance which is of relatively low acute oral toxicity.

GHS : Globally Harmonised System of Classification and Labelling

LD₅₀ : Median Lethal Dose

LC₅₀ : Lethal Concentration, 50%

N.A. : Not Applicable

OSHA : Occupational Safety & Health Administration

Cal OSHA : The State of California Division of Occupational Safety and Health (DOSH)

PEL : Permissible Exposure Limits

ACGIH : American Conference of Governmental Industrial Hygienists

TLV : Threshold Limit Value

Japanese MITI : Japanese Ministry of International Trade and Industry

EC₅₀ : Half maximal effective concentration

UN : United Nations

U.S. EPA TSCA Inventory: Inventory of the chemical substances manufactured or processed in the United States according to Toxic Substances Control Act compiled and published under the authority of the Environmental Protection Agency

Canadian DSL: Canadian Domestic Substances List

16.3. List of relevant hazard statements and precautionary statements used in this MSDS

Hazard Statement

H361 d: Suspected of damaging the unborn child

H319: Causes serious eye irritation

H303: May be harmful if swallowed

Precautionary Statements

Prevention

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P281: Use personal protective equipment as required.

P264: Wash eyes thoroughly after handling.

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P308 + P313: If exposed or concerned: get medical advice/attention.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

Storage

P405: Store locked up.

Disposal

P501: Dispose of contents/container to in accordance with local regulations.

16.4. Disclaimer of Liability

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