Safety Data Sheet

Chitosan

Section 1: Chemical Product and Company Identification

1.1 Product Identification

Product Name: Chitosan

CAS No.: 9012-76-4

1.2 Details of the Supplier of the Safety Data Sheet

Manufacturer or Supplier Name: Qingdao Tianya Chemical Co., Ltd

Address: 99 Chongqing South Road, Shibei District, Qingdao China

Phone Number: +86-532-66993770

1.3 Emergency Contact Phone Number

Emergency Contact: +86-532-66993770

1.4 Recommended Use and Restrictions on Use of the Substance or Mixture

Confirmed Uses: Food, Medicine, Agriculture, Cometic, etc..

Section 2: Hazards Identification

2.1 GHS Hazard Categories

Acute (short-term) aquatic hazard (Category 2), H401

2.2 GHS Label Elements, Including Precautionary Statements

Pictogram: None

Signal Word: None

Hazard Statements: H401: Toxic to aquatic organisms.

Precautionary Statements:

Prevention: P273: Avoid release to the environment.

Disposal: P501: Dispose of contents/container to an approved waste disposal plant.

2.3 Physical and Chemical Hazards

No known physical or chemical hazards based on current information.

2.4 Health Hazards

No known health hazards based on current information.

2.5 Environmental Hazards

H401: Toxic to aquatic organisms.

2.6 Other Hazards

None

Section 3: Composition/Information on Ingredients

3.1 Substance

Common Name: Deacetylated chitin

Molecular Formula: C12H24N2O9

CAS No.: 9012-76-4

EC Number: 618-480-0

Hazardous Components:

Component: Chitosan

Classification: Acute (short-term) aquatic hazard Category 2; H401

Concentration or Concentration Range: ≤ 100%

Section 4: First-Aid Measures

4.1 Description of Necessary First-Aid Measures

Inhalation: Move to fresh air.

Skin Contact: Immediately remove/take off all contaminated clothing. Wash skin with water/shower.

Eye Contact: Rinse thoroughly with plenty of water. Remove contact lenses.

Ingestion: Drink immediately (up to 2 cups of water). Seek medical advice if feeling unwell.

4.2 Most Important Symptoms and Health Effects

The most important known symptoms and effects are described in the label (see Section 2.2) and/or Section 11.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

No data available.

4.4 Specific Notes for Physicians

No data available.

Section 5: Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Water, foam, carbon dioxide (CO2), dry powder.

Unsuitable Extinguishing Media: No restrictions on extinguishing media specified for this substance/mixture.

5.2 Special Hazards Arising from the Substance or Mixture

Carbon oxides, nitrogen oxides. Combustible. Hazardous gases or vapors may be generated in case of fire.

5.3 Advice for Firefighters

Wear self-contained breathing apparatus in case of fire. Spray water to suppress

gas/vapor/mist.

Section 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures

Advice to Non-Emergency Personnel: Avoid inhalation of dust. Evacuate from hazardous area, follow emergency procedures, and consult experts. For personal protection, see Section 8.

6.2 Environmental Precautions

No special precautions necessary.

6.3 Methods and Materials for Containment and Cleaning Up

Comply with possible material restrictions (see Sections 7 and 10). Remove dry. Discard. Clean affected area. Avoid dust generation.

6.4 Reference to Other Sections

For disposal, see Section 13.

Section 7: Handling and Storage

7.1 Precautions for Safe Handling

For precautionary measures, see Section 2.2.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Keep tightly closed. Store in a dry place.

Recommended Storage Temperature: 2 - 8 °C

Sensitive to humidity, heat and light.

VCI Storage Class: German storage class (TRGS 510): 11: Combustible solids.

Section 8: Exposure Controls/Personal Protection

8.1 Control Parameters

No substances with occupational exposure limits.

8.2 Exposure Controls

Appropriate Engineering Controls: Replace contaminated clothing. Wash hands after using this substance.

Personal Protective Equipment:

Eye/Face Protection: Use equipment tested and approved to official standards such as NIOSH (US) or EN 166 (EU). Safety glasses.

Skin Protection:

Full Contact: Material: Nitrile rubber. Minimum layer thickness: 0.11 mm. Solvent penetration time: 480 minutes.

Splash Protection: Material: Nitrile rubber. Minimum layer thickness: 0.11 mm. Solvent penetration time: 480 minutes.

Respiratory Protection: Required when dust is generated. Our recommendations for filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards related to the respiratory protection equipment used.

Environmental Exposure Controls: No special precautions necessary.

Section 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

a) Physical State: Powder

b) Color: No data available

c) Odor: No data available

d) Melting Point/Freezing Point: Melting point: 102.5 °C

e) Initial Boiling Point and Boiling Range: No data available

f) Flammability (solid, gas): No data available

g) Upper/Lower Flammability or Explosive Limits: No data available

h) Flash Point: Not applicable

i) Autoignition Temperature: No data available

j) Decomposition Temperature: No data available

k) pH: No data available

l) Viscosity: Kinematic viscosity: No data available; Dynamic viscosity: No data available

m) Water Solubility: No data available

n) Octanol/Water Partition Coefficient: No data available

o) Vapor Pressure: No data available

p) Density/Relative Density: 1 g/cm3

q) Vapor Density: No data available

r) Particle Characteristics: No data available

s) Explosive Properties: No data available

t) Oxidizing Properties: None

9.2 Other Safety Information

No data available.

Section 10: Stability and Reactivity

10.1 Stability

The product is chemically stable under standard environmental conditions (room temperature).

10.2 Hazardous Reactions

No data available.

10.3 Conditions to Avoid

No data provided.

10.4 Incompatible Materials

Strong oxidizing agents.

10.5 Hazardous Decomposition Products

In case of fire: See Section 5 for fire-fighting measures.

Section 11: Toxicological Information

11.1 Information on Toxicological Effects

Acute Toxicity: LD50 Oral - Rat -> 10,000 mg/kg; Inhalation: No data available; Dermal: No data available.

Skin Corrosion/Irritation: No data available.

Serious Eye Damage/Eye Irritation: No data available.

Respiratory or Skin Sensitization: No data available.

Germ Cell Mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive Toxicity: No data available.

Specific Target Organ Toxicity (Single Exposure): No data available.

Specific Target Organ Toxicity (Repeat Exposure): No data available.

Aspiration Hazard: No data available.

11.2 Additional Information

To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.

Section 12: Ecological Information

12.1 Ecotoxicity

Toxicity to fish: LC50 - Oncorhynchus mykiss (rainbow trout) - 1.73 mg/l - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia pulex (water flea) - 13.69 mg/l - 48 h.

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 Results of PBT and vPvB Assessment

PBT/vPvB assessment is not available as chemical safety assessment was not

required/conducted.

12.6 Endocrine Disrupting Properties

No data available.

12.7 Other Adverse Environmental Effects

No data available.

Section 13: Disposal Considerations

13.1 Waste Disposal Methods

Product: Hand over remaining and non-recyclable solutions to a licensed company for disposal.

Section 14: Transport Information

14.1 UN Number

ADR/RID (European land transport): -; IMDG (International maritime transport): -; IATA-DGR (International air transport): -.

14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods; IMDG: Not dangerous goods; IATA-DGR: Not dangerous goods.

14.3 Transport Hazard Class(es)

ADR/RID: -; IMDG: -; IATA-DGR: -.

14.4 Packaging Group

ADR/RID: -; IMDG: -; IATA-DGR: -.

14.5 Environmental Hazards

ADR/RID: No; IMDG Marine pollutant (yes/no): No; IATA-DGR: No.

14.6 Special Precautions for User

None specified.

14.7 Incompatible Materials

Strong oxidizing agents.

Other Information

Not classified as dangerous goods under transport regulations.

Section 15: Regulatory Information

15.1 Safety, Health and Environmental Regulations/Specifications Specific to the Substance or Mixture

Applicable Regulations: Other provisions. Please note that waste disposal should also comply with local regulatory requirements.

Section 16: Other Information

Full text of hazard statements mentioned in Sections 2 and 3 of the safety data sheet: H401: Toxic to aquatic organisms.

Other Information: The above information is believed to be correct but does not purport to include all details and is intended for guidance only. The information in this document is based on our current knowledge and is applicable to the product for proper safety precautions. It does not represent a guarantee of the product's properties. Qingdao Tianya Chemical Co., Ltd shall not be liable for any damage arising from handling or contact with the above product.

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