



21 Willis Street, PO Box 1777, DUNEDIN. Phone: 64 3 477 6447.

SAFETY DATA SHEET

1. Identification

Product: **ARMOUR-Zen®**

License Classification:

New Zealand: Approved by EPA (NZ) Approval Code HSR 101141
Registered pursuant to the ACVM Act 1997, No: P7570

Recommended Use: for the control of *Botrytis cinerea* and *Sclerotinia sclerotiorum*
Permitted Crops: grapes and ornamentals

Supplier: Botry-Zen (2010) Limited
PO Box 1777
Dunedin
New Zealand

Ph: +64 (3) 477 - 6447
21 Willis Street
E-mail: info@botryzen.co.nz

2. Hazard Identification

Classification of the substance: ARMOUR-Zen® is ecotoxic.

HSNO classification 9.1A.

Precautions:

- Avoid contamination of the water supply with the product or empty container.
- In the case of a spill, contain the spill and remove contaminated material to be disposed of in an approved landfill.
- Keep out of reach of children.
- Store in original container, tightly closed away from foodstuffs.
- Avoid contact with skin and eyes and inhalation of spray mist and/or concentrate.
- When mixing or applying wear protective eyewear and waterproof gloves.
- Wash hands and exposed skin before meals and after using.

3. Composition / Information on Ingredients:

COMMON NAME: Chitosan
CAS NUMBER: 9012-76-4

4. First-Aid Measures:

Eyes: Flush eyes immediately with a continuous gentle stream of water for 15 minutes. Get medical attention if irritation persists.

Skin: Immediately wash the affected area with soap and water. Get medical attention if irritation persists.

Ingestion: Wash mouth out with clean water. Do not induce vomiting unless instructed to do so by qualified medical personnel. Get medical attention if discomfort occurs,

Inhalation: Remove individual to fresh air. If breathing difficulty occurs, get medical attention.

Note to physician: There is no specific antidote. Employ supportive care. Treatment should be based on judgment of the physician in response to reactions of the patient.

5. Fire-Fighting Measures:

Extinguishing media: Water, fog, foam, CO₂, sand.

Flammable limits: Not available

Auto-ignition temperature: Not available

Sensitivity to mechanical impact / static discharge: Not available

6. Accidental Release Measures:

If the spill occurs out of doors, cover it with an absorbent material to prevent dispersion of the spilled material until recovery can begin. Soak up material from broken containers, and store collected material in secure containers until safe disposal can be arranged.

7. Handling and Storage:

Handling: Practice good care and good safety precautions when handling this product. Avoid contact with eyes, skin and clothing. Contaminated clothing should be washed separately from domestic laundry and line-dried. Users should wash hands before eating and drinking.

Storage: Store in original containers only. Keep containers tightly closed when not in use.

8. Exposure controls/personal protection

For brief contact during manufacture, warehousing and transport, wear clean body-covering clothing. During operations where direct contact with ARMOUR-Zen® may occur additional protection maybe required. This includes mask, gloves, coveralls, and safety glasses.

9. Physical and chemical properties:

Appearance:	golden brown
Odour:	vinegar
Odour threshold:	not available
pH:	4.5 – 5.5
Melting point/freezing point:	not available
Initial boiling point and boiling range:	not available
Flash point:	not available
Evaporation rate:	not available
Flammability:	not available
Upper/lower flammability of explosive limits:	not available
Vapour pressure:	does not apply
Vapour density:	does not apply
Relative density:	1.1
Solubility:	soluble
Partition coefficient: n-octanol/water:	not available
Auto-ignition temperature:	does not apply
Decomposition temperature:	not available
Viscosity:	not available

10. Stability and Reactivity

Reactivity: Avoid oxidizing materials

Stability: This product is stable under normal storage conditions.

Hazardous decomposition products: Oxides of nitrogen and carbon are produced under fire conditions.

Hazardous polymerization: Not known to occur.

11. Toxicological Information

Acute toxicity: Not available

Skin corrosion/irritation: May cause skin irritation.

Serious eye damage/irritation: May cause eye irritation.

Respiratory or skin sensitization: Not available

Germ cell mutagenicity: Not available

Carcinogenicity: Not available

Reproductive toxicity: Not available

STOST-single exposure: Not available

STOST-repeated exposure: Not available

Aspiration hazard: Not available

Note: Normal or casual exposure to this product is not expected to cause unusual acute or chronic health risks to workers, bystanders or consumers.
Chronic effects: Chronic exposure may aggravate existing medical conditions.

12. Ecological Information

ARMOUR-Zen® is an aquatic toxicant and should not come into contact with waterways.

ARMOUR-Zen®, once taken up by plants is converted to naturally occurring substances that present no hazards to the environment.

13. Disposal considerations

Triple rinse empty containers and dispose of at an AgRecovery site

14. Transport information

Proper shipping name environmentally hazardous substance liquid, NOS (chitosan)
Hazard Class 9 Miscellaneous Goods
UN No 3082
Packing Group III

According to the amendments publicised on the 1st of January 2015 of the 56th edition of the IATA regulations (A197), UN#3082 is to be shipped as "not restricted", as long as the net quantity in each receptacle does not exceed 5L/kg and the packaging meets the defined standards.

Also the transport of dangerous goods by sea - IMDG code edition 2014, states that UN#3082 is not subject to the IMDG code (no marking, labeling or documentation required) provided that inner packaging is 5 litres or less, and the packaging is strong and rigid.

15. Regulatory information

Registered pursuant to the ACVM Act 1997, No P7570

16. Other Information

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