

# SAFETY DATA SHEET



## 1. IDENTIFICATION OF MATERIAL AND SUPPLIER

<b>Product Identifier:</b>	ChitoRem <sup>®</sup> Chitin Complex
<b>Recommended Use:</b>	Bioremediation
<b>Recommended Restrictions:</b>	none known
<b>Supplier Name:</b>	JRW Bioremediation, LLC
<b>Address:</b>	14321 W. 96 <sup>th</sup> Terrace Lenexa, KS 66215
<b>Telephone:</b>	913-438-5544
<b>EMERGENCY Telephone:</b>	800-779-5545 x 116 (Mon-Fri 9am-5pm CST) 913-961-6644 (afterhours)

## 2. HAZARD IDENTIFICATION

### Health & Physical Hazards:

This product contains no substances in their current physical state that are considered to be hazardous to health unless subject is allergic to shellfish. While the chemical, physical, and toxicological properties have not been thoroughly examined, no acute or delayed symptoms or effects have been observed to date.

### Flammability Hazards:

This is a Non-Flammable ground flour.

### Reactivity Hazards:

This product is considered stable.

### OSHA Hazards:

This material is not considered hazardous by OSHA. No labels or signage are known to be required.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	% by Weight
Chitin	1398-61-4	20-40%
Protein	NA	20-60%
Calcium carbonate	471-34-1	10-20%
Water/moisture	7732-18-5	10-20%

### 4. FIRST-AID MEASURES

**Inhalation:**

Inhalation of dust may accumulate on linings of sinus and lungs, possibly causing mild irritation of respiratory system and dry cough. Move to fresh air.

**Skin Contact:**

Powder could cause mild irritation if allergic to shellfish. In case of contact with skin, immediately wash with plenty of soap and water. Seek medical attention if skin irritation develops or persists.

**Eye Contact:**

May cause mechanical irritation. In case of contact with eyes, treat as a foreign object and immediately flush eyes with water for at least 15 minutes, lifting eyelids to facilitate irrigation. Get medical attention if necessary.

**Ingestion:**

Not likely to be hazardous by ingestion.

**Signs and symptoms of exposure:**

Mild irritation to skin and eyes upon contact; mild irritation to respiratory system upon inhalation.

**Medical Conditions aggravated by exposure:**

Shellfish allergies. May aggravate preexisting respiratory conditions.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media:</b>	Water, carbon dioxide, sand, foam, or dry chemical.
<b>Unsuitable Extinguishing Media:</b>	Do not use heavy water stream as it may spread or scatter.
<b>Specific hazards from substance/mixture:</b>	Depending on moisture content, and particle size, airborne dust of chitin might explode in the presence of an ignition source. It is comparable to flour and wood dust. Dust explosion limits unknown.
<b>General fire hazards:</b>	No unusual fire or explosion hazards noted
<b>Special protective equipment / precautions for fire-fighters:</b>	Treat as Class A. Use protective clothing and positive pressure breathing apparatus.

## 6. ACCIDENTAL RELEASE MEASURES

### Methods and Materials for containment and clean up:

Material may be vacuumed or collected and placed in container for recovery or disposal. Material is biodegradable. Land disposal is acceptable, according to all local, state, and federal regulations at an approved waste treatment facility.

### Personal precautions / Protective equipment:

NIOSH/MSHA-approved respirator is recommended when large quantities of the dust is airborne. Gloves are not required but recommended to minimize potential mechanical irritation from handling. Safety glasses recommended when there is a high level of airborne dust.

### Environmental precautions:

No special environmental precautions required.

## 7. HANDLING AND STORAGE

### Precautions for safe handling:

Follow good hygienic and housekeeping practices. Clean up areas where Chitin dust settles to avoid excessive accumulation of this combustible material. Minimize blow down, sweeping, and other practices that generate high airborne dust concentrations. Wash to remove dust after use. When using, do not eat, drink, or smoke.

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

Keep in properly labeled containers. Store in a cool, dry area away from open flames and strong oxidizers. Use adequate mechanical ventilation, especially in confined spaces. Local exhaust is recommended.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Control parameters:</b>	No exposure or biological limits noted for ingredients(s).
<b>Appropriate engineering controls:</b>	Use adequate mechanical ventilation, especially in confined spaces.
<b>Individual protection measures, such as Personal Protective Equipment (PPE):</b>	
Eye/Face protection:	Safety glasses recommended when there is a high level of airborne dust.
Skin / hand / body protection:	Gloves are not required but recommended to minimize potential mechanical irritation from handling. Suitable protective clothing as defined by employer.
Respiratory protection:	None required under normal use in well ventilated area. NIOSH/MSHA-approved respirator is recommended when large quantities of the dust is airborne.
General considerations:	Use good industrial hygiene and best safety practices. When using material, do not eat, drink, or smoke. Avoid use of this product if allergic to shellfish.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	light to medium brownish with occasional orange flecks
<b>Physical state:</b>	varying sizes of sand-like ground granular and flaked particles to powdery flour solids
<b>Odor:</b>	fish-like crab odor
<b>pH:</b>	not determined
<b>Melting point/freezing point:</b>	not determined
<b>Initial boiling point:</b>	not applicable
<b>Closed cup Flash point:</b>	not applicable
<b>Evaporation rate:</b>	not determined
<b>Flammability (solid, gas):</b>	not determined
<b>Upper/lower flammability or explosive limits:</b>	not determined
<b>Vapor pressure (Mg Hg):</b>	not determined
<b>Vapor density (air = 1):</b>	not determined
<b>Density:</b>	+/- 25lbs/CF
<b>Specific gravity (H2O = 1):</b>	21 lbs/ ft3
<b>Solubility in water:</b>	insoluble in water, alcohols, and most acids.
<b>Auto-ignition temperature:</b>	not determined

## 10. STABILITY AND REACTIVITY

<b>Reactivity:</b>	Non-reactive under conditions of normal use, storage & transport.
<b>Chemical stability:</b>	Stable under conditions of normal use, storage and transport.
<b>Possibility of hazardous reactions:</b>	Hazardous polymerization will not occur.
<b>Conditions to avoid:</b>	None known
<b>Incompatible materials:</b>	Not applicable
<b>Hazardous decomposition products:</b>	None known

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects are expected if the product is used as intended, under normal circumstances, and in accordance with this Safety Data Sheet. Individuals with allergies to shellfish should avoid handling and use of this product.

<b>Inhalation:</b>	Inhalation of dust may accumulate on linings of sinus and lungs, possibly causing cause mild irritation of respiratory system and dry cough. Move to fresh air.
<b>Ingestion:</b>	Not likely to be hazardous by ingestion.
<b>Skin:</b>	Powder could cause mild irritation if allergic to shellfish. In case of contact with skin, immediately wash with plenty of soap and water. Seek medical attention if skin irritation develops or persists. No known effect from chronic exposure.
<b>Eye contact:</b>	May cause mechanical irritation. In case of contact with eyes, treat as a foreign object and immediately flush eyes with water for at least 15 minutes, lifting eyelids to facilitate irrigation. Get medical attention if necessary.
<b>Signs &amp; symptoms of exposure:</b>	Mild irritation to skin and eyes upon contact; mild irritation to respiratory system upon inhalation. No known effect from chronic exposure.
<b>Carcinogenicity:</b>	Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA
<b>Mutagenicity:</b>	No known effect.
<b>Reproductive Toxicity:</b>	No known effect.

## 12. ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	Product is not considered environmentally hazardous and is not expected to cause significant harm to aquatic, animal, or plant life.
<b>Persistence/degradability:</b>	Readily biodegradable over time.
<b>Bio accumulative potential:</b>	Not expected to bio concentrate or bio accumulate.
<b>Mobility in soil:</b>	Immobile.

## 13. DISPOSAL CONSIDERATIONS

### Disposal Methods:

Material may be vacuumed or collected and placed in container for recovery or disposal. Material is biodegradable. Land disposal is acceptable, according to all local, state, and federal regulations at an approved waste treatment facility.

## 14. TRANSPORTATION INFORMATION

<b>DOT hazard class:</b>	Not Applicable, non-regulated
<b>Labeling:</b>	Not Applicable
<b>Proper Shipping Name:</b>	ChitoRem® Chitin Complex
<b>NMFC#:</b>	175420
<b>Class</b>	50

## 15. REGULATORY INFORMATION

**Restrictions on use:** None.

**Other regulations:** No information available or not applicable.

## 16. OTHER INFORMATION

The information in this SDS summarizes to the best of our knowledge at the date of issue, the chemical health and safety hazards of this material and general guidance for safe handling, use, processing, storage, transportation, disposal, and release. This information is not intended to be considered a warranty or quality specifications. The information contained relates only to the specific material designated and may not be valid if used in conjunction with other materials or in any other processes other than intended use. If further clarification or information is required, please contact JRW Bioremediation.