

SAFETY DATA SHEET

Global Harmonized System of Classification and Labeling of Chemicals Format

I. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

PRODUCT NAME: *Bac-Shield*
PRODUCT TYPE: Chitosan Antimicrobial
CHEMICAL NAME: Aqueous solution of poly n-acetylglucosamine and poly d-glucosamine

Manufacturer / Supplier Information

SDS Prepared by: HeiQ Chemtex, Inc.
 2725 Armentrout Drive
 Concord, NC 28025

Emergency Phone Number (24 hours/day)
 Chemtrec 800-424-9300

For additional health, safety or regulatory information, call (704) 795-9322 during business hours

Prepared: 06/24/2014
SDS Updated: 09/28/2017

II. Hazard Identification

Hazardous Ingredients	CAS#	Percentage	LD ₅₀ (mg/kg)	LC ₅₀ (ppm/10hr)	SARA Title III
Acetic Acid	64-19-7	3	3,310	5,620	Yes

GHS Classification: Acute Toxicity, Not Classified Skin Corrosion/Irritation, Not Classified
 Eye Irritation, Category 2B

HMIS: Health = 1 Fire = 0 Reactivity = 0 PPE = B

Signal Word: Warning

No Pictogram
Required

Health Hazards: No physical hazard according to OSHA/GHS criteria
 No health hazard according to OSHA/GHS criteria
 No environmental hazard according to OSHA/GHS criteria

Precautionary Statement: P103: Read label before use.
 P102: Keep out of reach of children
 P101: If medical advice is needed, have product container or label in hand.
 P264: Wash...Thoroughly after handling.
 P280: Wear protective clothing/eye protection
 P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P337 + P313: IF EYE IRRITATION PERSISTS: Get medical attention.

P314: Get medical advice/attention if you feel unwell.

III. COMPOSITION/ INFORMATION ON INGREDIENTS

Ingredients	CAS#	Percentage	OSHA-PEL	ACGIH -TLV
Proprietary non-hazardous components				

IV. First Aid Measures

EYES: P305 + P351 + P338: IF IN EYES: Rinse continuously with water for several (15) minutes. Remove contact lens if present and easy to do. Continue rinsing.

SKIN: P303 + P361+ P353: IF ON SKIN (OR HAIR): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

INHALATION: P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

INGESTION: P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P311: Call a POISON CENTER or doctor/physician.

V. Fire Fighting Measures

FLASH POINT: Nonflammable

FIRE AND EXPLOSION HAZARDS: No fire or explosive hazards. If containers are in a fire or if heated by fire, a pressure increase will occur in a closed container and bursting may occur.

EXTINGUISHING MEDIA: Water, CO₂, dry chemical or foam

SPECIAL FIRE FIGHTING INSTRUCTIONS: Firefighters should wear self-contained breathing apparatus. Use water spray to cool fire exposed containers.

VI. Accidental Release Measures

PERSONAL PRECAUTIONS: P234: Keep only in original container.
P262: Do not get in eyes, on skin, or on clothing.
P264: Wash thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

ENVIRONMENTAL PRECAUTIONS: P273: Avoid release to the environment.

METHODS FOR CONTAINMENT/CLEANUP:
Dike Spill and re containerize. Use appropriate absorbent (sand, earth or vermiculite, etc.).
For larger spills, dike area and re-containerize. Avoid eye and skin contact. Dispose material in accordance with local, state and federal regulations. Always refer to product label.

VII. Handling and Storage

HANDLING: P262: Do not get into eyes, on skin or on clothing.
P264: Wash thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
Spilled material is very slippery. Do not reuse container.

STORAGE: P402 + P404: Store in a dry place. Store in a closed container.
Product will crystallize if subjected to temperatures below 45° F. If material is hazy or frozen set out in warm environment until thawed then stir until homogeneous.

STORAGE TEMPERATURE: 50°-100° F

SPECIAL PACKAGING REQUIREMENTS: P406: Store in a corrosive resistant container.

INCOMPATIBLE MATERIALS: Incompatible with strong oxidants and strong bases.

SHELF LIFE: 2 years

VIII. Exposure Control / Personal Protection

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Hand Protection:	Chemical Resistant Gloves
Eye Protection:	Chemical Goggles or Glasses with Side Shields
Skin Protection:	Protective Clothing
Respiratory Protection:	The use of a NIOSH approved respirator protection may be needed if working in a poor ventilated area.

Engineering Measures/Controls:

Ventilation:	Ensure adequate ventilation, especially in confined area.
Other Measures:	Eye wash and safety shower in work area. Employees should wash their hands after use.

IX. Physical and Chemical Properties

Form and Appearance	Clear amber liquid	Odor	Slight seaside odor
pH, 1% in water	3-5	Odor Threshold	NA
Boiling Point	>100° C	Melting Point/Freezing Point	35° F (1.7° C)
Vapor Pressure	ND	Vapor Density (Air=1)	ND
Flash Point	NA	Evaporation Rate (H2O=1)	1.0
UEL	NA	LEL	NA
Viscosity #5 @ 20 rpm @ 25° C	<15,000 cps	Solubility in Water	Soluble
Octanol/Water Partition Coefficient	NA	Specific Gravity/ Bulk Density	1.00-1.04/8.35-8.68
Auto Ignition Temperature	NA	Decomposition Temperature	ND
% VOC	<3	% Solids	5.5-7.5

X. Stability and Reactivity

STABILITY:	Stable under normal conditions
HAZARDOUS POLYMERIZATION:	Will not occur
INCOMPATIBILITIES:	Strong oxidants and strong bases
INSTABILITY CONDITIONS:	Stable at normal temperature and storage conditions. Avoid temperatures above 200° F.
DECOMPOSITION PRODUCTS:	CO, CO2, sulfur oxides, metal oxides

XI. Toxicological Information

Acute Data:

Routes of Exposure: Eye contact, skin contact, ingestion, inhalation (mist, vapors).
 Eye Contact: Irritant
 Skin Contact: ND
 Ingestion: ND
 Inhalation: ND
 Skin Sensitization:

Acute Toxicity/Effects:

Test	Test Type	Species	Results	Comments
Oral Toxicity	LD50	Rat	>5,000 mg/kg	No Mortality
Dermal Toxicity	LD50	Rat	>5,000 mg/kg	No mortality
Inhalation Toxicity	LC50	Rat	2.07 mg/l	No mortality
Eye Irritation	PII	Rabbit	9.3-unrinsed 7.3-rinsed	Mildly irritating

Chronic Data:

	IARC	ND	NTP	ND	ACGIH	ND	OSHA	ND
Carcinogenicity								
Mutagenicity								
Reproductive Effects								
Target Organ Effects								

XII. Ecological Information

Ecotoxicity/Effects:

Test	Test Type	Species	Results	Comments
Acute Toxicity to Fish	LC50		ND	
Acute Toxicity to Aquatic Invertebrates	EC50		ND	
Acute Toxicity to Aquatic Plants			ND	
Chronic toxicity to Fish			ND	

Environmental Fate:

Persistence/Degradability: Material is readily biodegradable
 COD/BOD5:
 BOD 5 day: 109,000 ppm
 COD: 198,500 ppm
 Bioaccumulation Potential: No bioaccumulation expected
 Mobility in Soil: Material completely water soluble
 Other Adverse Effects: No additional environmental effects known

XIII. Disposal Considerations

Product: Dispose of absorbed material/content and/or container in accordance with local, state, federal and/or international regulations.
 Packaging: Drum re-conditioner or in accordance to local, state and/or federal regulations.

XIV. Transport Information

US DOT Regulations (Land Transport)	Not regulated
IATA/ICAO Regulations (Air Transport)	Not regulated
IMDG/IMO Regulations (Maritime Transport)	Not regulated

XV. Regulatory Information
EPA/TCSA Compliance status: All Components Listed
INTERNATIONAL INVENTORIES

	<i>Yes</i>	<i>No</i>	<i>Unknown</i>
U.S. (TSCA)			Exempt
Canadian (DSL)			X
Australian (AICS)			X
European (EINECS)			X
Japanese (MITI)			X
Korean (ECL)			X
Philippines (PICCS)			X
China			X

Contents of this SDS comply with the OSHA standard 29 CFR 1910.1200/Hazcom 2012.

Domestic Regulations:

TSCA Status:	This material is registered under the Federal Insecticide Fungicide and rodenticide Act (FIFRA) #81446-1 and is subsequently exempt from TSCA Inventory Status.
SARA Title 302 (Extremely Hazardous Substances)	TPQ – None
SARA Title 304 (Extremely Hazardous Substances)	RQ – None
CERCLA Hazardous Substances (RQ)	None
SARA 311/312 Hazard	Acute <input type="checkbox"/> Chronic <input type="checkbox"/> Fire <input type="checkbox"/> Pressure <input type="checkbox"/> Reactive <input type="checkbox"/>
SARA 313	This product does not contain any chemicals, which are subject to Section 313 of Title III, Part 372
Clean Air Act Section 112 (TQ):	TQ – Not listed.

State Information:

California Proposition 65: None of the composition are listed on the California Proposition 65 list.

State Right to Know/
Hazardous Substance List
Information:

None of the raw material in this product are known to be on any state right to know list.

XVI. Other Information**Key to Abbreviations:****NDA- No data available ND- Not Determined NA-Not Applicable NE- Not Established****Disclaimer**

This safety data sheet was prepared solely for the purpose of providing employees with information regarding potential hazards presented by listed substance(s). It was prepared in the context of reasonable foreseeable exposure situations, which may arise give the nature and the expected use of the product. The substance(s) may present greater or lesser hazard under other circumstances. The data and recommendations presented herein are based upon our research and the research of others but HeiQ Chemtex, Inc. makes no warranty of any kind expressed or implied, except that the product supplied will be of standard quality of HeiQ Chemtex, Inc and the user assumes all risk and liability resulting from reliance of the information contained on this Safety Data Sheet and the use of the product, whether used singularly or in combination with other substances. This disclaimer does not; however apply to an independent, statutory or contractual obligations, which may otherwise exist between HeiQ Chemtex, Inc and any other person.