



MATERIAL SAFETY DATA SHEET

I. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

PRODUCT NAME: *Bac-Shield*
PRODUCT TYPE: Chitosan Antimicrobial
EPA Reg #: 81446-1
CHEMICAL NAME: Aqueous solution of poly n-acetylglucosamine and poly D-glucosamine

Manufacturer / Supplier Information

MSDS Prepared by: Chem-Tex Laboratories, Inc.
2725 Armentrout Drive
Concord, NC 28025

Emergency Phone Number
Chemtrec 800-424-9300

For additional health, safety or regulatory information, call (704) 795-9322.

Prepared: 10/01/04
MSDS Updated: 09/15/11

II. Hazard Identification

<i>Emergency Overview</i>			<i>Potential Health Effects</i>	
APPEARANCE:	Hazy Tan Liquid		EYES:	Irritating
ODOR:	Slight seaside odor		SKIN:	Irritating
HMIS:	Health	= 1	INGESTION:	Irritating
	Fire	= 0	INHALATION:	Irritating
	Reactivity	= 0		
	PPE	= A		

III. COMPOSITION/ INFORMATION ON INGREDIENTS

Hazardous Ingredients	CAS#	Percentage	LD ₅₀ (mg/kg)	LC ₅₀ (ppm/hr)	SARA Title III
Acetic Acid	64-19-7	< 2	3,310	5,620	Yes

IV. First Aid Measures

EYES:	Immediately flush eyes with plenty of water for at least 15 minutes. Contact a physician.
SKIN:	In case of skin contact, the compound is not hazardous, however cleansing the skin after use is advisable.
INGESTION:	If swallowed, no specific intervention is indicated as the compound is not likely to be hazardous by ingestion. However, consult a physician if necessary.
INHALATION:	Prolonged inhalation of vapors can cause irritation to respiratory system. If prolonged inhalation is necessary use an approved NIOSH/MSHA respirator.

V. Fire Fighting Measures

FLAMABILITY:	Nonflammable
FIRE AND EXPLOSION HAZARDS:	No unusual fire or explosive hazards.
EXTINGUISHING MEDIA:	Not specified
SPECIAL FIRE FIGHTING INSTRUCTIONS:	None

VI. Accidental Release Measures

PERSONAL PRECAUTIONS:	Use appropriate PPE
ENVIRONMENTAL:	Use absorbent material to soak up small spills. Use appropriate method to contain larger spills

VII. Handling and Storage

STORAGE TEMPERATURE:	5-50°C is recommended
SHELF LIFE:	2 Years
SPECIAL SENSITIVITY:	None known
HANDLING/STORAGE PRECAUTIONS:	Store in dry place at ambient temperature. Keep containers covered to prevent contamination.

VIII. Exposure Control / Personal Protection

EYE PROTECTION REQUIREMENTS:	Safety glasses are recommended
SKIN PROTECTION REQUIREMENTS:	Not required for periodic use
RESPIRATOR REQUIREMENTS:	Use of NIOSH/MSHA approved respirator required for <i>vapor</i> or <i>misting</i> applications only.

LOCAL EXHAUST: N/A
 MECHANICAL EXHAUST: Not required
 ADDITIONAL PROTECTIVE MEASURES: Emergency showers and eye wash stations are suggested. Employees should wash their hands before eating or drinking.

Hazardous Ingredients	CAS#	Percentage	OSHA-PEL	ACGIH TLV
Acetic Acid	64-19-7	< 2	10 PPM	10 PPM/15STEL

IX. Physical and Chemical Properties

APPEARANCE: Hazy Tan Liquid
 SOLUBILITY: Soluble in water
 SPECIFIC GRAVITY: 1.03 g/cm³
 FLAMMABILITY: Nonflammable
 BOILING POINT: > 100°C (1% Conc.)
 FREEZING POINT: 0°C (1% Conc.)
 ODOR: Slight seaside odor
 PH: 4.5 ± 0.5
 VOC: < 2%

X. Stability and Reactivity

STABILITY: Stable
 HAZARDOUS POLYMERIZATION: Will not occur
 INCOMPATIBILITIES: Incompatible with strong oxidants and strong bases.
 INSTABILITY CONDITIONS: Stable at normal temperature and storage conditions.
 DECOMPOSITION PRODUCTS: None known

XI. Toxicological Information

ANIMAL DATA

ACUTE TOXICITY:
 Acute Oral LD 50 (Rat): >5,000 mg/kg (No Mortality)
 Acute Dermal LD50 (Rat): >5,000 mg/kg (No Mortality)
 Acute Inhalation LC50 (Rat): 2.07 mg/l (No Mortality)
 Skin Irritation Study (Rabbit): PDII = 0.7 (Slightly Turning)
 Primary Eye Irritation Study (Rabbit): PII = 9.3 (Unrinsed), 7.3 (Rinsed) (Mildly Irritating)
 Dermal Sensitization (G. Pig): Not A sensitizer

XII. Ecological Information

BOD (5 day)	109,000 ppm
COD	198,500 ppm

XIII. Disposal Considerations

Landfill, sewer, or incinerator disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

XIV. Transport Information

Under the regulations of the US Department of Transportation (DOT), *Bac-Shield* is classified as non-hazardous.

XV. Regulatory Information

OSHA STATUS:	<i>Bac-Shield</i> is considered non-hazardous under the criteria of the Federal OSHA Hazard.
TSCA STATUS:	<i>Bac-Shield</i> components are on the TSCA inventory.
RCRA:	If discarded in its purchased form, this product would not be a hazardous waste. Under RCRA, it is the responsibility of the product user to determine if the product or a derived form of the product should be classified as a hazardous waste.

XVI. Other Information

N/A

Disclaimer

This material 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 Chem-Tex Laboratories, Inc. makes no warranty of any kind expressed or implied, except that the product supplied will be of standard quality of Chem-Tex Laboratories, Inc and the user assumes all risk and liability resulting from reliance of the information contained on this Material 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 any independent statutory or contractual obligations which may otherwise exist between Chem-Tex Laboratories, Inc and any other person.