

1. Identification of the substance/preparation and company/undertaking.

NAME **BIO-SYSTEMS BIOBUG HC**

MSDS No **BIOBUG HC USA**

Synonyms: bacterial products.

Common uses: waste water treatment and soil remediation

Supplied by: **BIO-SYSTEMS International**

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Beloit, WI
53511

Tel: 608-365-9550
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2. Composition/information on ingredients.

Components not listed are either non hazardous or in concentration of less than 1%

Bacterial Cultures

Blend of naturally occurring ingredients as a carrier including, corn, rice hulls, and kelp

<u>Hazardous ingredient / impurity</u>	<u>% Conc.</u>	<u>Classification</u>	<u>Exposure</u>	<u>CAS</u>	<u>EINECS</u>
NONE					

3. Hazards identification.

Classification:

Bacterial culture non pathogenic

4. First Aid measures.

Immediate medical attention is required in case of exposure by inhalation, contact with skin or eyes, or if swallowed.

<u>Exposure Route</u>	<u>Symptom</u>	<u>Treatment</u>
Inhalation	Same as exposure to dust.	Remove from exposure, rest and keep warm. In severe cases, or if recovery is not rapid or complete seek medical attention.
Skin Contact	Redness and irritation	Drench the skin with plenty of water. Remove contaminated clothing and wash before reuse. If large areas of the skin are damaged or if irritation persists seek medical attention.
Eye Contact	Same as dust	Irrigate thoroughly with water for at least 10 minutes. Obtain medical attention.

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Ingestion Irritation of gastrointestinal tract, nausea, diarrhea Wash out mouth with water. Do not induce vomiting. If patient is conscious, give water to drink. If patient feels unwell seek medical attention.

Immediate Treatment / Antidote: symptomatic treatment

Delayed Effects: bacterial infection

5. Fire Fighting measures.

Suitable Extinguishers: water

Hazardous Combustion Products: none in normal use. Large dust accumulations can be explosive, similar to a grain dust explosion.

Special Equipment for Fire Fighting: self contained breathing apparatus

6. Accidental Release measures.

Personal Precautions: Wear appropriate PPE - See section 8

Environmental Precautions: The bacteria and carriers are naturally occurring and should not pose an environmental risk.

Clean up Procedure: Vacuum or sweep up avoiding generation of dust. Place in suitable labelled containers and hold for waste disposal. Wash spill site with water. If bacterial contamination is an issue use chlorine to kill the bacillus spores.

7. Handling & Storage.

Handling **Ventilation:** Good general ventilation.

Recommended procedures & equipment: avoid creating dust

Storage **Temperature range:** 0 deg C to 40 deg C for product viability only.

Humidity range: less than 40% for long term exposure of unprotected product for product viability only.

Keep away from: See section 10

Suitable storage Media: original container with closed lid

Precautions against static discharge: recommended.

8. Exposure Controls/personal protection.

Exposure standards:

Component	LTEL (8h TWA)	STEL (15 mins)	Type
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None

Personal Protective Equipment:

Respiratory: Dust mask

Hand: Wash hands after use. Gloves recommended

Eye: Safety glasses or goggles recommended.

Skin: Wash after exposure. Overalls and boots recommended

Environmental controls: Users should be aware of environmental considerations and their duties under the environmental protection act.

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Hygiene Measures: Always wash thoroughly after handling chemicals.

9. Physical & Chemical Properties.

Appearance	Brown powder, free flowing may be dyed blue.
Odor	Yeast like odor
pH	Neutral 6.0 to 7.0 in water dispersion
Boiling Point/range	Not Applicable
Melting Point/range	Not Applicable
Flash point	Not Applicable
Flammability	Not flammable under normal conditions of storage and handling.
Autoignition temperature	Not Applicable
Explosive limits	Na except in presence of large dust cloud
Oxidizing Properties	Non
Vapour Pressure	Not Applicable
Relative density	0.6 to 0.8
Solubility in water	Not soluble. Disperses in water.
Solubility in solvent	Not soluble
Partition coefficient	Not Applicable
Viscosity	Not Applicable
Vapour density	Not Applicable
Evaporation rate	Not Applicable
Conductivity	Not Applicable

10. Stability & Reactivity.

Stability: Stable under normal storage and handling conditions.

Conditions to avoid: Accumulations of product in enclosed spaces and generation of dust.

Materials to avoid: Acids and Alkalies may inactivate the bacterial cultures.

Hazardous decomposition products: oxides of carbon

11. Toxicological Information.

Toxological effects: Low Acute oral toxicity although ingestion will cause irritation of the gastrointestinal tract and may result in nausea and diarrhea. May cause mild mechanical irritation to eyes, skin and mucous membranes. May cause irritation from allergic reaction, especially to people that have a history of allergic reaction.

12. Ecological Information.

Environmental Effects: Minimal impact under normal conditions of use and storage. The bacterial cultures are naturally occurring soil type organisms. The carriers are naturally occurring materials.

Mobility: disperses in water

Degradability: contents are biodegradable

Bioaccumulative potential: Not Known

Aquatic Toxicity: Not Known

13. Disposal considerations.

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Substance: Via an authorized waste disposal contractor to an approved waste disposal site, observing all local and national regulations.

Container: As substance.

14. Transport Information. Not regulated for transport

UN number	Class
Primary Hazard	Subsidiary Hazard
Packing Group	Emergency Action Code
H.I. Number	Marine Pollutant
Proper Shipping name	Water treatment compounds, bacterial culture.

15. Regulatory Information.

Label Name BIO-SYSTEMS BIOBUG HC
Symbols no risk or safety phrases stipulated
Risk Phrases no risk or safety phrases stipulated
Safety Phrases no risk or safety phrases stipulated
Additional labeling: NA

Use of this material may be governed by the following regulations: - (users are advised to consult these regulations for further information).

The information contained in this data sheet does not constitute an assessment of workplace risks.

16. Other Information.

This material must not be used for direct contact with food:

Further details may be available upon request from your local BIO-SYSTEMS International distribution site.

Other: The product has been shown to be free of Salmonella and Shigella using the procedures outlined by AOAC and USDA.

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