



STOLLER ENTERPRISES, INC.

4001 W Sam Houston Parkway N, Suite 100 ☎ Houston, Texas 77043-1226 U.S.A.
Toll-Free: 1 (800) 539-5283 ☎ Tel.: 1 (713) 461-1493 ☎ Fax: 1 (713) 461-4467 ☎ stoller@stollerusa.com

BIOFORGE ST

MATERIAL SAFETY DATA SHEET (Rev. 28/Feb/2011)

SECTION I – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

NFPA HAZARD RATINGS

HEALTH HAZARD 1 FIRE HAZARD 0 REACTIVITY 0

Based on the National Fire Protection Association rating system

(0 = Minimal; 1 = Slight; 2 = Moderate; 3 = High; 4 = Severe)

SARA/TITLE III HAZARD CATEGORIES (See Section XV)

Immediate (Acute) Health: NO Delayed (Chronic) Health: NO

Reactive Hazard: NO Sudden Release of Pressure: NO Fire Hazard: NO

Chemical Name & Synonyms: Nitrogen and Potassium fertilizer solution.

Formula: Proprietary. Urea = (NH₃)₂CO; Potassium Hydroxide = KOH

Trade name & Synonyms: BIOFORGE ST; BIOFORGE ST 2-0-3; BIOFORGE SEED TREATMENT; 2-0-3

Company Name: STOLLER ENTERPRISES, INC.

Address: 4001 W Sam Houston Parkway N, Suite 100, Houston, Texas 77043-1226 U.S.A.

Phone Number for Information: 1 (800) 539-5283 or 1 (713) 461-1493

Emergency Phone Number, CHEMTREC for Stoller Enterprises:

In the US and Canada call toll-free 1 (800) 424-9300

From other countries call collect: +1 (703) 527-3887

SECTION II – COMPOSITION / INGREDIENTS INFORMATION

ACTIVE INGREDIENTS	CAS #	Approx. %	ACGIH TLV
Urea	57-13-6	5.00 – 5.50%	10 mg/m ³
Potassium Hydroxide	1310-58-3	5.25 – 5.50%	2 mg/m ³
Humic Acid	1415-93-6	0.50 – 1.00%	

SECTION III – HAZARD IDENTIFICATION

EXPOSURE LIMITS

OSHA Permissible Exposure Limit (PEL): Not Established (N/E)

ACGIH Threshold Limit Value (TLV): Not Established (N/E)

EFFECTS OF OVEREXPOSURE

1.- ACUTE:

EYES: Contact with product may cause mild to severe irritation, blurred vision.

SKIN: May cause discomfort, skin irritation or rash, unless treated promptly.

INHALATION: Prolonged exposure to vapors may cause sore throat and irritation of respiratory tract.

INGESTION: May cause, malaise, nausea. Large doses may cause gastrointestinal pains or cramps.

2.- **CHRONIC:** Not known. Expected toxicity hazard: slight to moderate.

SECTION IV – FIRST-AID MEASURES**EMERGENCY FIRST AID PROCEDURES**

Victims of severe exposure to chemicals must be taken to health providing centers for medical attention. If necessary, also rescuers must be assisted. Always bring with victim a copy of label and MSDS of product to health professional.

EYES: Holding eyelids apart, immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if severe irritation occurs.

SKIN: Immediately wash affected area with abundant soap and water. Remove contaminated clothing, taking care not to impregnate eyes. Seek medical attention if irritations occur.

INHALATION: Move patient to fresh air. Supplemental oxygen may be indicated. Assure mucous does not obstruct airways. Seek medical attention if victim's breathing is difficult.

INGESTION: Immediately contact a physician or poison control center for treatment advice. Induce vomiting. Victim should drink milk, egg whites or large quantities of water. Never give anything by mouth to someone who is unconscious, having convulsions or unable to swallow.

ADDITIONAL INFORMATION: Note to Physician: Symptomatic treatment.

SECTION V – FIRE AND EXPLOSION DATA

FLASH POINT: N/A. Product is non-flammable.

FLAMMABLE LIMITS: LEL: N/A **UEL:** N/A

EXTINGUISHER MEDIA: Use all means adequate to fight surrounding fire, water, foam, CO₂, dry chemicals.

SPECIAL FIRE FIGHTING PROCEDURES: None specific for this product. It is suggested that firefighters wear self-contained breathing apparatus and full protective equipment, such as chemical resistant clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Toxic fumes may be generated under fire conditions, or by contact with incompatible materials.

SECTION VI – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED: In case of a large spill, protect people by clearing and isolating the affected area. Such releases should be responded to by trained personnel using pre-planned procedures.

In the event of an incidental release, minimum Personal Protective Equipment must be worn: latex or rubber gloves and boots, goggles or full faceshield, and coveralls or long sleeved shirt and pants. It is necessary to contain spill into the smallest area possible by diking, scooping, etc., and recover liquid into an appropriate container for salvage or later usage. If product is clean, use it as intended following original label directions; should it get contaminated, salvage for proper disposal as waste. If liquid is absorbed onto dry carrier such as sand or other absorbent material, then it should be put in covered labeled containers and disposed of as a dry waste in accordance with Federal, State and Local hazardous waste disposal regulations.

SECTION VII – HANDLING AND STORAGE

All personnel who handle this material should be trained to work with it safely. Avoid breathing vapors or mists; wear appropriate protective equipment, use in a well-ventilated location. Empty containers may contain residual liquid or vapors therefore, should be handled same as with full containers. Do not rinse containers and reuse for other purposes.

When diluting, add small amounts of acid to water, do not add water to acid since it may cause sputtering and splashing.

Inspect all incoming containers before storage, to ensure all are properly labeled and not damaged. Store in a cool, dry place, away from direct sunlight, sources of intense heat or where freezing is possible. Store it away from food, feed, clothing materials and living quarters. Whenever possible, place chemicals on secondary containers or diked area. Keep containers tightly closed when not in use. Keep away from reach of children and pets.

SECTION VIII – SPECIAL PROTECTION / CONTROL MEASURES

RESPIRATORY PROTECTION: Wear a NIOSH / OSHA approved respirator if working conditions require doing so.

VENTILATION: General ventilation is usually adequate. Local exhaust should be used if needed for safe, comfortable working conditions in enclosed areas.

SKIN AND EYE PROTECTION: Safety glasses should be worn in any type of operation with chemicals. Impervious gloves, long sleeved shirt and long pants, as well as protective shoes should be worn as a good safety practice.

OTHER CONTROL MEASURES: An eye bath and washing facilities should be readily available. Remove all dirty or contaminated clothing and wash it before reusing.

WORK/HYGIENIC PRACTICES: As a general rule, do not eat, drink, smoke, nor chew gum or tobacco when handling chemicals. Wash thoroughly after handling this product.

SECTION IX – PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT: 100 °C (212°F)	VAPOR PRESSURE (mm/Hg): Not known
MELTING POINT: N/A	VAPOR DENSITY (air = 1): Not known
SPECIFIC GRAVITY: 1.15 - 1.17	REACTIVITY IN WATER: N/E
SOLUBILITY IN WATER: 100%	EVAPORATION RATE: Similar to water
APPEARANCE AND ODOR: Clear amberish liquid with a slight vinegar-like odor.	
OTHER: pH = 4.3	

SECTION X – PHYSICAL HAZARDS (REACTIVITY DATA)

STABILITY: Stable: Yes Unstable:

CONDITIONS TO AVOID: High heat. Mixture with incompatible materials.

INCOMPATIBILITY, MATERIALS TO AVOID: Strong alkalis, oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Ammonia gas, oxides of nitrogen.

HAZARDOUS POLYMERIZATION: N/A **MAY OCCUR:** **WILL NOT OCCUR:** X

SECTION XI – TOXICOLOGICAL INFORMATION**TOXICITY DATA**

ORAL: LD₅₀ Urea (rats) = 8471 mg/kg; LD₅₀ KOH (rats) = 273 mg/kg

DERMAL: Not Available

INHALATION: Not Available

CARCINOGENICITY

This product components are not listed as a carcinogenic by CPDB, IARC, NTP, OSHA, CAL/OSHA and ACGIH.

MUTAGENICITY: This product components are not reported to produce mutagenic effects in humans; however, they are being investigated as mutagenic agents.

EMBRYOTOXICITY: This product components are not reported to produce embryotoxic effects in humans.

TERATOGENICITY: This product components are not reported to produce teratogenic effects in humans.

REPRODUCTIVE TOXICITY:

This product components are not reported to produce reproductive toxicity effects in humans; however, urea is being investigated as a reproductive effector.

SECTION XII – ENVIRONMENTAL EFFECTS DATA

The available data on this material does not indicate any undue hazard to the environment under anticipated use and storage. All work practices must be aimed at preventing environmental contamination. Any waste due to spillage or leakage should be contained and disposed of accordingly, see above under Accidental Release Measures. Because of its nutritional nature, may cause eutrophication if discharged in bodies of water.

To aid our customers in complying with regulatory requirements, SARA Title III hazard categories for this product are indicated in Section I. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40 CFR Part 370. Please consult those regulations for details.

SECTION XIII – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS: Waste disposal must be done following all Federal, State and Local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local waste regulatory authority.

SECTION XIV – TRANSPORTATION DATA**DOT Proper Shipping Name and Hazard Class:**

Non-Regulated (Trade name: BIOFORGE ST)

IATA Proper Shipping Name and Hazard Class:

Non-Regulated (Trade name: BIOFORGE ST)

IMO Proper Shipping Name and Hazard Class:

Non-Regulated (Trade name: BIOFORGE ST)

Reportable Quantity (RQ): Not Applicable**Placard:** Not Applicable**Emergency Response Guide Number:** Not Applicable**SECTION XV – REGULATORY INFORMATION**

U.S. SARA: This product might be subject to the reporting requirements of Sections 302, 304 and 313 of Title III of the Superfund Amendments and Reauthorization Act:

U.S. SARA 302 (40 CFR 355, Appendix A): NO**U.S. SARA 304 (40 CFR Table 302.4):** NO**U.S. SARA 313 (40 CFR 372.65):** NO**U.S. SARA THRESHOLD PLANNING QUANTITY:** NO**U.S. CERCLA REPORTABLE QUANTITY (RQ):** NO**U.S. CLEAN WATER ACT:** This material components are not listed as toxic pollutants nor as priority pollutants.**U.S. TSCA INVENTORY STATUS:** The components of this material are listed on the TSCA Inventory.**CANADIAN DSL INVENTORY:** The components of this material are listed on the DSL Inventory.

If this product contains components designated as CERCLA Reportable Quantity (RQ) Substance, Section 103 of CERCLA requires the "person in charge" of a facility or vessel, as soon as he or she has knowledge of a release of a hazardous substance in an amount equal to or greater than an RQ, to report the release immediately to the National Response Center in Washington, DC. The NRC number is 1-800-424-8802 or 1 (202) 267-2675.

SECTION XVI – OTHER INFORMATION

Date of MSDS revision: February 28, 2011. Supersedes all previous versions, including the one of January 24, 2011.

Section revised: II

Stoller Enterprises, Inc., believes the information contained in this Material Safety Data Sheet is accurate, based on the information supplied by reputable suppliers of our raw materials. However, Stoller Enterprises does not guarantee their accuracy or completeness. The information contained herein is furnished without warranty of any kind, whether expressed or implied, as to the safety of the goods, the merchantability of the goods, or the fitness of the goods for any particular purpose. Users should consider these data only as a supplement to other information gathered by them and must make independent determination of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Stoller Enterprises assumes no responsibility for results obtained or for incidental or consequential damages arising from the use of goods and data.