SAFETY DATA SHEET
BIO-FORGE ADVANCED

Printed: 09/14/2018
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1. Product and Company Identification

Product Code: Z-BIOFORGEADV
Product Name: BIO-FORGE ADVANCED
Trade Name: BIO-FORGE ADVANCED
Company Name: Stoller Enterprises
284 Industrial Drive
Regina, SK,
Web site address: http://stollerenterprises.ca/
Emergency Contact: CHEMTREC, In the US and Canada call 1 (800)424-9300
CHEMTREC, From other countries call +1 (703)527-3887
Information: For agricultural use only 1 (800)539-5283
Intended Use: For agricultural use only

2. Hazards Identification

Serious Eye Damage/Eye Irritation, Category 2B
Acute Toxicity: Skin, Category 5
Acute Toxicity: Inhalation, Category 5
Acute Toxicity: Oral, Category 5

GHS Signal Word: **Warning**
GHS Hazard Phrases: H303 - May be harmful if swallowed.
H313 - May be harmful in contact with skin.
H320 - Causes eye irritation.
H333 - May be harmful if inhaled.
GHS Precaution Phrases: P264 - Wash hands thoroughly after handling.
GHS Response Phrases: P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P337+313 - If eye irritation persists, get medical advice/attention.
GHS Storage and Disposal Phrases: P501 - Dispose of contents/container to treatment at a permitted facility or as advised by your local regulatory authority.
Potential Health Effects (Acute and Chronic): Chronic: Not known. Expected toxicity hazard: slight to moderate.
Inhalation: Prolonged exposure to vapors may cause sore throat and irritation of respiratory tract.
Skin Contact: May be harmful if absorbed through the skin.
Eye Contact: Contact with product may cause mild to severe irritation, blurred vision.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

3. Composition/Information on Ingredients

CAS #	Components (Chemical Name)	Concentration	
1310-58-3	Potassium hydroxide	< 5.0 %	
57-13-6	Urea	< 5.0 %	
10026-24-1	Cobalt sulfate heptahydrate	< 5.0 %	
7631-95-0	Sodium molybdate(VI)	< 5.0 %	

4. First Aid Measures

Emergency and 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 attended. Always bring with victim a copy of label and SDS of product to health professional.
In Case of Inhalation:	Remove victim from exposure to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention.
In Case of Skin Contact:	Immediately wash affected area with abundant soap and water. Remove contaminated clothing, taking care not to impregnate eyes. Seek medical attention if irritation occurs.
In Case of Eye Contact:	Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes. Call a physician if irritation persists.
In Case of Ingestion:	Immediately contact a physician or poison control center for treatment advice. Victim should drink milk, egg whites or large quantities of water and be induced to vomiting. Never give anything by mouth to someone who is unconscious, having convulsions or unable to swallow.
Note to Physician:	Treat symptomatically and supportively.

5. Fire Fighting Measures

Flash Pt:	N.A.
Explosive Limits:	LEL: N.A. UEL: N.A.
Autoignition Pt:	N.A.
Suitable Extinguishing Media:	Use water spray, dry chemical, carbon dioxide, or chemical foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire Fighting Instructions:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Flammable Properties and Hazards:	During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Hazardous Combustion Products:	No data available.

6. Accidental Release Measures

Protective Precautions, Protective Equipment and Emergency Procedures:	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 face-shield and coveralls or long sleeved shirt and pants.
Environmental Precautions:	Do not allow to enter drains or waterways.
Steps To Be Taken In Case Material Is Released Or Spilled:	It is necessary to contain the spill into the smallest area possible by diking, scooping, shoveling, etc., and recover liquid into an appropriate container for salvage or later use, labeling it accordingly. If product is clean, use it as intended, following original label directions; should it get contaminated, salvage for proper disposal as waste. Absorb residual product onto dry carrier such as dirt, sand or any other absorbent material, then put in covered, labeled containers and dispose of as dry waste in accordance with Federal, State and Local waste disposal regulations.

7. Handling and Storage

Precautions To Be Taken in Handling:	Use with adequate ventilation. Avoid breathing dust, mist, or vapor. Avoid contact with eyes, skin, or clothing. Avoid ingestion and inhalation. Use only in a well-ventilated area. Empty containers may contain residual liquid or vapors and therefore should be handled the same as full containers. Product must be kept in its original container, if repackaging for any reason, use vented caps.

Precautions To Be Taken in Storing: 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 away from food, feed, clothing materials and living quarters. Keep away from reach of children and pets. Whenever possible, place chemicals on secondary containers or diked area. Keep containers tightly closed when not in use.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
1310-58-3	Potassium hydroxide	No data.	CEIL: 2 mg/m3	No data.
57-13-6	Urea	No data.	No data.	No data.
10026-24-1	Cobalt sulfate heptahydrate	No data.	TLV: 100 mg/m³ as Co	No data.
7631-95-0	Sodium molybdate(VI)	No data.	No data.	No data.

Recommended Exposure Limits: No occupational exposure limits have been established for this mixture.

Respiratory Equipment (Specify Type): A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Eye Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Protective Gloves: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Waterproof gloves required for this product.

This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers.

Other Protective Clothing: Wear long sleeve shirt and long pants, waterproof gloves and shoes plus socks. Keep and wash PPE separately from other laundry.

Engineering Controls (Ventilation etc.): General ventilation is usually adequate. An eye bath and washing facilities should be readily available. General ventilation is usually adequate. Local exhaust should be used if needed for safe, comfortable working conditions.

Work/Hygienic/Maintenance Practices: Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove all dirty or contaminated clothing and wash it before reusing, as well as any other PPE.

Environmental Exposure Controls: Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water.

9. Physical and Chemical Properties

Physical States:	[ ] Gas [X] Liquid [ ] Solid
Appearance and Odor:	Clear magenta color. Slight, vinegar-like odor.
pH:	5 - 7
Freezing Point:	N.E.
Boiling Point:	N.E.
Flash Pt:	N.A.
Evaporation Rate:	N.E.
Flammability (solid, gas):	Non-flammable.
Explosive Limits:	LEL: N.A. UEL: N.A.
Vapor Pressure (vs. Air or mm Hg):	N.E.
Vapor Density (vs. Air = 1):	N.E.
Specific Gravity (Water = 1):	1.20 - 1.22
Density:	~ 10.1 LB/GA
Solubility in Water:	Soluble
Saturated Vapor Concentration:	N.E.
Octanol/Water Partition Coefficient:	N.E.
Autoignition Pt:	N.A.
Decomposition Temperature:	N.E.
Viscosity:	N.E.

10. Stability and Reactivity

Reactivity:	N.A.
Stability:	Unstable [ ] Stable [X]
Conditions To Avoid - Instability:	High heat. Mixture with incompatible materials.
Incompatibility - Materials To Avoid:	No data available.
Hazardous Decomposition or Byproducts:	Ammonia gas.
Possibility of Hazardous Reactions:	Will occur [ ] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	None known.

11. Toxicological Information

Toxicological Information:

Mutagenicity: The components of this product are not reported to produce mutagenic effects in humans. However, they are being investigated as mutagenic agents.
Embryotoxicity: The components of this product are not reported to produce embryotoxic effects in humans.
Teratogenicity: The components of this product are not reported to produce teratogenic effects in humans.
Reproductive Toxicity: The components of this product are not reported to produce toxic reproductive effects in humans. However, urea is being investigated as a reproductive effector.

CAS# 1310-58-3: Potassium hydroxide:
Acute toxicity, LD50, Oral, Rat, 273.0 MG/KG.
Result:
Tumorigenic: Equivocal tumorigenic agent by RTECS criteria.
Lungs, Thorax, or Respiration: Tumors.
Liver: Tumors.
- Fundamental and Applied Toxicology., Academic Press, Inc., 1 E. First St., Duluth, MN 55802, Vol/p/yr: 8,97, 1987

CAS# 57-13-6: Urea:
Acute toxicity, LD50, Oral, Rat, 8471. MG/KG.
Result:
Autonomic Nervous System: Other (direct) parasympathomimetic.
Behavioral: Coma.
Gastrointestinal:Hypermotility, diarrhea.
- Gigiena i Sanitariya, Mezhdunarodnaya Kniga, ul. B. Yakimanka, 39, 113095, Moscow 113095 Russia, Vol/p/yr: 51(6),8, 1986

CAS# 10026-24-1: Cobalt sulfate heptahydrate:
Acute toxicity, LD50, Oral, Rat, 582.0 MG/KG.
Result:
Behavioral: Somnolence (general depressed activity).
Behavioral: Ataxia.
Gastrointestinal:Hypermotility, diarrhea.
- Acute Toxicity Data. Journal of the American College of Toxicology, Part B., Mary Ann Liebert, Inc., 1651 Third Ave., New York, NY 10128, Vol/p/yr: 1,688, 1992

Sensitization:

The sensitizing properties of this product have not been thoroughly investigated.

Carcinogenicity/Other Information:

The carcinogenic properties of this product have not been thoroughly investigated.

CAS# 10026-24-1: ACGIH: A3 - Confirmed animal carcinogen with unknown relevance to humans.
California: carcinogen, initial date 6/2/00.

Carcinogenicity:

NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

General Ecological Information: 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 eliminating environmental contamination. Any waste due to spillage or leakage should be contained and disposed of accordingly, see above under Section 6 "Accidental Release Measures."

This product contains molydenum; it is to be used only on crops that respond to molybdenum. Crops high in molybdenum are toxic to grazing animals (ruminants).

Results of PBT and vPvB assessment: No data available.

Persistence and Degradability: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

13. Disposal Considerations

Waste Disposal Method: 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. Avoid contaminating water by disposal of equipment wash waters or other product wastes.
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated. Trade Name: BIO-FORGE ADVANCED
DOT Hazard Class:
UN/NA Number:

MARINE TRANSPORT (IMDG/IMO):

IMDG/IMO Shipping Name: Not Regulated. Trade Name: BIO-FORGE ADVANCED

AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name: Not Regulated. Trade Name: BIO-FORGE ADVANCED

Additional Transport Information: Reportable Quantity: N.A.

Placards / Markings: N.A.

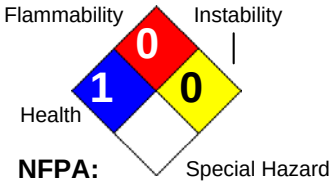
Emergency Response Guide Number: N.A.

15. Regulatory Information

16. Other Information

Revision Date: 03/08/2016

Hazard Rating System:



NFPA:

Additional Information About This Product: No data available.

Company Policy or Disclaimer: