WST, LLC
5520 Parkwood Circle
Bessemer, AL 35022

MATERIAL SAFETY DATA SHEET

I. IDENTIFICATION

Product:	**K-BAC 1020**
General Description:	Biocide
Revision Date:	6/9/14
24 hour Transportation Emergency:	1-800-255-3924 (ChemTel)

HMIS Rating	
Health	2
Fire	1
Reactivity	0
Personal Protection	D

Rating Scale
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

II. HAZARD IDENTIFICATION

Emergency overview:
Colorless to amber liquid
Corrosive
Causes irreversible eye damage
May be fatal if swallowed
Harmful if inhaled or absorbed through skin
Causes skin burns
Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals

Potential Health Effects:
- Eye Contact Severe irritant
- Skin contact Moderate irritant
May cause skin sensitization
- Inhalation Irritant to upper respiratory tract.

NFPA Ratings (Scale 0-4) Health = 2, Fire = 1, Reactivity = 0
HMIS Ratings (Scale 0-4) Health = 2, Fire = 1, Reactivity = 0.

III. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS	Weight %
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	20
Polyethylene glycol	25322-68-3	50
Water	7732-18-5	30

IV. FIRST-AID MEASURES

Eye contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin contact Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Ingestion Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Note to physician Probable mucosal damage may contraindicate the use of gastric lavage.

V. FIRE-FIGHTING MEASURES

Suitable extinguishing media Dry powder, carbon dioxide or water spray

Fire fighting procedure Cool containers with water spray. Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) in positive pressure mode

Unusual fire and explosion hazards When heated to decomposition, may release poisonous and corrosive fumes of Br_2, HBr, and No_x.

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions Wear self-contained breathing apparatus in positive pressure mode.

Methods for cleaning up Ventilate area and wash spill site after material pickup is complete. Decontaminate spill area with 10% sodium bicarbonate solution. Absorb decontaminated solution with sand or vermiculite. Absorb on sand or vermiculite and place in closed container for disposal. Sweep up, place in a suitable container and hold for waste disposal. Avoid access to streams, lakes or ponds.

VII. HANDLING AND STORAGE

Handling Keep containers tightly closed. Avoid bodily contact.

Storage Store in a dry, cool, well-ventilated and shaded area, away from heat sources away from incompatible materials (see "materials to avoid").

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Components	ACGIH-TLV Data	OSHA (PEL) Data
2,2-Dibromo-3-nitrilopropionamide 10222-01-2	Not Applicable	Not Applicable
Polyethylene glycol 25322-68-3	Not Applicable	Not Applicable
Water 7732-18-5	Not Applicable	Not Applicable

Ventilation requirements Use local exhaust as necessary, especially under mist conditions.

Personal protective equipment:

-Respiratory protection Approved respirator

-Hand protection Rubber gloves

-Eye protection Chemical safety goggles or face shield with safety glasses.

-Skin and body protection Body covering clothes and boots

Hygiene measures Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Safety shower and eye bath should be provided.

IX. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless to amber liquid

Boiling point/range: >70°C (decomposes)

Freeze point: -10 F

Flash point: Not applicable

Flammable/Explosion limits: Not applicable

Auto-ignition temperature: Not applicable

Vapour pressure: 4x10(-5) mmHg

Evaporation rate (ether=1):	<1
Vapor density:	<1
Solubility:	
- Solubility in water	Soluble
Density:	1.2-1.3 g/cc at 23°C°C
Decomposition temperature:	> 70°C

X. STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Materials to avoid	Oxidizing agents, reducing agents and bases
Conditions to avoid	Exposure to light. Heating above decomposition temperature
Hazardous decomposition products	Br2, HBr, NOx
Hazardous polymerization	Will not occur

XI. TOXICOLOGICAL INFORMATION

Note:	The following data refer to studies conducted with another similar mixture containing 20% DBNPA
Acute toxicity:	
- Rat oral LD50	1387 mg/kg
- Rabbit dermal LD50	>4000 mg/kg
- Rat dermal LD50	>4000 mg/kg
- Rat inhalation LC50	1.05 mg/l/4 hour (nose only)
- Eye irritation (rabbit)	Very **s**evere irritant
- Dermal irritation (rabbit)	Moderate irritant (Draze classification scale)
Dermal sensitization	Extreme sensitizer
Chronic toxicity	Not available
Mutagenicity	Not mutagenic by the Ames Test
Carcinogenicity	DBNPA did not cause cancer in laboratory animals Not classified by IARC Not included in NTP 12th Report on Carcinogens
Reproductive toxicity	In a 2-generation study in rats, the NOEL for reproduction parameters was >=30 mg/kg/day.

XII. ECOLOGICAL INFORMATION

Note:	*The environmental toxicity data mentioned below are from studies conducted on active ingredient 2,2-Dibromo-3-nitrilopropionamide.*
Aquatic toxicity :	
- 96 Hour-LC50, Fish	2.3 mg/l (Rainbow trout) 3.4 mg/l (Sheepshead minnow) 2.3 mg/l (Bluegill sunfish) 0.72 mg/l (Mysid shrimp) 0.37 mg/l (Eastern oyster)
- 48 Hour-EC50, Daphnia magna	0.86 mg/l
Invertebrate toxicity	
- NOEC	0.25 mg/L (nominal); 0.06 mg/L (measured) in the Flow-Through Full Life-Cycle Toxicity Test with Daphnia magna
Avian toxicity:	
- Oral LD50, Bobwhite quail	354 mg/kg
- Dietary LC50, Mallard duck	> 5620 ppm
- Dietary LC50, Bobwhite quail	> 5620 ppm
Mobility	Expected to be mobile in soil

Persistence and degradability	Not persistent. Although not readily biodegradable according to EU criteria, studies have shown that this substance will degrade under environmental conditions.
- Hydrolysis	Hydrolysis rate increases with an increase in either pH or temperature (half-lives at pH 7, 65 hours at 25°C)
Bioaccumulative potential	Not expected to bioaccumulate

XIII. DISPOSAL CONSIDERATIONS

Waste disposal: Observe all federal, state and local environmental regulations when disposing of this material.

XIV. TRANSPORT INFORMATION

DOT	Not regulated
IMO	Not regulated
ICAO/IATA	Not regulated

XV. REGULATORY INFORMATION

USA	This product is subject to registration under FIFRA. All ingredients reported in the EPA TSCA Inventory.
CERCLA/SARA - 302 ext. haz. substances	This material contains no hazardous or extremely hazardous substance as defined by CERCLA or SARA Title III, and releases are therefore not reportable.
- SARA 313	On October 27, 1995, EPA published an administrative stay of the EPCRA section 313 reporting requirements for this chemical. Therefore, no Toxics Release Inventory reports are required for 2,2-dibromo-3-nitrilopropionamide until the stay is removed.
- SARA (311, 312)	This product is categorized as an immediate and delayed health hazard.
- New Jersey Right-to-Know Hazardous Substances list	listed (2,2-Dibromo-3-nitrilopropionamide (DBNPA))
- Rhode Island Right-to-Know Hazardous Substances list	listed (2,2-Dibromo-3-nitrilopropionamide (DBNPA))
- Waste Classifications	This material does not meet RCRA's characteristic definition of ignitability, corrosivity, or reactivity, and is not listed in 40CFR 261.33. The toxicity characteristic, however has not been evaluated by the Toxicity Characteristic Leaching Procedure (TCLP).
- Workplace Classifications	This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).

Canada	Listed in NDSL (2,2-Dibromo-3-nitrilopropionamide (DBNPA)) Listed in DSL (Polyethylene glycol)
WHMIS hazard class	Not applicable. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
EU	All ingredients reported in EINECS
Japan	All ingredients are listed
Australia	All ingredients are listed AICS
New Zealand Inventory	All ingredients are listed NZIoC
China Inventory	All ingredients are listed IECSC
Korea	All ingredients are listed in KECI
Philippines	All ingredients are listed in PICCS

XVI. OTHER INFORMATION

The information accumulated herein is believed to be accurate based on the information provided, although no guarantee or warranty, either expressed or implied is made as to the accuracy or completeness of this information, whether originating with this company or not. Recipients are advised to confirm in advance of need that the information is correct, applicable and suitable to their circumstances. The conditions or methods of handling, storage, use and disposal of the product and container are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage or use of this information or product. If the product is used as a component in another product, this information may not be applicable.

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