



WST, LLC
5520 Parkwood Circle
Bessemer, AL 35022

MATERIAL SAFETY DATA SHEET

I. IDENTIFICATION

Product: **K-BAC 1000**
General Description: Biocide
Revision Date: 03/01/2013
Version: 2
24 hour Transportation Emergency: 1-800-255-3924
(ChemTel)

HMIS Rating	
Health	3
Fire	0
Reactivity	0
Personal Protection	D

Rating Scale

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

II. HAZARD IDENTIFICATION

Emergency overview *White to off-white granules.
Corrosive.
Causes irreversible eye damage.
May be fatal if swallowed.
Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals*

Potential Health Effects:

- Eye Contact Corrosive
- Skin contact Irritant
May cause skin sensitization
- Inhalation Irritant to upper respiratory tract. In severe cases pulmonary edema may be developed
- Ingestion Corrosive by ingestion
Abdominal pain, nausea, vomiting and diarrhea

NFPA Ratings (Scale 0-4) Health = 3, Fire = 0, Reactivity = 1

HMIS Ratings (Scale 0-4) Health = 3, Fire = 0, Reactivity = 0

III. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS	Weight %
2,2-Dibromo-3-nitrilopropionamide	10222-01-2	98

IV. FIRST-AID MEASURES

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

Skin contact Remove contaminated clothing. Wash skin thoroughly with mild soap and plenty of water for at least 15 minutes. Wash clothing before re-use. Get medical attention immediately.

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. Treat symptomatically and supportively. In case of ingestion DO NOT induce vomiting. No specific antidote.

V. FIRE-FIGHTING MEASURES

Suitable extinguishing media Material is not combustible. Use extinguishing media appropriate to surrounding fire conditions.

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.

VI. ACCIDENTAL RELEASE MEASURES

Personal precautions Wear self-contained breathing apparatus, full PVC clothing, PVC gloves and boots.

Methods for cleaning up Sweep up, place in a bag and hold for waste disposal or possible re-use. Ventilate area and wash spill site after material pickup is complete.

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-nitrilopropion amide 10222-01-2	Not determined	Not determined

Note The product was tested for "Particle size distribution". Results showed that it is non-inhalable.

Manufacturer's TLV-TWA

Recommendation 0.25 mg/m³

Ventilation requirements Ventilation must be sufficient to maintain atmospheric concentration below recommended exposure limit.

Personal protective equipment:

- Respiratory protection Approved respirator
- Hand protection Protective gloves
- Eye protection Chemical safety goggles
- 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	White to off-white granules
Boiling point/range	Not applicable (decomposes)
Melting point/range	123 - 125°C
Flash point	None
Auto-ignition temperature	Not applicable
Vapour pressure	8.25x10 ⁻⁴ mmHg (25°C)
Evaporation rate (ether=1)	Not applicable under standard conditions
Vapor density	Not applicable under standard conditions
Viscosity	Not applicable
Solubility:	
- Solubility in water	17±0.05 g/l at 25.7°C
- Solubility in other solvents	acetone - 35 g/100g ethanol - 25 g/100g

	dimethyl formamide - 120 g/100g
	polyethylene glycol (MW 200) - 120 g/100g
Specific gravity	2.375 (21°C)
pH	Not determined
Decomposition temperature	190°C
Partition coefficient (n-octanol/water)	Log Kow - 6.3
Explosive properties	Not explosive
Oxidizing properties	Not oxidizing
Particle size	Proportion of test material having an inhalable particle size less than 100µm is 1.65%

X. STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Materials to avoid	Oxidizing agents, reducing agents
Conditions to avoid	Keep away from light and heat Heating above decomposition temperature
Hazardous decomposition products	Br ₂ , HBr, CNBr, NO _x , C ₂ H ₅ Br, CH ₃ Br
Hazardous polymerization	Will not occur

XI. TOXICOLOGICAL INFORMATION

Acute toxicity:	
- Rat oral LD50	308 mg/kg
- Rat dermal LD50	>2000 mg/kg
- Rat inhalation LC50	0.32 mg/l/4 hour (powder)
- Eye irritation (rabbit)	Corrosive
- Dermal irritation (rabbit)	Moderate irritant
Skin corrosion/irritation	Moderate irritant
Dermal sensitization	Sensitizer.
Sub-chronic toxicity:	Sub-chronic toxicity:
- NOEL	5 mg/kg/day (13 weeks oral, rat)
Chronic toxicity	Not available
Mutagenicity	Not mutagenic by the Ames Test
Genotoxicity	Not clastogenic in chromosome aberration test with Chinese hamster cells. Not clastogenic in chromosome aberration test with Human lymphocytes. Did not induce DNA repair synthesis in the hepatocytes of male rats in vitro.
Carcinogenicity	Not classified by IARC
Reproductive toxicity	Not included in NTP 12th Report on Carcinogens In a 2-generation study in rats, the NOEL for reproduction parameters was ≥30 mg/kg/day.
Teratogenicity	Not teratogenic. The NOAEL (for fetal toxicity in rabbits) = 10 mg/kg/day.

XII. ECOLOGICAL INFORMATION

Aquatic toxicity :	
- 96 Hour-LC50, Fish	2.3 mg/l (Rainbow trout) 3.4 mg/l (Sheepshead minnow) 2.3 mg/l (Bluegill sunfish)
- 48 Hour-EC50, Daphnia magna	0.86 mg/l
- 72 Hour-EC50, Freshwater algae	0.28 mg/l
- Marine Invertebrate	0.72 mg/l (Mysid shrimp, 96h) 0.37 mg/l (Eastern oyster, 96h)
Avian toxicity:	
- Oral LD50, Bobwhite quail	354 mg/kg
- Dietary LC50, Mallard duck	> 5620 ppm
- Dietary LC50, Bobwhite quail	> 5620 ppm

Bioaccumulative potential	Not expected to bioaccumulate
Germany, water endangering classes (WGK)	3

XIII. DISPOSAL CONSIDERATIONS

Waste disposal Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations when disposing of this material.

XIV. TRANSPORT INFORMATION

UN No.	3077
DOT	Proper shipping name: Environmentally hazardous substance, solid, n.o.s (2,2-dibromo-3-nitrilopropionamide) Class: 9 - Miscellaneous Hazardous Material Label: 9 Packing Group: III Marking: Marine Pollutant
IMO	Proper shipping name: Environmentally hazardous substance, solid, n.o.s (2,2-dibromo-3-nitrilopropionamide) Class: 9 - Miscellaneous Dangerous Substances and Articles Label: 9 Packing Group: III Marking: Marine Pollutant
ICAO/IATA	Proper shipping name: Environmentally hazardous substance, solid, n.o.s (2,2-dibromo-3-nitrilopropionamide) Class: 9 Hazard label(s): Miscellaneous Packing group: III Marking: Environmentally hazardous substance

XV. REGULATORY INFORMATION

USA	This product is registered under FIFRA.
- SARA 313	Reported in the EPA TSCA Inventory (Acetamide, 2,2-dibromo-2-cyano-) 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.
- Workplace Classification	This product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200).
Canada	Listed in NDSL
- Cepa	Listed
EU	Reported in EINECS
EC No.	233-539-7
Japan	ENCS No. 2-2795 ISHL No. 2-2795
Australia	Listed in AICS
New Zealand Inventory	Listed in NZIoC
China inventory	Listed in IECSC
Korea	Listed in the Korea Existing Chemicals Inventory (KECI), number KE-09944
Philippines	Listed in PICCS

XVI. OTHER INFORMATION**GHS**

Labeling in accordance with the CLP Regulation EC (No) 1272/2008

**Signal word****Hazard statements**

Danger

H302 - Harmful if swallowed

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H400 - Very toxic to aquatic life

Precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

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