SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier

Product Name **Bismuth Nitrate, 0.005M**

Other means of identification
BN6891-B

Distributor Address
Best Sanitizers, Inc.
PO Box 1360
Penn Valley, CA 95946

Emergency telephone number

Emergency Phone Numbers For Transportation Emergencies, call
Aquaphoenix Scientific: 1-800-255-3924

2. HAZARDS IDENTIFICATION

Classification

This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin Corrosion	Category 1B

Signal word **Danger**

Hazard statements
Causes severe skin burns and eye damage.

Appearance Aqueous solution **Physical State** Liquid **Odor** Odorless

Precautionary Statements - Prevention
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.

Read label before use.
Do not eat, drink, or smoke when using this product.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Wash contaminated clothing before reuse.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Keep only in original container. Store locked up.
Dispose of contents and container as instructed in Section 13.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %	Trade Secret
Bismuth Nitrate Pentahydrate	10035-06-0	0.34	
Nitric Acid	7697-37-2	6.04	
Purified water	7732-18-5	93.62	

4. FIRST AID MEASURES

First aid measures

Eye Contact — Hold eye(s)open and rinse slowly and gently with water for 30 minutes. Remove contact lenses if present, after first 5 minutes, then continue rinsing eye(s). Seek medical advice/attention.

Skin Contact — Wash affected area with soap and water. Rinse/flush exposed skin gently using water for at least 30 minutes. Seek immediate medical attention.

Inhalation — Remove to fresh air. Seek immediate medical attention if discomfort or irritation persists.

Ingestion — Rinse mouth thoroughly. Do NOT induce vomiting.
Drink sips of water
Seek medical attention if irritation, discomfort, or vomiting persists.

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects — Irritation/burns. Headache. Shortness of breath. May cause severe burns, blindness and/or permanent damage. May cause burns, deep penetrating ulcerations of the skin, delayed tissue destruction, redness, pain. May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Indication of any immediate medical attention and special treatment needed

If seeking medical attention, proved SDS document to physician.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate suppression agents for adjacent combustible materials or sources ignition.

Unsuitable Extinguishing Media

None.

Specific Hazards Arising from the Chemical
Combustion products may include carbon oxides or other toxic vapors.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures

Personal Precautions	Use personal protection recommended in Section 8. Ensure adequate ventilation, especially in confined areas. Keep unprotected persons away. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent.

Environmental precautions

Environmental Precautions	Prevent entry into waterways, sewers, basements, or confined areas. See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for Containment	If in a laboratory setting, follow Chemical Hygiene Plan procedures. Always obey local regulations. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.
Methods for Cleaning Up	Collect liquids using vacuum or by use of absorbents. Neutralize with calcium carbonate and soda ash. Add water to slurry.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling	Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, or smoke or use personal products when using this product. Do not handle with incompatibles. Avoid splashes or spray in enclosed areas.

Conditions for safe storage, including any incompatibilities

Storage Conditions/ Incompatible materials	Keep Containers tightly closed in a dry, cool, and well-ventilated place. Avoid storage near extreme heat, ignition sources or open flame. Keep away from foodstuffs. Store with like hazards. Protect from freezing. Store away from oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nitric Acid 7697-37-2	TLV-STEL: 4 ppm TLV-TWA: 2 ppm	2 ppm; 5 mg/m3	Not Available

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Controls Use in chemical hood only. Emergency eyewash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts below the applicable workplace exposure limits. Occupational exposure limits indicated above. Use under a fume hood. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area, no leakage from equipment.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and Body Protection Wear impermeable and resistant to the product/ substance/ preparation protective gloves. Selection of glove material on consideration of the penetration times, rates of diffusion and degradation.

Respiratory Protection Not required under normal conditions of use. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures The usual precautionary measures are to be adhered to when handling chemicals. Keep from food, beverages, and food sources. Immediately remove all soiled and contaminated clothing. Wash face, hands, and any exposed skin thoroughly after handling. Wash contaminated clothing and shoes before reuse. Do not Eat, Drink or Smoke when using this product. Do not inhale gases/fumes/dust/mist/vapors/aerosols. Avoid contact with the eyes and skin.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Liquid		
Appearance	Aqueous solution	**Odor**	Odorless
Color	Clear	**Odor Threshold**	Not Determined

Property	Values	Remarks/ Method
pH	7	None known
Melting/freezing point	0˚C	None known

Boiling point / boiling range	100˚C	None known
Flash Point	Not Applicable	None known
Evaporation rate	Not determined	None known
Flammability (solid, gas)	Not Applicable	None known
Flammability Limits in Air		
Upper flammability limit	0 Vol %	None known
Lower flammability limit	0 Vol %	None known
Vapor pressure	2.3 kPa @ 20˚C	None known
Vapor density	0.62	None known
Specific Gravity	1	None known
Water Solubility	None.	None known
Solubility in other solvents	No data available	None known
Partition coefficient:	Not determined	None known
Autoignition temperature	Not determined	None known
Decomposition temperature	Not determined	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	0.952 mPas @ 20˚C	None known

10. STABILITY AND REACTIVITY

Reactivity
None.

Chemical stability
No decomposition if used and stored according to specifications.

Possibility of Hazardous Reactions
None.

Conditions to avoid
Store away from oxidizing agents, strong acids, or bases.

Incompatible materials
Strong bases. Metallic powder.

Hazardous Decomposition Products
Nitrogen oxides. Hydrogen nitrate.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Nitric Acid 7697-37-2	430 mg/kg (rat)	-	67 ppm (rat, 4h)
Bismuth Nitrate Pentahydrate 10035-06-0	5 g/kg (Bismuth) (rat)	-	-

Information on toxicological effects

Sensitization	No Information Available
Germ cell mutagenicity	No Information Available
Carcinogenicity	No Information Available
Reproductive toxicity	No Information Available
STOT single exposure	No Information Available
STOT repeated exposure	No Information Available

12. Ecological Data

Ecotoxicity

No Information Available

Persistence and Degradability

Readily degradable in the environment.

Bioaccumulation

No Bioaccumulative

Mobility in soil

Aqueous solution has high mobility in soil.

Other adverse effects

No additional information.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Disposal should be in accordance with applicable regional, national, and local laws and regulations. Do not dispose together with household garbage. Do not allow product to reach sewage system or open water.

14. TRANSPORT INFORMATION

DOT

UN/ID/NA number: UN 3264
Proper shipping name: Corrosive Liquid, Acidic, Inorganic, N.O.S.

Class: 8
Packing group: II

15. REGULATORY INFORMATION

Chemical Inventories

TSCA	Complies
DSL/NDSL	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization of 1986 (SARA). 7697-37-2 Nitric acid 1.0% de minimis concentration.

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

CERCLA
7697-37-3 Nitric acid 1000 lbs.

US State Regulations

California Proposition 65
None of the ingredients are listed.

16. OTHER INFORMATION

NFPA	**Health Hazard**	2	**Flammability**	0	**Instability** 0	**Physical and Chemical Hazards**	0
HMIS	**Health Hazard**	2	**Flammability**	0	**Physical Hazard** 0	**Personal Protection**	X

Prepared By Technical Department

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Reference

General Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet