MATERIAL SAFETY DATA SHEET

Bismuth Std. 1,000 ppm

SECTION 1 . Product and Company Idenfication

Product Name and Synonym: Bismuth Std. 1,000 ppm

Product Code: 1250

Material Uses:

Manufacturer: Science Stuff
1104 Newport Ave

Austin, TX 78753
(512) 837-6020

Health:	3
Flammability:	0
Reactivity:	0

Hazard Rating:
Least 0 Slight 1 Moderate 2 High 3 Extreme 4

NA=Not Applicable NE=Not Established

Entry Date : 5/28/2013

Print Date: 5/28/2013

24 Hour Emergency Assistance : Chemtrec 800-424-9300
Canutec 613-996-6666

SECTION 2 HAZARD IDENTIFICATION

Causes severe irritation and burns. May Be harmful if swallowed. Avoid breathing vapor or dust. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

SECTION 3 MIXTURE COMPONENTS

SARA 313	Component	CAS Number	Percent Comp.	Dimension	Exposure Limits
☐	Bismuth	CAS# 7440-69-9	0.1%	W/V	None established
☑	Nitric Acid	CAS# 7697-37-2	3.5%	V/V	OSHA TWA 2 ppm (5mg/mf), STEL 4 ppm (10mg/mf)
☐	Water, Deionized ASTM Type II	CAS# 7732-18-5	Balance	V/V	None Established

SECTION 4 FIRST AID MEASURES

Causes severe irritation and burns. May Be harmful if swallowed. Avoid breathing vapor or dust. Use with adequate ventilation. Avoid contact with eyes, skin, and clothes. Wash thoroughly after handling. Keep container closed.

FIRST AID: CALL A PHYSICIAN. SKIN: Remove contaminated clothing. Wash exposed area with soap and water.

EYES: Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek Medical Aid. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen

INGESTION: Give several glasses of milk or water. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person.

SECTION 5 FIRE FIGHTING MEASURES

Fire Extinguisher Type:	Any means suitable for extinguishing surrounding fire
Fire / Explosion Hazards:	None Known.
Fire Fighting Procedure:	Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and clothing.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Absorb spill with inert material, then place in a chemical waste container. Neutralize with a weak base.

SECTION 7 HANDLING AND STORAGE

Store in a cool dry place. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection:	None required
Ventilation	
	Local Exhaust ☑
	Mechanical ☐
Protective Gloves:	Gloves to prevent skin exposure as rubber or vinyl
Eye Protection:	Splash Goggles
Other Protective Equipment:	Wear appropriate clothing to prevent skin exposure

The following materials had no OELs on our records
Source Material TWA ppm TWA mg/m³ STEL ppm STEL mg/m³ Peak ppm Peak mg/m³ TWA F/CC Notes
Australia Exposure Standards nitric acid (Nitric acid) 2 5.2 4 10
• water: CAS:7732-18-5
EMERGENCY EXPOSURE LIMITS
Material Revised IDLH Value (mg/m3) Revised IDLH Value (ppm) 25

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Melting Point:	~0° C	Percent Volatile by Volume:	>96%
Boiling Point:	~100° C	Evaporation Rate	information not available
Vapor Pressure:	Information not available	Evaporation Standard	
Vapor Density:	Information not avai	Auto Ignition Temp	Not applicable
Solubility in Water:	Soluble	Lower Flamm. Limit in Air	Not applicable
Appearance /Odors:	Clear odorless liquid	Upper Flamm. Limit in Air	Not applicable
Flash Point:	not flammable		
Specific Gravity:	~1.0		

SECTION 10 STABILITY AND REACTIVITY INFORMATION

Stability: Stable

Conditions to Avoid:	None known
Materials to Avoid:	strong bases.
Hazardous Decomposition Products:	none known
Hazardous polymerization:	not expected to occur
Conditions to Avoid:	None known

SECTION 11 Toxicological Information

NITRIC ACID:
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY IRRITATION
Oral (human) LDLo: 430 mg/kg Nil Reported
Inhalation (rat) LC50: 2500 ppm/1h * * DuPont
Unreported (man) LDLo: 110 mg/kg
Inhalation (Cat) LC: 500 mg/m³/4h
Inhalation (Rat) LC50: 130 mg/m³/4h
Oral (Human) LD: 430 mg/kg
Inhalation (Cat) TCLo: 300 mg/m³/2h

The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function.
The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production
of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.
Oral (?) LD50: 50-500 mg/kg *
[Various Manufacturers]
WATER:
No significant acute toxicological data identified in literature search.

SECTION 12 Ecological Information

NITRIC ACID:
For oxides of nitrogen:
Environmental fate
Oxides of nitrogen are part of the biogeochemical cycling of nitrogen, and are found in air, soil and water.
In the atmosphere, oxides of nitrogen are rapidly oxidised to nitrogen dioxide (half-life about 50 days), which dissolves in water to produce dilute nitric
acid and precipitates in rain. An increased rate of formation of oxides of nitrogen therefore contributes to 'acid rain'.
In the stratosphere, oxides of nitrogen play a crucial role in maintaining the level of ozone. Ozone is formed through the photochemical reaction of
nitrogen dioxide and oxygen. However, too little nitrogen dioxide results in too little ozone being formed, On the other hand, too much nitric oxide
reduces the level of ozone because of an increase in the reaction of ozone to convert nitric oxide to nitrogen dioxide.
In the lower atmosphere, oxides of nitrogen play a major role in the formation of photochemical smog in a complex set of reactions that lead to the
formation of a variety of nitrated organic compounds (from volatile organic matter) and excessive levels of ozone.
Environmental transport The oxides of nitrogen travel as gases through soil and the atmosphere, and in solution in water in soils, rivers and lakes, and
rain and snow.
WATER:
Marine Pollutant: Not Determined
Ecotoxicity
Ingredient Persistence:
Water/Soil
Persistence:
Air Bioaccumulation Mobility
nitric
acid LOW
water LOW LOW HIGH

SECTION 13 Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

SECTION 14 Transport Information

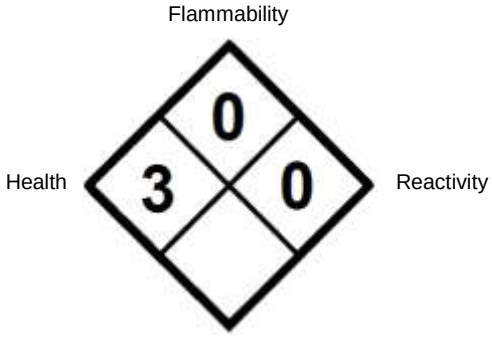
DOT Classification: Corrosive Liquid, n.o.s. (Nitric acid), 8, UN1760, PG III

DOT Regulations may change from time to time. Please consult the most recent D.O.T. regulations.

SECTION 15 Regulatory Information

Regulations for ingredients
nitric acid (CAS: 7697-37-2) is found on the following regulatory lists;
"Australia Exposure Standards","Australia Hazardous Substances","Australia High Volume Industrial Chemical List (HVICL)","Australia Inventory of Chemical Substances (AICS)","Australia National Pollutant Inventory","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix E (Part 2)","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix F (Part 3)","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 6","GESAMP/EHS Composite List - GESAMP Hazard Profiles","IMO IBC Code Chapter 17: Summary of minimum requirements","IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk","International Council of Chemical Associations (ICCA) - High Production Volume List","OECD Representative List of High Production Volume (HPV) Chemicals"
water (CAS: 7732-18-5) is found on the following regulatory lists;
"Australia Inventory of Chemical Substances (AICS)","IMO IBC Code Chapter 18: List of products to which the Code does not apply","OECD Representative List of High Production Volume (HPV) Chemicals"
No data for Spirax Sarco 3.5 % Nitric Acid Solution (CW: 4810-24)

SECTION 16 Additional Information



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Revisions

12/6/2012	0	Creation date 3/4/2009
12/6/2012	0.1	Revised to 16 sections LS

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