

MATERIAL SAFETY DATA SHEET

according to EC Directive 2001/58/EC SS-1148, SS-1248, SS-1548

Revision Number 1, Revision Date July 01, 2004

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product code SS-1148

Product name 1000 ug/mL Rubidium

Common Name Rubidium in Dilute Nitric Acid

Manufacturer, importer, supplier Inorganic Ventures

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Web: www.inorganicventures.com

Emergency telephone number 800-424-9300 CHEMTREC (24 hrs)

2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS	Chemical Name	% Weight	ACGIH*	OSHA*
7732-18-5	Water	~95-99.9	N/A	N/A
7697-37-2	Nitric Acid	~0-2	2 ppm TWA	2 ppm TWA; 5 mg/m3 TWA
13126-12-0	Nitric acid, rubidium salt	~0.1-1	N/A	N/A

^{*} ACGIH - Occupational Exposure Limits - TWAs

3. HAZARDS IDENTIFICATION

Emergency Overview	
Final product is not regulated	

Eye contact	Contact with eyes may cause irritation
Skin contact	Substance may cause slight skin irritation
Inhalation	May cause irritation of respiratory tract
Ingestion	Harmful if swallowed

4. FIRST AID MEASURES

General advice	Show this safety data sheet to the doctor in attendance		
Skin contact	Wash off immediately with soap and plenty of water removing all		
	contaminated clothes and shoes		
	Consult a physician if necessary		
Eye contact	 Immediately flush with plenty of water. After initial flushing, remove any 		
	contact lenses and continue flushing for at least 15 minutes		
	Keep eye wide open while rinsing		
	 If eye irritation persists, consult a specialist 		
Inhalation	 Move to fresh air in case of accidental inhalation of vapours 		
	If breathing is difficult, give oxygen		
	Consult a physician if necessary		
Ingestion	Call a physician or Poison Control Centre immediately		
	 If swallowed, seek medical advice immediately and show this container or 		
	label		
	If conscious, drink plenty of water		

5. FIRE-FIGHTING MEASURES

Flash point	NA
Suitable extinguishing media	 Use extinguishing measures that are appropriate to
	local circumstances and the surrounding environment
Specific hazards	Thermal decomposition can lead to release of

^{*} OSHA - Final PELs - Time Weighted Averages (TWAs)

	irritating gases and vapours
Specific methods	 Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations
Special protective equipment for firefighters	 As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
Under conditions giving incomplete combustion, hazardous gases produced may consist of:	nitrogen oxides (NOx).

6. ACCIDENTAL RELEASE MEASURES			
Personal precautions	 Evacuate personnel to safe areas Keep people away from and upwind of spill/leak Wear personal protective equipment Ensure adequate ventilation 		
Environmental precautions	 Prevent further leakage or spillage if safe to do so Prevent product from entering drains 		
Methods for cleaning up	 Dam up Neutralize with lime milk or soda and flush with plenty of water Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container After cleaning, flush away traces with water 		

7. HANDLING AND STORAGE

Handling

Technical measures/Precautions	Use only in area provided with appropriate exhaust ventilation
Safe handling advice	Wear personal protective equipment

Storage

Technical	Keep in properly labelled containers		
measures/Precautions	Store at room temperature in the original container		
	Keep containers tightly closed in a dry, cool and well-ventilated place		
Incompatible products	organic materials		
	reducing agents		

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Personal protective equipment			
Hand protection	impervious gloves		
Eye protection	tightly fitting safety goggles		
Respiratory protection	Ensure adequate ventilation		
Skin and body protection	Chemical resistant apron		
	Lab coat		
Hygiene measures	When using, do not eat, drink or smoke		
	Regular cleaning of equipment, work area and clothing		

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form liquid.
Appearance clear
Colour None.
Odour None.

Important Health Safety and Environmental Information

pH 0 to 2
Boiling point/range 100°C
Flash point N/A
Vapour pressure NA.
Water solubility miscible.

10. STABILITY AND REACTIVITY			
Stability	Stable under normal conditions		
 Hazardous polymerisation does not occur Materials to avoid organic materials 			
• reducing agents			
Hazardous decomposition products	nitrogen oxides (NOx)		

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Component Information

CAS	Chemical Name	% Weight	LD50/oral/rat =	LD50/dermal/rat =
7732-18-5	Water	~95-99.9	N/A	N/A
7697-37-2	Nitric Acid	~0-2	Inhalation LC50 Rat: 130 mg/kg/4H	Inhalation LC50 Rat: 130 mg/kg/4H
13126-12-0	Nitric acid, rubidium salt	~0.1-1	Oral LD50 Rat: 4625 mg/kg	Oral LD50 Rat: 4625 mg/kg

Product Information

Local effects				
Skin irritation	May cause skin irritation and/or dermatitis.			
Eye irritation	May cause eye irritation with susceptible persons.			
Inhalation	May cause irritation of respiratory tract.			
Ingestion	If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.			
Chronic toxicity	Avoid repeated exposure.			

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Component Information

Product Information

Do not allow material to contaminate ground water or sewage system

Other information

13. DISPOSAL CONSIDERATIONS					
Waste from residues / unused products	In accordance with local and national regulations				
Contaminated packaging	Empty containers should be taken for local recycling, recovery or waste disposal				

14. TRANSPORT INFORMATION

DOT Final product is not regulated

IATA-DGR Final product is not regulated

15. REGULATORY INFORMATION

U.S. INVENTORIES:

CAS	Chemical Name	% Weight	CPCL*	NJRTK*	CERCLA/SARA*
7732-18-5	Water	~95-99.9	N/A	N/A	N/A
7697-37-2	Nitric Acid	~0-2	N/A	sn 1356	1000 lb final RQ; 454 kg final RQ
13126-12-0	Nitric acid, rubidium salt	~0.1-1	N/A	sn 1639	N/A

^{*} CPCL - California - Proposition 65 - Carcinogens List

INTERNATIONAL INVENTORIES:

CAS	Chemical Name	% Weight	WHMIS*	EINECCS - European Union*
7732-18-5	Water	~95-99.9	Uncontrolled product according to WHMIS classification criteria	231-791-2
7697-37-2	Nitric Acid	~0-2	C, E (including 60%, 61.3%, 63%, 67%, 67.18%, 70%, 90%); E (10%)	231-714-2
13126-12-0	Nitric acid, rubidium salt	~0.1-1	N/A	236-060-1

^{*} WHMIS - Canada - WHMIS - Classifications of Substances

16. OTHER INFORMATION

The above information is believed to be accurate and represents the best information available to us. It has been compiled from the data presented in various technical publications and our experience and should only be used as a guide for handling this product. It is the user's responsibility to determine the suitability of this information for their particular purposes. We assume that only qualified individuals, trained and familiar with procedures suitable to this product will handle this material. Inorganic Ventures, Inc. assumes no responsibility and shall not be held liable for any damage resulting from misuse of this product.

^{*} NJRTK - New Jersey - Department of Health RTK List

^{*} CERCLA/SARA - Hazardous Substances and their Reportable Quantities

^{*} EINECCS - European Union - European inventory of Existing Commercial Chemical Substances (EINECCS)