MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**RUBIDIUM NITRATE, 99.8%**
Catalog #	1016
Version #	02
Revision date	15-Jul-2009
CAS #	13126-12-0
Manufacturer information	GFS Chemicals, Inc. P.O. Box 245 Powell, OH 43065 US www.gfschemicals.com Fax 740-881-5989 Phone 740-881-5501 Toll Free 800-858-9682 Emergency Assistance Chemtrec 800-424-8300

2. Hazards Identification

Emergency overview	DANGER -- OXIDIZER Contact with combustible material may cause fire. Exposure to powder or dusts may be irritating to eyes, nose and throat. Product dust may be irritating to eyes, skin and respiratory system. May cause irritation to the respiratory system. Exposure to powder or dusts may be irritating to eyes, nose and throat.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Skin contact. Eye contact. Inhalation.
Eyes	Contact may cause eye irritation. Dust or powder may irritate eye tissue.
Skin	May irritate skin and mucous membranes.
Inhalation	May cause irritation of respiratory tract. Inhalation of dusts may cause respiratory irritation.
Ingestion	Do not ingest.
Potential environmental effects	Ecological injuries are not known or expected under normal use.

3. Composition / Information on Ingredients

Components	CAS #	Percent
RUBIDIUM NITRATE	13126-12-0	90 - 100

4. First Aid Measures

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists after washing.
Skin contact	Remove and isolate contaminated clothing and shoes. Wash off immediately with plenty of water. If skin irritation persists, call a physician.
Inhalation	Move to fresh air. For breathing difficulties, oxygen may be necessary. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Call a physician if symptoms develop or persist.
Ingestion	Have victim rinse mouth thoroughly with water. Do not induce vomiting without advice from poison control center. If ingestion of a large amount does occur, call a poison control center immediately.
General advice	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire Fighting Measures

Flammable properties May explode from heat or contamination. Contact with combustible material may cause fire. These substances will accelerate burning when involved in a fire. Runoff may create fire or explosion hazard.

Extinguishing media

Suitable extinguishing media Water. Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Protection of firefighters

Specific hazards arising from the chemical Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment and precautions for firefighters Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Do not move cargo or vehicle if cargo has been exposed to heat. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. ALWAYS stay away from tanks engulfed in flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do so without risk. In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers. Cool containers exposed to flames with water until well after the fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods In the event of fire, cool tanks with water spray. Use water spray to cool unopened containers.

6. Accidental Release Measures

Personal precautions Keep unnecessary personnel away. Isolate spill or leak area immediately for at least 50 to 100 meters (150 to 330 feet) in all directions. Keep upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust from the spilled material. Wear a dust mask if dust is generated above exposure limits.

Environmental precautions Runoff from fire control or dilution water may cause pollution.

Methods for containment Stop leak if you can do so without risk. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent entry into waterways, sewers, basements or confined areas. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product.

Methods for cleaning up Dike far ahead of spill for later disposal. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Collect dust or particulates using a vacuum cleaner with a HEPA filter. Following product recovery, flush area with water.

7. Handling and Storage

Handling Do not handle or store near an open flame, heat or other sources of ignition. Keep away from clothing and other combustible materials. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Use only with adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling. Do not breathe dust from this material. Avoid contact with eyes. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

Storage Do not store near combustible materials. Use care in handling/storage. Keep container tightly closed. Guard against dust accumulation of this material. Store in a well-ventilated place.

8. Exposure Controls / Personal Protection

Engineering controls Ensure adequate ventilation, especially in confined areas. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment

Respiratory protection Wear respirator with dust filter. Avoid breathing dust/fume/gas/mist/vapors/spray.

Hand protection	Wear protective gloves.
Eye / face protection	Avoid contact with eyes. Wear chemical goggles. Wear dust goggles.
Skin protection	Avoid contact with the skin. Wear appropriate chemical resistant clothing. Wear protective gloves.
General hygeine considerations	When using do not smoke. Avoid contact with skin. Do not breathe dust. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice.
General	Avoid contact with skin. Avoid contact with eyes.

9. Physical & Chemical Properties

Appearance	Crystals and powder.
Color	White.
Odor	Odorless.
Odor threshold	Not available.
Physical state	Solid.
Form	Solid.
pH	Not available.
Melting point	590 °F (310 °C)
Freezing point	Not available.
Boiling point	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available.
Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Specific gravity	Not available.
Relative density	Not available.
Solubility (water)	Soluble.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Molecular weight	147.4800
Molecular formula	RbNO3

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Incompatible materials	Combustible material. Reducing agents
Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Local effects	Irritating to respiratory system. Irritating to eyes. Irritating to skin. Inhalation of dusts may cause respiratory irritation.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Symptoms and target organs	Target organs: central nervous system and blood.

12. Ecological Information

Ecotoxicity	This product has no known eco-toxicological effects.

Persistence and degradability Not available.

13. Disposal Considerations

Waste codes D001: Waste Flammable material with a flash point <140 F

Disposal instructions Dispose of this material and its container at hazardous or special waste collection point. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose in accordance with all applicable regulations.

14. Transport Information

DOT

Basic shipping requirements:

Proper shipping name	Nitrates, inorganic, n.o.s.
Hazard class	5.1
UN number	UN1477
Packing group	III
Additional information:	
Special provisions	IB8, IP3, T1, TP33
Packaging exceptions	152
Packaging non bulk	213
Packaging bulk	240
ERG number	140

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

CERCLA (Superfund) reportable quantity

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	Yes

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Further information HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
Health: 2
Flammability: 0
Physical hazard: 1

NFPA ratings
Health: 2
Flammability: 0
Instability: 0
Special hazards: OX

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This data sheet contains changes from the previous version in section(s): This document has undergone significant changes and should be reviewed in its entirety.