Manganous Nitrate, 50%

SECTION 1: Identification of the substance/mixture and of the supplier

Product name: **Manganous Nitrate, 50%**

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: **S25421**

Recommended uses of the product and restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific, Inc
9 Barnhart Drive, Hanover, PA 17331
(717) 632-1291

Supplier Details:

Fisher Science Education
6771 Silver Crest Road, Nazareth, PA 18064
(724)517-1954

Emergency telephone number:

Fisher Science Education
Emergency Telephone No.: 800-535-5053

SECTION 2: Hazards identification

Classification of the substance or mixture:

Corrosive
Serious eye damage, category 1
Skin corrosion, category 1B

Oxidizing
Oxidizing liquids, category 3

Irritant
Acute toxicity (oral, dermal, inhalation), category 4

Ox. liq. 3.
Skin corrosion/irritation - Skin Corr. 1B.
Eye Damage 1.
Acute toxicity - Oral - Acute Tox. 4.

Signal word: Danger

Hazard statements:

May intensify fire; oxidizer.
Causes severe skin burns and eye damage.
Causes serious eye damage.
Harmful if swallowed.

Precautionary statements:

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.

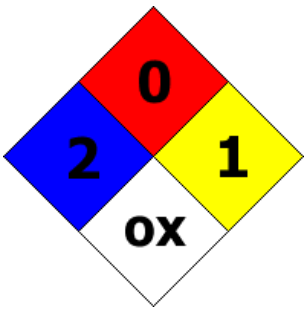
Wear protective gloves/protective clothing/eye protection/face protection.
Do not breathe dust/fume/gas/mist/vapours/spray.
Do not eat, drink or smoke when using this product.
Take any precaution to avoid mixing with combustibles.
Keep/Store away from clothing/combustible materials.
Wash skin thoroughly after handling.
Rinse mouth.
IF ON SKIN: Wash with soap and water.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Specific treatment (see supplemental first aid instructions on this label).
In case of fire: Use agents recommended in section 5 for extinction.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Store locked up.
Dispose of contents and container as instructed in Section 13.

Other Non-GHS Classification:

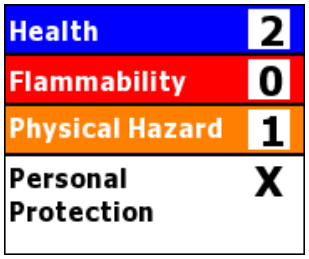
WHMIS

C 

NFPA/HMIS



NFPA SCALE (0-4)



HMIS RATINGS (0-4)

SECTION 3: Composition/information on ingredients

Ingredients:		
CAS 7697-37-2	Nitric Acid	7.55 %
CAS 7732-18-5	Deionized Water	42.45 %
CAS 10377-66-9	Manganese Nitrate, ACS	50 %
		Percentages are by weight

SECTION 4: First aid measures

Description of first aid measures

After inhalation:

Move exposed individual to fresh air. Loosen clothing as necessary and position individual in a comfortable position. Seek medical advice if discomfort or irritation persists.

After skin contact:

Wash affected area with soap and water. Rinse or flush skin/hair gently with water for at least 30 minutes. Seek immediate medical attention.

After eye contact:

Protect unexposed eye. Remove contact lens(es) if able to do so during rinsing. Rinse or flush eye gently with water for at least 30 minutes, lifting upper and lower lids. Seek immediate medical attention (ophthalmologist).

After swallowing:

Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists.

Most important symptoms and effects, both acute and delayed:

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. Headache. Shortness of breath. Irritation/burns, all routes of exposure. Chronic inhalation or ingestion may result in manganism characterized by neurological symptoms such as headache, apathy, weakness of legs, followed by psychosis and neurological symptoms. May impair fertility.

Indication of any immediate medical attention and special treatment needed:

If seeking medical attention, provide SDS document to physician.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing agents:

Does not burn. Use extinguishing media appropriate for surrounding fire. If in laboratory setting, follow laboratory fire suppression procedures. Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

Unsuitable extinguishing agents: None

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors. Nitrogen oxides (NOx). Contact with other material may cause a fire.

Advice for firefighters:

Protective equipment:

Use protective clothing. Use NIOSH-approved breathing equipment.

Additional information (precautions):

Move product containers away from fire or keep cool with water spray as a protective measure, where feasible.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment. Avoid contact with skin, eyes and clothing. Use respiratory protective device against the effects of fumes/dust/aerosol. Keep unprotected persons away. Ensure adequate ventilation. Keep away from ignition sources. Protect from heat. Stop the spill, if possible. Contain spilled material by diking or using inert absorbent. Transfer to a disposal or recovery container.

Environmental precautions:

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13.

Methods and material for containment and cleaning up:

If in a laboratory setting, follow Chemical Hygiene Plan procedures. Collect liquids using vacuum or by use of absorbents. Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor. Cover spill with soda ash or calcium carbonate. Mix and add water to form slurry.

Reference to other sections: None

SECTION 7: Handling and storage

Precautions for safe handling:

Prevent formation of aerosols. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan. Use only in well ventilated areas. Avoid splashes or spray in enclosed areas. No smoking.Keep away from heat and sources of ignition. Wash hands after handling. Remove contaminated clothing and wash before reuse. Avoid contact with incompatibiles, clothing, skin and eyes.

Conditions for safe storage, including any incompatibilities:

Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a tightly closed container. Store in a dry, well-ventilated area away from incompatible substances. Store in a warm area; product will crystallize at room temperature. Store away from foodstuffs. Store with like hazards. Storage class (TRGS 510): Oxidizing hazardous materials.

SECTION 8: Exposure controls/personal protection



Control Parameters:	7697-37-2, Nitric Acid, NIOSH 4 ppm STEL; 10 mg/m3 STEL. 7697-37-2, Nitric Acid , NIOSH 2 ppm TWA; 5 mg/m3 TWA. 7697-37-2 , Nitric Acid , ACGIH 4 ppm STEL. 7697-37-2, Nitric Acid , ACGIH 2 ppm TWA. 10377-66-9, Manganese Nitrate, ACGIH TLV TWA: 0.2 mg/m3. 10377-66-9, Manganese Nitrate, OSHA PEL TWA: 5 mg/m3.
Appropriate Engineering controls:	Emergency eye wash 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 mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.
Respiratory protection:	Not required under normal conditions of use. Use suitable respiratory protective device when high concentrations are present. Use suitable respiratory protective device when aerosol or mist is formed. For spills, respiratory protection may be advisable.
Protection of skin:	The glove material has to be impermeable and resistant to the product/ the substance/ the preparation being used/handled. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.
Eye protection:	Safety glasses with side shields or goggles.

General hygienic measures: The usual precautionary measures are to be adhered to when handling chemicals. Keep away from food, beverages and feed sources. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Do not inhale gases/fumes/dust/mist/vapor/aerosols. Avoid contact with the eyes and skin.

SECTION 9: Physical and chemical properties

Appearance (physical state, color):	Clear, reddish-orange liquid	**Explosion limit lower**: **Explosion limit upper**:	Not Determined Not Determined
Odor:	Odorless	**Vapor pressure at 20°C**:	Not Determined
Odor threshold:	Not Determined	**Vapor density**:	Not Determined
pH-value:	Not Determined	**Relative density**:	1.575 at 15 °C
Melting/Freezing point:	10 °C	**Solubilities**:	Soluble.
Boiling point/Boiling range:	Not Determined	**Partition coefficient (n-octanol/water)**:	Not Determined
Flash point (closed cup):	Not Determined	**Auto/Self-ignition temperature**:	Not Determined
Evaporation rate:	Not Determined	**Decomposition temperature**:	Not Determined
Flammability (solid, gaseous):	Not Determined	**Viscosity**:	a. Kinematic: Not Determined b. Dynamic: Not Determined
Density at 20°C:	Not Determined **% Volatility:**45% (water)		

SECTION 10: Stability and reactivity

Reactivity:

Oxidizer.

Chemical stability:

No decomposition if used and stored according to specifications.

Possible hazardous reactions:

Oxidizer: Contact with combustible/organic material may cause fire. None under normal processing.

Conditions to avoid:

excess heat. combustible materials. Incompatible Materials.

Incompatible materials:

Combustible materials. Water-reactive materials, oxidizable materials, active metals, strong reducing agents or flammable materials.

Hazardous decomposition products:

Nitrogen oxides (NOx).

SECTION 11: Toxicological information

Acute Toxicity:

Oral:

7697-37-2 LD50 430 mg/kg

Inhalation:

67 ppm 4 h Inhalation LC50 Rat

Chronic Toxicity: No additional information.
Corrosion Irritation:

Dermal:

Rabbit: Corrosive

Section 2 Classified as causing severe skin burns and eye damage.

Ocular:

Rabbit: Corrosive to eyes

Section 2 Classified as causing serious eye damage

Sensitization: No additional information.
Numerical Measures: No additional information.
Carcinogenicity: No additional information.
Mutagenicity: No additional information.
Reproductive Toxicity:

Experiments have shown reproductive toxicity effects on laboratory animals. Decreases fertility in men.

SECTION 12: Ecological information

Ecotoxicity: No additional information.
Persistence and degradability:

Readily degradable in the environment.

Bioaccumulative potential: No additional information.
Mobility in soil:

Aqueous solution has high mobility in soil.

Other adverse effects: No additional information.

SECTION 13: Disposal considerations

Waste disposal recommendations:

Product/containers must not be disposed together with household garbage. Do not allow product to reach sewage system or open water. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). Consult federal state/ provincial and local regulations regarding the proper disposal of waste material that may incorporate some amount of this product.

SECTION 14: Transport information

US DOT

UN Number:
ADR, ADN, DOT, IMDG, IATA 3098

Limited Quantity Exception: None

Bulk:
RQ (if applicable): None
Proper shipping Name: Oxidizing liquid, Corrosive, N.O.S., (Manganese nitrate, Nitric acid).
Hazard Class: 5, 8
Packing Group: III.
Marine Pollutant (if applicable): No additional information.
Comments: None

Non Bulk:
RQ (if applicable): None
Proper shipping Name: Oxidizing liquid, Corrosive, N.O.S., (Manganese nitrate, Nitric acid).
Hazard Class: 5, 8
Packing Group: III.
Marine Pollutant (if applicable): No additional information.
Comments: None

SECTION 15: Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Reactive, Acute, Chronic

SARA Section 313 (Specific toxic chemical listings):

7697-37-2 Nitric Acid.

RCRA (hazardous waste code):

None of the ingredients are listed.

TSCA (Toxic Substances Control Act):

All ingredients are listed.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

7697-37-2 Nitric acid 1000 lbs.

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:

None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:

None of the ingredients are listed.

Chemicals known to cause developmental toxicity:

None of the ingredients are listed.

Canada

Canadian Domestic Substances List (DSL):

All ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients are listed.

Canadian NPRI Ingredient Disclosure list (limit 1%):

7697-37-2 Nitric Acid.

SECTION 16: Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases: None

Abbreviations and Acronyms:

IMDG International Maritime Code for Dangerous Goods.
PNEC Predicted No-Effect Concentration (REACH).
CFR Code of Federal Regulations (USA).
SARA Superfund Amendments and Reauthorization Act (USA).
RCRA Resource Conservation and Recovery Act (USA).
TSCA Toxic Substances Control Act (USA).
NPRI National Pollutant Release Inventory (Canada).
DOT US Department of Transportation.
IATA International Air Transport Association.
GHS Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH American Conference of Governmental Industrial Hygienists.
CAS Chemical Abstracts Service (division of the American Chemical Society).
NFPA National Fire Protection Association (USA).
HMIS Hazardous Materials Identification System (USA).
WHMIS Workplace Hazardous Materials Information System (Canada).
DNEL Derived No-Effect Level (REACH).

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