1. Product and Company Identifaction

Porduct Name	Manganese Nitrate Hydrate
Part Number	RXSOL-60-6607-500

Company Details:....

RX MARINE INTERNATIONAL
105, A wing , BSEL , TECH PARK.
VASHI ,NEW BOMBAY 400703 INDIA

Branch : Kandla, Mumbai , Chennai, Vizag, Kolkata, UAE , OMAN , CANADA and KENYA

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Email	mail@rxmarine.com
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2. Composition / Information on ingredients

Chemical Solid

Characterization

Ingredient	Name	CAS	Proportion	Hazard Symbol	Risk Phrase
	Manganese Nitrate Tetrahydrate	20694-39-7	100 %		

3. Hazards Identification

GHS classification of the substance/mixture

Oxidizing Liquids: Category 3

Eye Damage/Irritation: Category 1

Skin Corrosion/Irritation: Category 1

Specific target organ toxicity - Repeated Exposure Category 2 (Brain)

Acute Toxicity - Oral: Category 4

Hazard Statement (s)

H272 May intensify fire; oxidiser.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H373 May cause damage to organs (Brain) through prolonged or repeated exposure.

Precautionary statement Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P220 Keep/Store away from clothing/.../combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

	P270 Do not eat, drink or smoke when using this product. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statement Response	P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P310 Immediately call a POISON CENTER or doctor/physician. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 Get medical advice/attention if you feel unwell. P370+P378 In case of fire: Use USE FLOODING QUANTITIES OF WATER for extinction. P310 Immediately call a POISON CENTER or doctor/physician. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P314 Get medical advice/attention if you feel unwell. P370+P378 In case of fire: Use USE FLOODING QUANTITIES OF WATER for extinction.
Precautionary statement Storage Precautionary	P405 Store locked up P501 Dispose of contents/container to an approved waste disposal plant.

4. First Aid Measures

Inhalation	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.
Skin	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek immediate medical advice /attention depending on the

	severity.
Eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open.In all cases of eye contamination it is a sensible precaution to seek medical advice.
First Aid Facilities	Eye wash fountains and safety showers should be available for emergency use.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of the patient
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor.

5. Fire-fighting Measures

Specific Methods	Small fire ▯ USE FLOODING QUANTITIES OF WATER. ▯ Do not use dry chemicals, CO2 or foam. ▯ If safe to do so, move undamaged containers from fire area. ▯ Do not move cargo if cargo has been exposed to heat. Large fire ▯ Flood fire area with water from a protected position. ▯ Cool containers with flooding quantities of water until well after fire is out ▯ If impossible, withdraw from area and let fire burn. ▯ Avoid getting water inside containers: a violent reaction may occur. ▯ Dam fire control water for later disposal. ▯ ALWAYS stay away from tank ends.
Specific hazards **arising from the** **chemical**	Will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, clothing, etc). Fire may produce irritating, poisonous, and/or corrosive gases.
Hazchem Code	Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the

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Precautions in

connection with Fire

Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection

connection with FirePrecautions in

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6. Accidental Release Measures

Spills & Disposal

 Do not contaminate.

 Keep combustibles (wood, paper, clothing, oil, and so on) away from spilled material.

 Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

 Use water spray to knock down vapours or divert vapour clouds.

 Prevent entry into waterways, drains or confined areas.

 Prevent exposure to heat.

Dry spill

 Use clean non-sparking tools to transfer material to a clean, dry plastic container and cover loosely.

 Move container from spill area.

Small liquid spill

 Use a non-combustible material like vermiculite, sand or earth to soak up the product and place in a

	loosely-covered container for later disposal. Large liquid spill ? SEEK EXPERT ADVICE ON HANDLING AND DISPOSAL. P501 Dispose of contents/container to an approved waste disposal plant.
Personal	Evacuate the area of all non-essential personnel. Extinguish naked flames. Remove ignition sources
Precautions	Avoid inhalation, contact with skin, eyes and clothing.
Personal Protection	Wear protective clothing specified for normal operations (see Section 8)
Environmental Precautions	Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers.

7. Handling and Storage

Precautions for Safe Handling	Avoid ingestion or inhalation of dust, fumes and vapour. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Keep away from combustible materials, oxidising agents and metals. Keep containers closed when not in ure and use only in fumehood with adequate ventilation. In case of insufficient ventilation, wear a suitable respiratory equipment.
Conditions for safe storage, including any incompatabilities	Store away from combustible materials. Keep container tightly closed and in a cool, well-ventilated place Keep away from direct sunlight and other sources of heat or ignition.
Storage Regulations	Refer Australian Standard AS 4326-1995 'The storage and handling of oxidizing agents'
Storage Temperatures	Store at room temperature (15 to 25 °C recommended).

8. Exposure controls and personal protection

Other Exposure Information	A time weighted average (TWA) has been established for Manganese, dust & compounds (as Mn) (Safe Work Australia) of 1 mg/m3. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.
Appropriate engineering controls	In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. These methods should be used in preference to personal protective equipment.
Respiratory Protection	Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should

	be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
Eye Protection	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336
Hand Protection	Gloves: Rubber or plastic recommended. Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.
Personal Protective Equipment	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.
Footwear	Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.
Body Protection	Clean clothing or protective clothing should be worn, preferably with and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.
Hygiene Measures	Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using

9. Physical and chemical properties

Form	Solid
Appearance	Pink, hygroscopic crystal.
Odour	Characteristic nitric acid.
Melting Point	37 °C
Solubility in Wate	3800 g/l (20 °C)
Solubility in Organic	Soluble in alcohol.
Solvents Specific Gravity	2.13
pH	~ 3 (50 g/l, H2O, 20 °C)
Flammability	Not combustible but assists combustion of other substances.
Molecular Weight	251.01
Oxidising Properties	Strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. An oxidizing agent is a material that readily yields oxygen or other oxidizing gas and readily reacts to promote combustion of combustible materials. **materials.Extremely flammable in the presence of the following materials or conditions: oxidizing** **materials.**
Other Information	Water absorption hygroscopic.

10. Stability and reactivity

Chemical stability	Stable under normal use conditons. Absorbs moisture from air
Conditions to avoid	Incompatible materials, ignition and combustible sources, metals, dust generation and moisture.
Incompatible materials	Reducing agents, easily oxidized materials, acids, bases, alkaline earth metals and aluminum/aluminum alloys, flammable and combustible

	liquids.
Hazardous decomposition products	Nitrogen oxides, carbon dioxide and metal oxide fume.
Possibility of hazardous reactions	Reacts with combustible materials (alcohols, acids) generating toxic nitrous fumes. Reacts with strong oxidising agents and reducing agents.

11. Toxicological information

Ingestion	Harmful if swallowed. Causes burns.
Inhalation	Irritating to the respiratory system and mucous membranes causing headaches.
Skin	Causes severe skin burns.
Eye	Causes severe burns to eyes.
Carcinogenicity	No evidence of carcinogenic properties.
STOT-repeated exposure	H373 May cause damage to organs(Brain)through prolonged or repeated exposure.
Chronic Effects	Chronic exposure to manganese nitrate may cause impairment to the central nervous system. Symptoms include sluggishness, sleepiness, muscle weakness, loss of facial muscle control, edema, emotional disturbances, spastic gait, weakness, general depression, headache, dizziness, abdominal cramps, vomiting, bloody diarrhea, convulsion and collapse.
Mutagenicity	No evidence of mutagenic properties.
Subchronic/Chronic Toxicity	Exposure to dust or fumes of manganese compounds causes pneumonia. Chronic exposure to manganese may cause headaches, dermatitis, decrease in blood pressure, cardiac dysrhythmia, brain effects cyanosis (blue discoloration of the blood), CNS poisoning and neuromuscular effects such as spasms, weakness in the legs, loss of facial muscle control, spastic gait, dizziness, abdominal cramps, vomiting, bloody diarrhea, emotional disturbances, tremors and rigid movements.

12. Ecological information

Persistence and degradability	Methods for the determination of biodegradability are not applicable to inorganic substances.
Other Information	Do not allow to enter waters, waste water, or soil! The following applies to magnesium compounds in general: Lethal concentration for fish: 100- 400 mg/l. The following applies to nitrates in general: may contribute to the eutrophication of water supplies. Hazard for drinking water. Fish: LC50 >500 mg/l. DO NOT ALLOW TO ENTER WATERS, WASTE WATER, OR SOIL!

13. Disposal considerations

Disposal Considerations	Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and disposed of according to relevant local, state and federal government regulations.

14. Transport information

Transport Information	Dangerous goods of Class 5.1 (Oxidizing Agent) are incompatible in a placard load with any of the following: Class 1, Class 2.1, Class 2.3, Class 3, Class 4, Class 5.2, Class 7, Class 8, Fire risk substances and Combustible liquids.
U.N. Number	2724
UN proper shipping name	MANGANESE NITRATE
Transport hazard class(es)	5.1
Hazchem Code	1Z
Packing Group	III
EPG Number	5A1
IERG Number	31

15. Regulatory information

Regulatory Information	Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals
Poisons Schedule	Not Scheduled

16. Other information

Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and weassume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rx Marine International has been advised of the possibility of such damages.