

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Identification

Product form : Mixture
 Product name : 5% Manganese Citrate (N.F.)
 CAS No : 68039-18-9

1.2. Relevant identified uses of the substance or mixture and uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Two Rivers Terminal
 3300 North Glade Road
 Pasco, Wa. 99302 - USA
 T 509-547-7776 - F 509-546-9508
www.tworiversterminal.com

1.4. Emergency telephone number

Emergency number : 24 Hour Emergency HAZMAT Response: (800) 229-5252; EPA National Response Center (800) 424-8802

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Skin Irrit. 2	H315 -	Causes skin irritation
STOT RE 2	H373 -	May cause damage to organs through prolonged or repeated exposure

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H315 - Causes skin irritation
 H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS-US) : P260 - Do not breathe dust
 P264 - Wash skin thoroughly after handling
 P280 - Wear Approved dust respirator., eye protection, protective gloves, protective clothing
 P302+P352 - If on skin: Wash with plenty of water
 P314 - Get medical advice/attention if you feel unwell
 P321 - Specific treatment (see the first aid section on this label)
 P332+P313 - If skin irritation occurs: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse
 P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

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Name	Product identifier	%	Classification (GHS-US)
Ammonium Citrate Tribasic	(CAS No) 3458-72-8	20 - 25	Skin Irrit. 2, H315 Eye Irrit. 2B, H320
manganese(II)sulfate, monohydrate	(CAS No) 10034-96-5	12 - 17	STOT RE 2, H373 Aquatic Acute 2, H401 Aquatic Chronic 2, H411
ammonia, 10%<=conc<25%, aqueous solutions	(CAS No) 1336-21-6	10 - 15	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Aquatic Acute 1, H400

Full text of H-phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Get medical advice/attention if you feel unwell.
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact : Rinse eyes with water as a precaution.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : moderate skin irritation.
Symptoms/injuries after inhalation : May cause slight irritation.
Symptoms/injuries after skin contact : Irritation.
Symptoms/injuries after eye contact : May cause slight irritation.
Symptoms/injuries after ingestion : May cause gastrointestinal discomfort.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. Do not breathe gas/fumes/vapor/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material.
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe vapors. Avoid contact with skin and eyes. Wear personal protective equipment. Do not breathe dust or spray mist.

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Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.
Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

manganese(II)sulfate, monohydrate (10034-96-5)		
ACGIH	ACGIH TWA (mg/m ³)	0.1 mg/m ³

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)		
ACGIH	ACGIH TWA (ppm)	25 ppm
ACGIH	ACGIH STEL (ppm)	25 ppm

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Hand protection : Protective gloves.
Eye protection : Safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.
Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Color : Mixture contains one or more component(s) which have the following colour(s):
Rose Colourless
Odor : There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure.
Mixture contains one or more component(s) which have the following odour(s):
Odourless Irritating/pungent odour
Odor threshold : No data available
pH : 8.5 (7 - 9)
Melting point : Not applicable
Freezing point : No data available
Boiling point : > 100 °C
Flash point : Not Applicable
Relative evaporation rate (butyl acetate=1) : No data available
Flammability (solid, gas) : No data available
Explosion limits : No data available
Explosive properties : No data available
Oxidizing properties : No data available
Vapor pressure : No data available
Relative density : No data available
Relative vapor density at 20 °C : No data available
Specific gravity / density : 1.34 g/ml
Solubility : Water: Solubility in water of component(s) of the mixture :
• : 100 g/100ml • ammonia, 10%<=conc<25%, aqueous solutions: Complete
Log Pow : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Viscosity : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)

LD50 oral rat	350 mg/kg
ATE US (oral)	350.000 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
pH: 8.5 (7 - 9)

Serious eye damage/irritation : Not classified
pH: 8.5 (7 - 9)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May cause slight irritation.

Symptoms/injuries after skin contact : Irritation.

Symptoms/injuries after eye contact : May cause slight irritation.

Symptoms/injuries after ingestion : May cause gastrointestinal discomfort.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

manganese(II)sulfate, monohydrate (10034-96-5)

LC50 fish 1	2850 mg/l (96 h; Colisa fasciatus; Anhydrous form)
EC50 Daphnia 1	8.28 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	33.8 mg/l (96 h; Pimephales promelas; Anhydrous form)
EC50 Daphnia 2	10 mg/l (24 h; Daphnia magna; Anhydrous form)

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manganese(II)sulfate, monohydrate (10034-96-5)

Threshold limit algae 1	25.7 mg/l (Phaeodactylum; Anhydrous form)
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12.2. Persistence and degradability

manganese(II)sulfate, monohydrate (10034-96-5)

Persistence and degradability	Biodegradability: not applicable.
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Biochemical oxygen demand (BOD)	Not applicable
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Chemical oxygen demand (COD)	Not applicable
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ThOD	Not applicable
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BOD (% of ThOD)	Not applicable
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ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)

Persistence and degradability	Readily biodegradable in water. Ozonation in water. Biodegradable in the soil. No (test)data on mobility of the components available. Ozonation in the air.
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12.3. Bioaccumulative potential

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)

Log Pow	-1.14
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Bioaccumulative potential	Bioaccumulation: not applicable.
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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

No additional information available

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

TDG

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

manganese(II)sulfate, monohydrate (10034-96-5)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Ammonium Citrate Tribasic (3458-72-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Listed on SARA Section 313 (Specific toxic chemical listings)

RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
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15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 07/21/2015

Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H320	Causes eye irritation
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects

NFPA health hazard

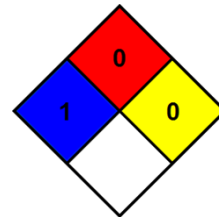
: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



SDS US (GHS HazCom 2012)

All information contained in this Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion the information is, as of the date of this Safety Data Sheet, reliable, however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you, and you must make independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees. Accordingly, no guarantee is expressed or implied as to the results to be obtained based upon your use of the information.