



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

Product identifier

Product Name Soluble Granular Ammonium Sulfate and Manganese Chelate - 14-0-0-4 Mn

Other means of identification

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use Fertilizer

Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier Name QC, LLC
Supplier Address 5566 Nash Road
Cape Girardeau, MO 63701
Supplier Phone Number 800-666-4766 Fax: 573-335-2308
Contact Phone 573-335-6700
Supplier Email info@qccorporation.com

Emergency telephone number CHEMTREC 800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazardous Communication Standard (29 CFR 1910.1200).

Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 2

GHS Label elements, including precautionary statements

Emergency Overview



Signal word
Hazard statement(s)

Danger

Causes serious eye irritation
May cause damage to organs through prolonged or repeated exposure

Appearance: Gray

Physical state: Granular Solid

Odor: Slight

Precautionary Statements - Prevention

Do not breathe dust/fume/gas/mist/vapors/spray.

Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements - Response

Specific treatment (see supplemental first aid instructions on this label). Get medical attention if you feel unwell.

In case of eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

Precautionary Statements – Storage: None

Precautionary Statements – Disposal: Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC): Not applicable

Unknown Toxicity: 0% of the mixture consists of ingredient(s) of unknown toxicity.

Other information: Harmful to aquatic life with long lasting effects

Interactions with Other Chemicals: No other information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight - %	Trade Secret
Ammonium Sulfate	7783-20-2	60 - 100	*
Citric acid	77-92-9	10 – 30	*
Manganese sulfate monohydrate	10034-96-5	10 – 30	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General Advice: Show this safety data sheet to the doctor in attendance.

If inhaled: Remove to fresh air. Get medical attention immediately if symptoms occur.

In case of skin contact: Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

In case of eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Seek immediate medical attention/advice.

If swallowed: Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. DO NOT induce vomiting. Call a physician.

Self-protection of the first aider: Avoid contact with skin, eyes, or clothing. Use personal protective equipment as required. Wear personal protective clothing (see Section 8).

Most important symptoms and effects, both acute and delayed

Most important known symptoms and effects: Burning sensation.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: CAUTION: Use of water spray when fighting fire may be inefficient.

Special hazards arising from the chemical: No information available.

Uniform Fire Code: Irritant: Solid

Hazardous Combustion Products: Carbon oxides

Explosion Data: Sensitivity to Mechanical Impact: No
Sensitivity to Static Discharge: No

Protective equipment and precautions for firefighters: Wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or Equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid contact with skin, eyes, or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas.

Other information: Refer to protective measures listed in Sections 7 and 8.

Environmental precautions: Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Methods for containment: Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling:

Handling: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes. Do not ingest. If swallowed, then seek immediate medical Assistance.

Conditions for safe storage, including any incompatibilities

Storage: Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

Incompatible Products: Strong acids. Strong oxidizing agents. Strong bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese sulfate monohydrate 10034-96-5	TWA: 0.02 mg/m ³ Mn TWA: 0.1 mg/m ³ Mn	(vacated) Ceiling: 5 mg/m ³ Mn Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn

ACGIH TLV: American Conference of Governmental Industrial Hygienists – Threshold Limit Value
OSHA PEL: Occupational Safety and Health Administration – Permissible Exposure Limits Immediately Dangerous to Life or Health

Other exposure guidelines: Vacated limits revoked by the Court of Appeals decision in AFL-CIO versus OSHA, 965F.2d 962 (11th Cir., 1992). See Section 15 for national exposure control parameters.

Appropriate engineering controls:

Engineering Measures: Showers, Eyewash Stations, Ventilation Systems

Individual protection measures, such as personal protective equipment:

Eye/face protection: If splashes are likely to occur, wear safety glasses with side shields (or goggles). None required for consumer use.

Skin and body protection: Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink, or smoke when using this product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical State	Solid	
Appearance	Granular	Odor Slight
Color	Gray	Odor Threshold No data available

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
pH	No data available	None known
Melting/freezing point	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water solubility	Soluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Auto-ignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known

Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous Polymerization: Hazardous polymerization does not occur.

Conditions to avoid: None known based on information supplied.

Incompatible materials: Strong oxidizing agents. Strong acids. Strong bases.

Hazardous decomposition products: Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product information

Inhalation: Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

Eye contact: Specific test data for the substance or mixture is not available. Causes serious eye damage. Severely irritating to eyes. May cause irreversible damage to eyes.

Skin contact: Specific test data for the substance or mixture is not available. Causes skin irritation (based on components). Prolonged contact may cause redness and irritation.

Ingestion: Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea. May be harmful if swallowed (based on components).

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium sulfate 7783-20-2	=2000 mg/kg (Rat)	---	---
Manganese sulfate monohydrate 10034-96-5	=2150 mg/kg (Rat)	---	---

Information on toxicological effects

Symptoms

Erythema (skin redness). May cause redness and tearing of the eyes. May cause blindness. Burning.

Delayed and immediate effects as well as chronic effects from short & long-term exposure

Sensitization	No information available
Mutagenic effects	No information available
Carcinogenicity	Contains no ingredient listed as carcinogen
Reproductive toxicity	No information available
STOT-single exposure	No information available
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).
Chronic toxicity	No known effect based on information supplied. Avoid repeated exposure. Prolonged exposure may cause chronic effects. May cause adverse effects on the bone marrow and blood-forming system
Target organ affects	Respiratory system, Eyes, Blood. Central Nervous System (CNS) and Kidneys
Aspiration hazard	No information available

Numerical measure of toxicity product information

The following values are calculated based on Chapter 3.1 of the GHS document.

ATEmix (oral)

1,412.00 mg/kg

ATEmix (inhalation-dust/mist)

3.21 mg/l

12. ECOLOGICAL INFORMATION

ECOTOXICITY: Toxic to aquatic organisms. Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Citric acid 77-92-9		96h LC50: = 1516 mg/L (Lepomis macrochirus)		72h EC50: = 120 mg/L
Ammonium sulfate 7783-20-2		96h LC50: = 250 mg/L (Brachydanio rerio) 96h LC50: = 480 mg/L (Brachydanio rerio) 96h LC50: = 18 mg/L (Cyprinus carpio) 96h LC50: = 420 mg/L (Brachydanio rerio) 96h LC50: 32.2 - 41.9 mg/L (Oncorhynchus mykiss) 96h LC50: 5.2 - 8.2 mg/L (Oncorhynchus mykiss) 96h LC50: > 100 mg/L (Pimephales promelas) 96h LC50: 123 - 128 mg/L (Poecilia reticulata) 96h LC50: = 126 mg/L (Poecilia reticulata) 96h LC50: 460 - 1000 mg/L (Leuciscus idus)		48h LC50: = 14 mg/L 24h EC50: = 423 mg/L

Persistence and Degradability: No data available

Bioaccumulation:

Chemical Name	CAS-No.	Log Pow
Ammonium Sulfate	7783-20-2	-5.1
Citric acid	77-92-9	-1.72

Other adverse effects: No data available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal methods: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging Dispose of contents/containers in accordance with local regulations.

14. TRANSPORT INFORMATION

<u>DOT</u>	Not Regulated
Proper shipping Name	Non Regulated
Hazard Class	Not applicable
<u>TDG</u>	Not Regulated
<u>MEX</u>	Not Regulated
<u>ICAO</u>	Not Regulated
<u>IATA</u>	Not Regulated
Proper Shipping Name	Non Regulated
Hazard Class	Not applicable
<u>IMDG/IMO</u>	Not Regulated
Hazard Class	Not applicable
Marine Pollutant	Product is a marine pollutant according to the criteria set by IMDG/IMO.
<u>RID</u>	Not Regulated
<u>ADR</u>	Not Regulated
<u>ADN</u>	Not Regulated

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL All components are listed on either the DSL or NDSL

TSCA – United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL – Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313 - Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals that are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	CAS No.	Weight - %	SARA 313-Threshold Values %
Ammonium sulfate	7783-20-2	60 - 100	1.0
Manganese sulfate	10034-96-5	10 - 30	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive hazard	No

CWA (Clean Water Act) - This product does not contain any substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA – This material, as supplied, does not contain any substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Citric acid			RQ Section number 180.950

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

US State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Ammonium sulfate 7783-20-2		X	X	X	
Manganese sulfate monohydrate 10034-96-5			X	X	X

International Regulations

Mexico

National occupation exposure limits

Component	Carcinogen Status	Exposure Limits
Manganese sulfate monohydrate 10034-96-5		Mexico: TWA 0.2 mg/m ³

Mexico – Occupational Exposure Limits – Carcinogens

16. OTHER INFORMATION

NFPA Rating Health Hazards: 3 Flammability: 0 Instability: 0 Physical & Chemical Hazards

HMIS Rating Health Hazards: 3* Flammability: 0 Physical Hazard 0 Personal Protection: X

Chronic Hazard Star Legend * = Chronic Health Hazard

Further information

This SDS summarizes to the best of our knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since QC, LLC cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material. The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in these documents is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. QC, LLC and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.qccorporation.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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