

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Other Hazards

May be harmful if swallowed Toxic to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS*

Chemical name	CAS No	Weight-%
Manganese sulfate monohydrate	10034-96-5	36

4. FIRST AID MEASURES**First Aid Measures**

General advice	Do not get in eyes, on skin, or on clothing.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Consult a physician if necessary.
Inhalation	Remove to fresh air. Call a physician immediately.
Ingestion	DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Call a physician immediately.
<u>Self-protection of the first aider</u>	Use personal protection recommended in Section 8. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

5. FIREFIGHTING MEASURES**Suitable extinguishing media**

Water spray, dry chemical, carbon dioxide (CO₂), or foam.

Protective equipment and precautions for firefighters

As in any fire, 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	Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing.
Environmental precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).
Methods for cleaning up	Use personal protective equipment. Contain and collect spillage with non-combustible

absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Following product recovery, flush area with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Use only in area provided with appropriate exhaust ventilation. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials. Keep out of the reach of children.

Incompatible Products Strong bases. Metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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 Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and body protection Gloves & Lab Coat.

Respiratory protection Use only with adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state liquid
Appearance Clear pink
Odor None

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	3	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	

Vapor pressure	No information available
Vapor density	No information available
Specific gravity	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Excessive heat.
Incompatible materials	Strong bases. Metals.
Hazardous decomposition products	Sulfur oxides (SO _x). Manganese oxides.

11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure****Component identification**

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Manganese sulfate monohydrate 10034-96-5	= 782 mg/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established	Not Established

Chronic toxicity Chronic manganese poisoning primarily involves the central nervous system. Chronic manganese poisoning can result from excessive inhalation and ingestion. Early symptoms include sluggishness, sleepiness, and weakness in the legs. Kidney effects. Chronic inhalation exposure can cause lung damage.

ATEmix (oral) 2,172.00 mg/kg

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Unknown Aquatic Toxicity 64 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Manganese sulfate monohydrate 10034-96-5	Not Established

13. DISPOSAL CONSIDERATIONS**Disposal Methods** Dispose of waste product or used containers according to local regulations.**Contaminated packaging** Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Manganese sulfate monohydrate 10034-96-5	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Manganese sulfate monohydrate 10034-96-5	-

14. TRANSPORT INFORMATION**DOT** Not regulated**IATA** Not regulated**IMDG/IMO** Not regulated**15. REGULATORY INFORMATION****International Inventories**

TSCA	Complies
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Complies
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

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 which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Manganese sulfate monohydrate 10034-96-5	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 regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances 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	CERCLA/SARA RQ	RQ
Manganese sulfate monohydrate 10034-96-5	-	Not Established	-

US State Regulations**California Proposition 65**

Chemical name	California Proposition 65
Manganese sulfate monohydrate 10034-96-5	Not Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Manganese sulfate monohydrate 10034-96-5	X	Not Established	X

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances**16. OTHER INFORMATION**

NFPA	Health hazard 1	Flammability 0	Instability 0	Physical and Chemical Hazards N/A
	Health hazard 2	Flammability 0	Stability 0	



Health Hazard	2
Fire Hazard	0
Reactivity	0

Prepared by
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MSDS was reviewed per Canada request - Canada requires MSDS to be dated within 3 years of the request

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet