SAFETY DATA SHEET

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

1.1 Product identifiers

Product name	Manganese Chloride
CAS number	13446-34-9
Synonyms	No information available.

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

Identified uses	No information available.

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity (oral, dermal, inhalation)	Category 4
Specific target organ toxicity - (repeated exposure)	Category 2
Chronic hazards to the aquatic environment	Category 3

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Warning
Hazard statements	Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.
Precautionary statements	Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Do not breathe dust/fume/gas/mist/vapors/spray. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Get medical advice/attention if you feel unwell. Collect spillage.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

May form combustible dust concentrations in air (during processing).

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Manganese chloride	-	13446-34-9	100%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled	Loosen clothing as necessary and position individual in a comfortable position. Remove to fresh air. Give artificial respiration if necessary. If breahting is difficult give oxygen. Consult a physician.
In case of skin contact	Wash hands and exposed skin with soap and plenty of water. Consult a physician.
In case of eye contact	Protect unexposed eyes. Rinse or flush exposed eye gently using water for 15-20 minutes. Remove contact lenses while rinsing. Seek medical attention if irritation persists or if concerned.
If swallowed	Rinse mouth thoroughly. Never give anything by mouth to an unconscous person. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Shortness of breath. Irritation. Nausea. Headache.

4.3 Indication of any immediate medical attention and special treatment needed

If seeking medical attention provide SDS document to physician.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media — Use extinguishing measures that are appropraite to local circumstances and the surrounding environment.

Unsuitable extinguishing media — No information available.

5.2 Specific hazards arising from the substance or mixture

Hydrogen chloride gas. Managanese. Manganese oxides.

5.3 Special protective equipment and precautions for firefighters

Wear protective eyeware, gloves, and clothing. Refer to Section 8. Avoid generating dust. Avoid breathing vapors, mist, or gas.

5.4 Further information

Flash Point — No information available

Autoignition Temperature — No information available

Explosion limits

Upper	No data available
Lower	No data available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

NFPA

Health	Flammability	Instability	Physical hazards
1	0	0	N/A

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

6.2 Environmental precautions

Prevent from reaching drains, sewer, or waterway. If safe to do so prevent further leakage or spillage. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Follow Chemical Hygiene Plan. Pick up and arrange disposal without creating dust. Sweep up and containerize for disposal. Refer to Section 8. If necessary use trained response staff or contractor.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Minimize dust generation and accumulation. Wash hands after handling. Provide appropriate exhaust ventilation at place where dust is formed. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Use only in well ventilated areas. Avoid contact with eyes, skin, and clothing.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands and exposed skin with soap and plenty of water. Wash hands before breaks and immediately after handling the product. Do not inhaled gases, fumes, dust, mist, vapor, and aerosols. Do not eat, drink, smoke, or use personel products when handling chemical substances. Before wearing wash contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep container tightly closed in a cool, dry, and well-ventilated area. Refer to Sections 5, 8, and 10. Store with like hazards. Follow Chemical Hygiene Plan. Store away from incompatible materials. Store away from food.

Incompatibilities

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Maganese Chloride	PEL	5 mg/m3
	TWA	15 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Maganese Chloride	TLV	0.2 mg/m3
	TWA	10 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

No information available.

Biological occupational exposure limits
No information available

8.2 Exposure controls

Appropriate engineering controls
It is recommended that all dust control equipment such a local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen defieicent environment. Emergency eye wash fountains and safety showers should be available in the immediate vicinty of use or handling. Provide exhaust ventilation or other enginerring controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits - OELs) indicated above.

Personal protective equipment

Eye/face protection
Safety glasses with side shields or goggles. Wear equipment for eye protection tested and approved under appropraite government standards such as NIOSH (US) or EU 166 (EU).

Skin and body protection
Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Complete suit protecting against chemicals. The type of protecitve equipmen must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Respiratory protection
For nuisance exposures use type P95 (US) or Type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure
No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Crystalline powder
Appearance	Light red
Odor	Odorless

Odor Threshold	No information available
pH	4.0 - 6 at 99 g/l at 25 °C
Melting Point/Range	58 °C
Boiling Point/Range	1190 °C
Evaporation Rate	No information available
Flammability (solid)	No information available
Flammability or explosive limit	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Density	1.913 g/cm3
Solubility	99 g/l at 20 °C
Partition coefficient; n-octanol/water	No information available
Autoignition Temp	No information available
Decomposition Temp	No information available
Viscosity	No information available
Molecular Formula	MnCl2 - 4H2O
Molecular Weight	197.9
VOC Content(%)	No information available
Oxidizing properties	No information available

9.2 Other safety information
No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Nonreactice under normal conditions.

10.2 Chemical stability
Stable under normal conditions.

10.3 Possibility of hazardous reactions
None under normal processing.

10.4 Conditions to avoid
Incompatible materials. Dust generation. Excess heat. Exposure to moist air or water.

10.5 Incompatible materials
Sodium. Sodium oxides. Strong aicds. Potassium. Zinc. Strong reducing agents. Hydrogen peroxides.

10.6 Hazardous decomposition products
Hydrogen chloride. Oxides of maganese. Irritating and toxic fumes and gases.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Manganese chloride	1484 mg/kg (rat)	-	-

Skin corrosion/irritation
No information available

Serious eye damage/eye irritation
No information available

Respiratory or skin sensitization
No information available

Germ cell mutagenicity
Laboratory experiments have shown mutagenic effects.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Manganese chloride	13446-34-9	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure
None known

Specific target organ toxicity - repeated exposure
None known

Reproductive toxicity
No information available

Chronic effects
No information available

11.2 Additional Information
No information available

SECTION 12: Ecological information

12.1 Toxicity

Product		Species	Test Results
Manganese Chloride	LC50	Carassius auratus	18.8 mg/l 7 d
	EC50	Daphnia magna	>11 mg/l 48h

12.2 Persistence and degradability

No information available

12.3 Bio accumulative potential
No information available

12.4 Mobility in soil
No information available

12.5 Results of PBT and vPvB assessment
No information available

12.6 Endocrine disrupting properties
No information available

12.7 Other adverse effects
No information available

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)
Not regulated

IMDG
Not regulated

IATA
Not regulated

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Listed.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not listed.

SARA 304 Emergency release notification

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Listed, Acute Health Hazard, Chronic Health Hazard.

SARA 313 (TRI reporting)

Not listed.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Not listed

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

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Revision: 0

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet 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.