Manganese Chloride

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product name: Manganese Chloride
Other names or synonyms: Manganese dichloride; Manganese (II) chloride; Manganese bichloride; Manganous chloride.
Recommended uses: It is mainly used as chlorination catalyst for organic substances, paint drier, raw material for gasoline antiknock agent, welding material for nonferrous metals, in the production of fertilizers, pigments, metallurgy of alloy, brown black brick, ceramics, etc.
Restrictions on use: Please consult your regulatory authorities for any restrictions on use of this product.

Distributor name: Pestell Minerals & Ingredients Inc.
Address: 141, Hamilton Road, New Hamburg, On N3A 2H1
Telephone number: (1) 519-662-2877
Email: qa@pestell.com
Emergency phone number: CANUTEC (24hs) 613-996-6666

SECTION 2: HAZARD IDENTIFICATION

Hazard classification: Acute toxicity, Category 4. Oral, H302
Acute aquatic toxicity, Category 3, H402
Warning
H302 Harmful if swallowed.
H402 Harmful to aquatic life.

Signal word: PREVENTION:

Hazard statements: P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

Precautionary statements: P273 Avoid release to the environment.
RESPONSE:
P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.

STORAGE: Not applicable.

DISPOSAL:
P501 Dispose of contents/container in accordance with all local, regional, national and international regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation: Substance
Ingredient: Manganese Chloride
Formula: MnO₂·xH₂O
CAS number: 7773-01-5 (anhydrous), 64333-01-3 (monohydrate), 13446-34-9 (Tetrahydrate)
EC number: 231-869-6
Manganese Chloride

SECTION 4: FIRST-AID MEASURES

Skin: Take off contaminated clothing, flush skin with plenty of water. Seek medical attention if symptoms persist.

Eyes: Flush eyes with plenty of water for at least 15 minutes. Seek medical attention.

Ingestion: DO NOT induce vomiting! Never give anything by mouth to an unconscious person. Seek medical attention.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if discomfort continues.

Symptoms and effects:

SKIN: Redness.

EYE: Redness, pain, weeping.

INHALATION: Coughing, pain, shortness of breath.

INGESTION: Vomiting, nausea, diarrhea.

Advice to doctor: No special antidote. Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media: This product does not burn or support combustion. Use extinguishing media appropriate for surrounding fire.

Hazard: This product is non-flammable but may form oxides of manganese and halogen, possibly also free, or ionic halogen if heated to decompose.

Advice for fire-fighters: Wear a self-contained breathing apparatus with a full protective clothing in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear protective equipment to prevent skin and eye contamination and inhalation of dust.

Environmental precautions: Prevent entry into sewers or streams and other water bodies.

Disposal methods: Use appropriate tools to put the spilled material into a sealed container and hold for reuse or later disposal.

SECTION 7: HANDLING AND STORAGE

Handling: Avoid breathing dust. Avoid contacting skin, eyes and clothing. Use with adequate ventilation. No smoking, eating and drinking water at workplace. Avoid prolonged or repeated exposure.

Storage: Store in a dry place, keep away from conditions of high temperature and moisture. Avoid physical damages. Do not use this product if coated with brownish-yellow basic ferric sulfate. Please pay attention to SECTION 10 CONDITIONS TO AVOID and INCOMPATIBLE MATERIALS

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION


<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</th>
<th>Basis</th>
<th>Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese Chloride</td>
<td>5 mg/m3</td>
<td>CEIL</td>
<td>OSHA</td>
</tr>
<tr>
<td></td>
<td>0.2 mg/m3</td>
<td>TLV</td>
<td>ACGIH</td>
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<tr>
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<td>1 mg/m3</td>
<td>REL</td>
<td>NIOSH</td>
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<tr>
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<td>3 mg/m3</td>
<td>STEL</td>
<td>NIOSH</td>
</tr>
<tr>
<td></td>
<td>500 mg/m3</td>
<td>IDLH</td>
<td>OSHA</td>
</tr>
</tbody>
</table>

Engineering controls: Use adequate exhaust ventilation to keep airborne concentrations below the allowable
Manganese Chloride

Respiratory protection: Dustproof respirators when dusts are generated.
Hand protection: Protective gloves, leather, rubber or plastic.
Eye protection: Chemical goggles or safety glasses.
Skin and body protection: Resistant protective clothing.
Hygiene precautions: No smoking, eating and drinking water at workplace. Washing hands before eating. Taking bath after work.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid pink or roseate powder/crystal/ granule.
Odor: Odorless
Odor Threshold: Not applicable
pH value: 5.0-5.7 (typical 5.5)
Melting/freezing point: 650°C (anhydrous); 56°C (tetrahydrate)
Boiling point: 1190°C (anhydrous)
Flash point: Not applicable
Evaporation rate: Not applicable to solids.
Flammability: No flammability, explosiveness or auto-inflammability properties.
Upper/lower flammability or explosive limits: Not applicable
Vapor pressure: Endpoint is not relevant.
Vapor density: Not applicable
Relative density: 2.977 (anhydrous)
Solubility: Readily soluble in water.
Partition coefficient : Not applicable to metal compounds.
(n-octanol/water)
Auto-ignition temperature: No flammability, explosiveness or auto-inflammability properties.
Decomposition temperature: 106°C (tetrahydrate) (Begins to lose molecular water)
Viscosity: Not relevant

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Dangerous reactions are not expected under ambient and anticipated temperature and handling conditions of temperature and pressure.
Chemical stability: Stable under ambient and anticipated temperature and handling conditions of temperature and pressure.
Possibility of hazardous reactions: No polymerization will occur.
Conditions to avoid: Incompatible materials, moisture.
Incompatible materials: Strong reducing agents, hydrogen peroxide, potassium, sodium, and zinc.
Hazardous decomposition products: Oxides of the contained metal and halogen, possibly also free, or ionic halogen.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute toxicity: Acute Oral LD50: 1454 mg/kg (rat)
Acute Dermal LD50: Not Available.
Acute Inhalation LC50: Not Available.
Manganese Chloride

Skin irritation/corrosion: May cause skin irritation.
Eye damage/irritation: May cause eye irritation.
Respiratory or skin sensitization: No sensitizing effects known.
Germ cell mutagenicity: No biologically relevant genotoxic activity.
Carcinogenicity: Not listed as a suspected / confirmed carcinogen by IARC, NTP.
Production toxicity: No experimental or epidemiological evidence exists to justify classification of iron compounds for reproductive or developmental toxicity.
STOT-single exposure: No experimental or epidemiological sufficient evidence for specific target organ toxicity (single exposure).
STOT-repeated exposure: No experimental or epidemiological sufficient evidence for specific target organ toxicity (repeated exposure).
Aspiration hazard: Not available.
Routes of entry: Ingestion, eye and skin contact.
Chronic exposure: Chronic manganese poisoning can result from excessive inhalation and ingestion exposure and involves impairment of the central nervous system. Kidney effects, blood changes and manganese psychosis also may occur as a result of chronic exposure. Chronic inhalation exposure can cause lung damage.
Other information: No more information available.

SECTION 12: ECOLOGICAL INFORMATION
Toxicity: No information found. Don't allow undiluted product or large quantities to penetrate into ground water, water bodies or sewage system.
Persistence and biodegradability: Not Applicable.
Bio-accumulative potential: Do not bio-accumulate or bio-magnify.
Mobility in soils: No information found.
Results of PBT and vPvB assessment: Not relevant to inorganic substances.
Other adverse effects: No more information available.

SECTION 13: DISPOSAL CONSIDERATIONS
Methods of disposal: Dispose of in accordance with all government regulations.
Contaminated packaging: Dispose of the packaging in accordance with all government regulations.

SECTION 14: TRANSPORT INFORMATION
IMDG: Not regulated.
UN No.: Hazard Class:
Packing Group:
Marine Pollutant:
Proper Shipping name:
Pictograms:
ADR/RID: Not regulated.
UN No.: Hazard Class:
Manganese Chloride

Packing Group:
Proper Shipping name:

ITAT:
Not regulated.
UN No.:
Hazard Class:
Packing Group:
Proper Shipping name:

DOT (U.S.):
DOT Shipping Name: Not Regulated.
DOT Hazardous Class: Not Applicable.
DOT UN Number: Not Applicable.
DOT Packing Group: Not Applicable.
DOT Reportable Quantity (lbs): Not Available.
Note: No additional remark.
Marine Pollutant: No.

TDG (Canada):
TDG Shipping Name: Not Regulated.
Hazard Class: Not Applicable.
UN Number: Not Applicable.
Packing Group: Not Applicable.
Note: No additional remark.
Marine Pollutant: No.

SECTION 15: REGULATORY INFORMATION

China:
List of Severely Restricted Toxic Chemicals for Export and Import: Not regulated.
GB 18218-2009 Identification of major hazard installations for dangerous chemicals: Not regulated.
China's inventory of existing chemical substances (IECSC) 2013: Listed

Other countries: Please refer to any applicable national and international regulations on the hazard and safety of this product.

SECTION 16: ADDITIONAL INFORMATION

Training advice:
Provide adequate information, instructions and training for operators.

Revision information:
Version number: V.04 Date of issue: 26 October 2015
Supersedes version: V.03 Supersedes date: 26 October 2015

Disclaimer:
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End of SDS