

Safety Data Sheet

acc. to OSHA HCS (29 CFR 1910.1200)

Printing date: 08/16/2016

Revision: 08/16/2016

1 Identification

- **Product identifier**
- **Trade name:** Manganese Phosphate Parkerizing Solution
- **Article number:** No other identifiers
- **Recommended use and restriction on use**
- **Recommended use:** Industrial uses.
- **Restrictions on use:** No relevant information available.
- **Details of the supplier of the Safety Data Sheet**
- **Manufacturer/Supplier:**
LCW Manufacturing
3601 129th St.
Chippewa Falls, WI 54729
800-830-6677
- **Emergency telephone number:**
ChemTel Inc.
(800)255-3924, +1 (813)248-0585

2 Hazard(s) identification

- **Classification of the substance or mixture**
- Eye Irrit. 2A H319 Causes serious eye irritation.
- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- Carc. 1A H350 May cause cancer. Route of exposure: Inhalation.
- Repr. 1 H360 May damage fertility or the unborn child.
- STOT RE 2 H373 May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.

- **Label elements**
- **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS08

- **Signal word:** Danger
- **Hazard statements:**
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H350 May cause cancer. Route of exposure: Inhalation.
H360 May damage fertility or the unborn child.
H373 May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.

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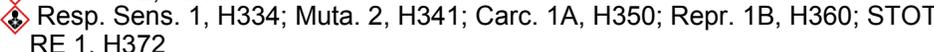
Precautionary statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe mist/vapors/spray.
P284	In case of inadequate ventilation wear respiratory protection.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection.
P272	Contaminated work clothing must not be allowed out of the workplace.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302+P352	IF ON SKIN: Wash with plenty of water.
P363	Wash contaminated clothing before reuse.
P304+P341	If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Components:

18718-07-5	manganese bis(dihydrogen phosphate)  STOT RE 2, H373  Eye Irrit. 2A, H319	10-15%
7664-38-2	phosphoric acid  Skin Corr. 1B, H314	1-5%
10377-66-9	manganese dinitrate  Ox. Liq. 2, H272	1-5%
13138-45-9	nickel dinitrate  Ox. Sol. 2, H272  Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1A, H350; Repr. 1B, H360; STOT RE 1, H372  Eye Dam. 1, H318  Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Skin Sens. 1, H317	<1%

Additional information:

For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
 For the wording of the listed Hazard Statements refer to section 16.

4 First-aid measures

Description of first aid measures

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

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- **After skin contact:**
Immediately remove any clothing soiled by the product.
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
- **Most important symptoms and effects, both acute and delayed:**
Asthma attacks
Breathing difficulty
Coughing
Allergic reactions
Irritant to eyes.
Gastric or intestinal disorders when ingested.
Nausea in case of ingestion.
Fever
Cyanosis
Acidosis
- **Danger:**
Danger of impaired breathing.
May cause cancer. Route of exposure: Inhalation.
May damage fertility or the unborn child.
May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
- **Indication of any immediate medical attention and special treatment needed:**
Contains manganese salts. Consult literature for specific antidotes.
Severe allergic skin reaction, bronchial spasms and anaphylactic shock are possible.
Medical supervision for at least 48 hours.
If necessary oxygen respiration treatment.
Later observation for pneumonia and pulmonary edema.
Contains nickel dinitrate. May produce an allergic reaction.
Treat skin and mucous membrane with antihistamine and corticoid preparations.
In cases of irritation to the lungs, initial treatment with cortical steroid inhalants.
If medical advice is needed, have product container or label at hand.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
The product is not flammable.
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** None.
- **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.

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- **Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures:**
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.
Isolate area and prevent access.
- **Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Use limestone to neutralize and absorb spill.
Send for recovery or disposal in suitable receptacles.
- **Reference to other sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling**
- **Precautions for safe handling:**
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.
- **Information about protection against explosions and fires:**
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:**
Provide ventilation for receptacles.
Avoid storage near extreme heat, ignition sources or open flame.
Use only receptacles specifically permitted for this substance/product.
Unsuitable material for receptacle: aluminium.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Keep containers tightly sealed.
- **Specific end use(s):** No relevant information available.

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8 Exposure controls/personal protection

· Control parameters

· Components with limit values that require monitoring at the workplace:

7664-38-2 phosphoric acid

PEL (USA)	Long-term value: 1 mg/m ³
REL (USA)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³
TLV (USA)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³
EL (Canada)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³
EV (Canada)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³
LMPE (Mexico)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³

13138-45-9 nickel dinitrate

PEL (USA)	Long-term value: 1 mg/m ³ as Ni
REL (USA)	Long-term value: 0.015 mg/m ³ as Ni; See Pocket Guide App. A
TLV (USA)	Long-term value: 0.1 mg/m ³ as Ni; inhalable fraction
EL (Canada)	Long-term value: 0.05 mg/m ³ as Ni; ACGIH A1, IARC 1
EV (Canada)	Long-term value: 0.1 mg/m ³ Inhalable fraction, as Ni
LMPE (Mexico)	Long-term value: 0.1 mg/m ³ Fracción inhalable; A4; como Ni

manganese salts

PEL (USA)	Ceiling limit value: 5 mg/m ³ as Mn
REL (USA)	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³ fume, as Mn
TLV (USA)	Long-term value: 0.02* 0.1* mg/m ³ as Mn; *respirable **inhalable fraction
EL (Canada)	Long-term value: 0.2 mg/m ³ as Mn; R
EV (Canada)	Long-term value: 0.2 mg/m ³ as manganese
LMPE (Mexico)	Long-term value: 0.2 mg/m ³ como Mn

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- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Do not inhale gases / fumes / aerosols.
- **Engineering controls:** No relevant information available.
- **Breathing equipment:**
Use suitable respiratory protective device when aerosol or mist is formed.
For spills, respiratory protection may be advisable.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

- **Material of gloves**
Nitrile rubber, NBR
Neoprene gloves
Natural rubber, NR
Butyl rubber, BR
PVC gloves
Sensibilization by the components in the glove materials is possible.
- **Eye protection:**



Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

- **Body protection:**
Protective work clothing
Protection may be required for spills.
- **Limitation and supervision of exposure into the environment**
No relevant information available.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Characteristic
Odor threshold:	Not determined.

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· pH-value (20 g/l) at 20 °C (68 °F):	2.5 - 3.5
· Melting point/Melting range:	-5 - 0 °C
· Boiling point/Boiling range:	100 - 105 °C (212 - 221 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Auto-ignition temperature:	Not determined.
· Decomposition temperature:	Not determined.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits	
Lower:	Not determined.
Upper:	Not determined.
· Oxidizing properties:	Non-oxidizing.
· Vapor pressure:	Not determined.
· Density:	
Relative density:	1.1-1.3
Vapor density:	Not determined.
Evaporation rate:	1 (Water=1)
· Solubility in / Miscibility with Water:	Soluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No relevant information available.

10 Stability and reactivity

- **Reactivity:** No relevant information available.
- **Chemical stability:** Stable under normal temperatures and pressures.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions:**
Reacts with strong alkali.
Reacts with strong oxidizing agents.
Reacts with light alloys to form hydrogen.
- **Conditions to avoid:**
Prevent from drying out.
Keep away from heat and direct sunlight.
- **Incompatible materials:**
Alkalis

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Reducing agents.

· **Hazardous decomposition products:**

Under fire conditions only:

Toxic metal oxide smoke

Phosphorus oxides (e.g. P₂O₅)

Hydrogen, when reacted with metals.

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:** None.

· **Primary irritant effect:**

· **On the skin:** Slight irritant effect on skin and mucous membranes.

· **On the eye:** Irritating effect.

· **Sensitization:** May cause sensitisation by inhalation and skin contact.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer):**

13138-45-9	nickel dinitrate	1
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· **NTP (National Toxicology Program):**

13138-45-9	nickel dinitrate	K
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· **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.		
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· **Probable route(s) of exposure:**

Ingestion.

Inhalation.

Eye contact.

Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):** Irritating to eyes.

· **Repeated dose toxicity:** Repeated exposures may result in skin and/or respiratory sensitivity.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Carc. 1A, Repr. 1

· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.

· **Carcinogenicity:** May cause cancer. Route of exposure: Inhalation.

· **Reproductive toxicity:**

Based on available data, the classification criteria are not met.

May damage fertility or the unborn child.

· **STOT-single exposure:** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure:**

May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.

· **Aspiration hazard:** Based on available data, the classification criteria are not met.

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity** Harmful to aquatic life with long lasting effects.
- **Persistence and degradability** No relevant information available.
- **Bioaccumulative potential:** May be accumulated in organisms.
- **Mobility in soil:** No relevant information available.
- **Additional ecological information**
- **General notes:** Do not allow product to reach ground water, water course or sewage system.
- **Other adverse effects:** No relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|--|-----------------|
| <ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA | Not regulated. |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, ADR, IMDG, IATA | Not regulated. |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT, ADR, IMDG, IATA · Class | Not regulated. |
| <ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA | Not regulated. |
| <ul style="list-style-type: none"> · Environmental hazards · Marine pollutant: | No |
| <ul style="list-style-type: none"> · Special precautions for user | Not applicable. |

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· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 · **United States (USA)**
 · **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 304 (emergency release notification):**

None of the ingredients are listed.

· **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

13138-45-9 | nickel dinitrate

10377-66-9 | manganese dinitrate

· **TSCA (Toxic Substances Control Act)**

All ingredients are listed.

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

13138-45-9 | nickel dinitrate

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency):**

10377-66-9 | manganese dinitrate

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· **IARC (International Agency for Research on Cancer):**

13138-45-9 | nickel dinitrate

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· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

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16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 08/16/2016 / -

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

LDLo: Lowest Lethal Dose Observed

Ox. Liq. 2: Oxidizing liquids – Category 2

Ox. Sol. 2: Oxidizing solids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Resp. Sens. 1: Respiratory sensitisation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Muta. 2: Germ cell mutagenicity – Category 2

Carc. 1A: Carcinogenicity – Category 1A

Repr. 1: Reproductive toxicity – Category 1

Repr. 1B: Reproductive toxicity – Category 1B

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)

Website, US EPA Substance Registry Services (ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do)

Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)

Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: ISBN: 978-0-470-07488-6

Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.

Safety Data Sheets, Individual Manufacturers

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