

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 2 of 10

2. Hazard identification**Classification of the substance or mixture****WHMIS 2015**

- Corrosive to metals: Met. Corr. 1
- Skin corrosion/irritation: Skin Irrit. 2
- Serious eye damage/eye irritation: Eye Dam. 1
- Specific target organ toxicity - repeated exposure: STOT RE 2

Label elements**WHMIS 2015****Signal word:** Danger**Pictograms:****Hazard statements**

- May be corrosive to metals.
- Causes skin irritation.
- Causes serious eye damage.
- May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

- Keep only in original packaging.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wash hands thoroughly after handling.
- Wear protective gloves/protective clothing and eye protection/face protection.
- IF ON SKIN: Wash with plenty of water and soap.
- If skin irritation occurs: Get medical advice/attention.
- Take off contaminated clothing and wash it before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Immediately call a POISON CENTER/doctor.
- Get medical advice/attention if you feel unwell.
- Absorb spillage to prevent material damage.
- Store in a corrosion resistant container with a resistant inner liner.

Other hazards

No data available

3. Composition/information on ingredients**Mixtures****Chemical characterization**

Mixtures in aqueous solution

Relevant ingredients

| CAS No | Chemical name | Quantity |
|-----------|---|---------------|
| 6156-78-1 | acetic acid, manganese(2+) salt, tetrahydrate | 1 - < 5 % (*) |
| 7697-37-2 | nitric acid | 1 - < 5 % (*) |

(*) The actual concentration is withheld as a trade secret.

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 3 of 10

Further Information

No data available

4. First-aid measures**Description of first aid measures****General information**

No data available

After inhalation

Provide fresh air.

After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.

Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

Most important symptoms and effects, whether acute or delayed

Irritant

Indication of immediate medical attention and special treatment needed

No data available

5. Fire-fighting measures**Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

No data available

Specific hazards arising from the hazardous product

Non-combustible liquids

Hazardous combustion products

In case of fire may be liberated:

Nitrogen oxides (NO_x)**Special protective equipment and precautions for fire-fighters**

In case of fire: Wear self-contained breathing apparatus.

Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Use water spray jet to protect personnel and to cool endangered containers.

6. Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 4 of 10

General advice

Corrosive to metals.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Consult an expert
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

Environmental precautions

Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up**For containment**

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

7. Handling and storage**Precautions for safe handling****Advice on safe handling**

Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Use personal protection equipment.
Provide adequate ventilation. Avoid contact with skin, eyes and clothes.
Do not breathe vapour/aerosol.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Remove contaminated, saturated clothing immediately.
Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 5 of 10

Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Corrosive to metals.

Unsuitable container/equipment material: Metal

The product develops hydrogen in an aqueous solution in contact with metals.

Hints on joint storage

Take national regulations into account.

Further information on storage conditions

Keep container tightly closed.

8. Exposure controls/Personal protection**Control parameters****Exposure limits (ACGIH)**

| CAS No | Chemical name | ppm | mg/m ³ | Category | Origin |
|-----------|---------------|-----|-------------------|---------------|------------|
| 7697-37-2 | Nitric acid | 2 | 5.2 | TWA (8 h) | ACGIH-2025 |
| | | 4 | 10 | STEL (15 min) | ACGIH-2025 |

Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment**Eye/face protection**

goggles

Wear eye/face protection.

Hand protection

Tested protective gloves must be worn

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Skin protection

Wear suitable protective clothing. Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not allow to enter into surface water or drains.

9. Physical and chemical properties**Information on basic physical and chemical properties**

| | |
|-----------------|------------|
| Physical state: | Liquid |
| Colour: | colourless |
| Odour: | odourless |

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 6 of 10

| | | |
|---|-------------------|-------------------------|
| Odour threshold: | No data available | |
| Melting point/freezing point: | | No data available |
| Boiling point or initial boiling point and boiling range: | | No data available |
| Flammability: | | No data available |
| Lower explosive limits: | | No data available |
| Upper explosive limits: | | No data available |
| Flash point: | | No data available |
| Auto-ignition temperature: | | No data available |
| Decomposition temperature: | | No data available |
| pH-Value: | | No data available |
| Viscosity / kinematic: | | No data available |
| Water solubility: | | No data available |
| Solubility in other solvents | | |
| No data available | | |
| Dissolution rate: | | No data available |
| Partition coefficient n-octanol/water: | | No data available |
| Dispersion stability: | | No data available |
| Vapour pressure: | | No data available |
| Vapour pressure: | | No data available |
| Density (at 22 °C): | | 1,043 g/cm ³ |
| Relative density: | | No data available |
| Bulk density: | | No data available |
| Relative vapour density: | | No data available |
| Particle characteristics: | | No data available |

Other information**Information with regard to physical hazard classes**

| | | |
|---------------------------|--|-------------------|
| Explosive properties | | |
| No data available | | |
| Sustained combustibility: | | No data available |
| Self-ignition temperature | | |
| Solid: | | No data available |
| Gas: | | No data available |
| Oxidizing properties | | |
| No data available | | |

Other safety characteristics

| | | |
|--------------------------|--|-------------------|
| Evaporation rate: | | No data available |
| Solvent separation test: | | No data available |
| Solvent content: | | No data available |
| Solid content: | | No data available |
| Sublimation point: | | No data available |
| Softening point: | | No data available |
| Pour point: | | No data available |
| No data available: | | |
| Viscosity / dynamic: | | No data available |
| Flow time: | | No data available |

Further Information

Corrosive to metals.

10. Stability and reactivity

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 7 of 10

Reactivity

Corrosive to metals.

Chemical stability

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

Alkali (lye)

The product develops hydrogen in an aqueous solution in contact with metals.

Conditions to avoid

No data available

Incompatible materials

Cellulose

Metal

The product develops hydrogen in an aqueous solution in contact with metals.

Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

11. Toxicological information**Information on toxicological effects****Toxicokinetics, metabolism and distribution**

There are no data available on the mixture itself.

Acute toxicity

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

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg

| CAS No | Chemical name | | | | |
|-----------|-------------------|---------------|---------|--------|--------|
| | Route of exposure | Dose | Species | Source | Method |
| 7697-37-2 | nitric acid | | | | |
| | inhalation vapour | ATE 2,65 mg/l | | | |

Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye damage.

Sensitizing effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

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

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

STOT-single exposure

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

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (acetic acid, manganese(2+) salt, tetrahydrate)

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 8 of 10

Aspiration hazard

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

Information on likely routes of exposure

There are no data available on the mixture itself.

Specific effects in experiment on an animal

There are no data available on the mixture itself.

Additional information on tests

There are no data available on the mixture itself.

Practical experience

There are no data available on the mixture itself.

Information on other hazards**Endocrine disrupting properties**

There are no data available on the mixture itself.

Other information

There are no data available on the mixture itself.

Further information

There are no data available on the mixture itself.

12. Ecological information**Persistence and degradability**

There are no data available on the mixture itself.

Bioaccumulative potential

There are no data available on the mixture itself.

Mobility in soil

There are no data available on the mixture itself.

Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Other adverse effects

Discharge into the environment must be avoided.
Harmful effect due to pH shift.
Forms corrosive mixtures with water even if diluted.

Further information

Do not allow to enter into surface water or drains.

13. Disposal considerations**Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not empty into drains.

Contaminated packaging

Waste codes/waste designations according to EWC/AVV
Handle contaminated packages in the same way as the substance itself.

14. Transport information**Canadian TDG**

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 9 of 10

| | |
|------------------------------|--|
| UN number: | UN 3264 |
| Proper shipping name: | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(nitric acid) |
| Hazard classes: | 8 |
| Packing group: | III |
| Hazard label: | 8 |
| Special Provisions: | 16 |
| Limited quantity: | 5 L |

Marine transport (IMDG)

| | |
|---|--|
| UN number or ID number: | UN 3264 |
| United Nations proper shipping name: | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(nitric acid) |
| Transport hazard class(es): | 8 |
| Packing group: | III |
| Hazard label: | 8 |
| Special Provisions: | 223 274 |
| Limited quantity: | 5 L |
| Excepted quantity: | E1 |
| EmS: | F-A, S-B |
| Segregation group: | 1 - acids |

Air transport (ICAO-TI/IATA-DGR)

| | |
|---|--|
| UN number or ID number: | UN 3264 |
| United Nations proper shipping name: | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(nitric acid) |
| Transport hazard class(es): | 8 |
| Packing group: | III |
| Hazard label: | 8 |
| Special Provisions: | A3 A803 |
| Limited quantity Passenger: | 1 L |
| Passenger LQ: | Y841 |
| Excepted quantity: | E1 |
| IATA-packing instructions - Passenger: | 852 |
| IATA-max. quantity - Passenger: | 5 L |
| IATA-packing instructions - Cargo: | 856 |
| IATA-max. quantity - Cargo: | 60 L |

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

15. Regulatory information**Canadian regulations****16. Other information****Changes**

This data sheet contains changes from the previous version in section(s): 1,2,3,5,8,9,11,13,14.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

Safety Data Sheet

according to WHMIS

PlasmaCAL ICP/ICPMS Standard – Manganese 10000 µg/ml (Mn)

Revision: 30.10.2025

Product code: AC18.06375

Page 10 of 10

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

Provide appropriate information, instructions and training to users

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)