

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/11/2024

Reviewed on 06/11/2024

## 1 Identification

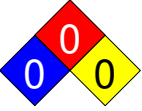
- **Product identifier**
- **Trade name:** Manganese Standard 0.10 ppm (mg/L) for EZ1025/EZ2003/EZ2303
- **Article number:** HAC015
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson [shermann@aquasolutions.org](mailto:shermann@aquasolutions.org)
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
*The product is not classified, according to the Globally Harmonized System (GHS).*

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  - **Label elements**
  - **GHS label elements** Not Applicable
  - **Hazard pictograms** Not Applicable
  - **Signal word** Not Applicable
  - **Hazard statements** Not Applicable
  - **Precautionary statements**  
*If swallowed: Call a poison center/doctor if you feel unwell.*  
*If on skin: Wash with plenty of water.*  
*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*  
*Continue rinsing.*  
*Store in a closed container.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*
  - **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
- |   |  |
|---|--|
|  | Health = 0<br>Fire = 0<br>Reactivity = 0 |
|---|--|
- **HMIS-ratings (scale 0 - 4)**
- |  |        |   |      |   |            |   |  |
|--|--------|---|------|---|------------|---|--|
| <table border="1" style="display: inline-table; border-collapse: collapse;"><tr><td style="background-color: #0000FF; color: white; padding: 2px;">HEALTH</td><td style="width: 20px; text-align: center;">0</td></tr><tr><td style="background-color: #FF0000; color: white; padding: 2px;">FIRE</td><td style="width: 20px; text-align: center;">0</td></tr><tr><td style="background-color: #FFFF00; padding: 2px;">REACTIVITY</td><td style="width: 20px; text-align: center;">0</td></tr></table> | HEALTH | 0 | FIRE | 0 | REACTIVITY | 0 | Health = 0<br>Fire = 0<br>Reactivity = 0 |
| HEALTH   | 0      |   |      |   |            |   |  |
| FIRE   | 0      |   |      |   |            |   |  |
| REACTIVITY   | 0      |   |      |   |            |   |  |
- **Other hazards**
  - **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

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### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|                |             |      |
|----------------|-------------|------|
| CAS: 7697-37-2 | Nitric Acid | 0.1% |
|----------------|-------------|------|

· **Table of Nonhazardous Ingredients**

|                |       |       |
|----------------|-------|-------|
| CAS: 7732-18-5 | Water | 99.9% |
|----------------|-------|-------|

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to section 13.
- **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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

|                |                                |                      |
|----------------|--------------------------------|----------------------|
| CAS: 7697-37-2 | Nitric Acid                    | 0.16 ppm             |
| CAS: 6156-78-1 | Manganese Acetate Tetrahydrate | 13 mg/m <sup>3</sup> |

· **PAC-2:**

|                |                                |                      |
|----------------|--------------------------------|----------------------|
| CAS: 7697-37-2 | Nitric Acid                    | 24 ppm               |
| CAS: 6156-78-1 | Manganese Acetate Tetrahydrate | 22 mg/m <sup>3</sup> |

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**· PAC-3:**

|                |                                |                       |
|----------------|--------------------------------|-----------------------|
| CAS: 7697-37-2 | Nitric Acid                    | 92 ppm                |
| CAS: 6156-78-1 | Manganese Acetate Tetrahydrate | 740 mg/m <sup>3</sup> |

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters**

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

|                                   |  |
|-----------------------------------|--|
| <b>CAS: 7697-37-2 Nitric Acid</b> |  |
| PEL                               | Long-term value: 5 mg/m <sup>3</sup> , 2 ppm   |
| REL                               | Short-term value: 10 mg/m <sup>3</sup> , 4 ppm<br>Long-term value: 5 mg/m <sup>3</sup> , 2 ppm |
| TLV                               | Short-term value: (4) NIC-0.025 ppm<br>Long-term value: (2) ppm<br>NIC-A4                      |

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**· Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.
- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

|                        |                 |
|------------------------|-----------------|
| <b>Form:</b>           | Liquid          |
| <b>Color:</b>          | Colorless       |
| <b>Odor:</b>           | Odorless        |
| <b>Odor threshold:</b> | Not determined. |

· **pH-value:** Not determined.

#### · Change in condition

|                                     |                 |
|-------------------------------------|-----------------|
| <b>Melting point/Melting range:</b> | 0 °C (32 °F)    |
| <b>Boiling point/Boiling range:</b> | 100 °C (212 °F) |

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Ignition temperature:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

#### · Explosion limits:

|               |                 |
|---------------|-----------------|
| <b>Lower:</b> | Not determined. |
| <b>Upper:</b> | Not determined. |

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F):** 1.0005 g/cm<sup>3</sup> (8.34917 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

#### · Solubility in / Miscibility with

**Water:** Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

#### · Viscosity:

|                   |                 |
|-------------------|-----------------|
| <b>Dynamic:</b>   | Not determined. |
| <b>Kinematic:</b> | Not determined. |

#### · Solvent content:

|                     |                       |
|---------------------|-----------------------|
| <b>Water:</b>       | 99.9 %                |
| <b>VOC content:</b> | 0.00 %                |
|                     | 0.0 g/l / 0.00 lb/gal |

**Solids content:** 0.0 %

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· **Other information** No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**ATE (Acute Toxicity Estimate)**

|            |         |            |
|------------|---------|------------|
| Inhalative | LC50/4h | 2,991 mg/l |
|------------|---------|------------|

· **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

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

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |  |                                |
|--|--------------------------------|
| · <b>UN-Number</b>   |                                |
| · <b>DOT, IMDG, IATA</b>   | Not regulated                  |
| · <b>UN proper shipping name</b>   |                                |
| · <b>DOT, IATA</b>   | Not regulated                  |
| · <b>IMDG</b>  | Not Regulated<br>Not regulated |
| · <b>Transport hazard class(es)</b>  |                                |
| · <b>DOT, ADN, IMDG, IATA</b>  |                                |
| · <b>Class</b>   | Not regulated                  |
| · <b>Packing group</b>   |                                |
| · <b>DOT, IMDG, IATA</b>   | Not regulated                  |
| · <b>Environmental hazards:</b>  | Not applicable.                |
| · <b>Special precautions for user</b>  | Not applicable.                |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                |
| · <b>UN "Model Regulation":</b>  | Not regulated                  |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.

- **Sara**

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

|                |             |
|----------------|-------------|
| CAS: 7697-37-2 | Nitric Acid |
|----------------|-------------|

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

|                |             |
|----------------|-------------|
| CAS: 7697-37-2 | Nitric Acid |
|----------------|-------------|

- **TSCA (Toxic Substances Control Act):**

|             |        |
|-------------|--------|
| Water       | ACTIVE |
| Nitric Acid | ACTIVE |

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· **Hazardous Air Pollutants**

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **GHS label elements** Not Applicable

· **Hazard pictograms** Not Applicable

· **Signal word** Not Applicable

· **Hazard statements** Not Applicable

· **Precautionary statements**

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Store in a closed container.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 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.

· **Department issuing SDS:** Environment protection department.

· **Contact:**

Date of Preparation / Last Revision:

· **Date of preparation / last revision**

Revision 1.2, 06/10/2024: Reviewed SDS for accuracy. MH/STN

Revision 0.0, 05-29-2024: Creation date for SDS. STN

06/11/2024 / 1.0

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

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*HMIS: Hazardous Materials Identification System (USA)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit***· \* Data compared to the previous version altered.**

US