

## Sodium permanganate 40% solution

Version number: 1.0

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name **Sodium permanganate 40% solution**

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

Relevant identified uses Oxidizing agent

Uses advised against  
Do not use for squirting or spraying  
Do not use for products which come into direct contact with the skin

#### 1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC  
179 Calle Magdalena Suite 100  
Encinitas, California CA 92024  
United States

Telephone: +1 (760) 635 8500  
e-mail: info@valudor.com  
Website: www.valudor.com

#### 1.4 Emergency telephone number

Emergency information 800-535-5053 (Infotrac)

As above or nearest toxicological information centre.

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

| Classification |                                   |          |                           |                  |
|----------------|-----------------------------------|----------|---------------------------|------------------|
| Section        | Hazard class                      | Category | Hazard class and category | Hazard statement |
| A.10           | acute toxicity (oral)             | 4        | Acute Tox. 4              | H302             |
| A.2            | skin corrosion/irritation         | 1B       | Skin Corr. 1B             | H314             |
| A.3            | serious eye damage/eye irritation | 1        | Eye Dam. 1                | H318             |
| B.13           | oxidizing liquid                  | 2        | Ox. Liq. 2                | H272             |

For full text of abbreviations: see SECTION 16

# Sodium permanganate 40% solution

## The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

## 2.2 Label elements

### Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

**Signal word** danger

### Pictograms

GHS03, GHS05,  
GHS07



### Hazard statements

**H272** May intensify fire; oxidizer.  
**H302** Harmful if swallowed.  
**H314** Causes severe skin burns and eye damage.

### Precautionary statements

**P210** Keep away from heat.  
**P220** Keep/store away from clothing/combustible materials.  
**P221** Take any precaution to avoid mixing with combustibles.  
**P260** Do not breathe dusts or mists.  
**P270** Do not eat, drink or smoke when using this product.  
**P280** Wear protective gloves/eye protection/face protection.  
**P301+P330+P331** If swallowed: Rinse mouth. Do NOT induce vomiting.  
**P303+P361+P353** If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
**P304+P340** If inhaled: Remove person to fresh air and keep comfortable for breathing.  
**P305+P351+P338** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P310** Immediately call a poison center/doctor.  
**P321** Specific treatment (see on this label).  
**P363** Wash contaminated clothing before reuse.  
**P370+P378** In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.  
**P405** Store locked up.  
**P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

### Hazardous ingredients for labelling

sodium permanganate

# Sodium permanganate 40% solution

## 2.3 Other hazards

### Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0.1\%$ .




## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture).

### 3.2 Mixtures

#### Description of the mixture

| Hazardous ingredients |                   |     |  |  |       |                       |           |
|-----------------------|-------------------|-----|--|--|-------|-----------------------|-----------|
| Name of substance     | Identifier        | Wt% | Classification acc. to GHS                                       | Pictograms   | Notes | Specific Conc. Limits | M-Factors |
| sodium permanganate   | CAS No 10101-50-5 | 40  | Acute Tox. 4 / H302<br>Skin Corr. 1B / H314<br>Ox. Sol. 2 / H272 | <br><br> | -     | -                     | -         |

For full text of H-phrases: see SECTION 16

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

Self-protection of the first aider.

Remove affected person from the danger area and lay down.

Do not leave affected person unattended.

Take off immediately all contaminated clothing.

In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

Provide fresh air.

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.

#### Following skin contact

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

Call a physician immediately. Causes poorly healing wounds.

Wash contaminated clothing before reuse.

# Sodium permanganate 40% solution

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## **Following eye contact**

Rinse cautiously with water for several minutes.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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

## **Following ingestion**

Rinse mouth. Do not induce vomiting.

Get medical advice/attention if you feel unwell.

Keep affected person warm, still and covered.

## **Notes for the doctor**

None.

## **4.2 Most important symptoms and effects, both acute and delayed**

This information is not available.

## **4.3 Indication of any immediate medical attention and special treatment needed**

None.

## **SECTION 5: Fire-fighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

excess of water

#### **Unsuitable extinguishing media**

foam, dry extinguishing powder, carbon dioxide (CO<sub>2</sub>)

### **5.2 Special hazards arising from the substance or mixture**

Hazardous decomposition products: Section 10.

Oxidizing property.

### **5.3 Advice for firefighters**

Non-combustible.

Keep containers cool with water spray.

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

#### **Special protective equipment for firefighters**

Wear self-contained breathing apparatus

# Sodium permanganate 40% solution

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

#### For non-emergency personnel

Remove persons to safety.

Ventilate affected area.

Avoid contact with skin and eyes.

Eliminate all ignition sources if safe to do so.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

Do not breathe vapor/spray.

#### For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

If substance has entered a water course or sewer, inform the responsible authority.

### 6.3 Methods and material for containment and cleaning up

#### Advice on how to clean up a spill

Collect spillage.

Unsuitable materials: Paper.

#### Appropriate containment techniques

Use of adsorbent materials.

#### Other information relating to spills and releases

Place in appropriate containers for disposal.

Ventilate affected area.

### 6.4 Reference to other sections

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Do not get in eyes, on skin, or on clothing.

Do not breathe vapor/spray.

#### Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation.

Take any precaution to avoid mixing with combustibles.

# Sodium permanganate 40% solution

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## **Specific notes/details**

None.

## **Handling of incompatible substances or mixtures**

### **Keep away from**

organic absorbing material, pulp/paper

### **Measures to protect the environment**

Avoid release to the environment.

### **Advice on general occupational hygiene**

Do not eat, drink and smoke in work areas.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

Remove contaminated clothing and protective equipment before entering eating areas.

## **7.2 Conditions for safe storage, including any incompatibilities**

### **Flammability hazards**

Keep reduction valves/valves and fittings free from oil and grease.

### **Incompatible substances or mixtures**

Incompatible materials: see section 10.

Observe compatible storage of chemicals.

Keep/store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

Store away from other materials: Acid, Peroxides, Formaldehyde, Organic materials, Reducing agent/Deoxidizer)

### **Protect against external exposure, such as**

frost

### **Consideration of other advice**

Keep away from food, drink and animal feedingstuffs.

### **Ventilation requirements**

Provision of sufficient ventilation.

### **Specific designs for storage rooms or vessels**

Keep container tightly closed and in a well-ventilated place.

### **Packaging compatibilities**

Only packagings which are approved (e.g. acc. to DOT) may be used.

## **7.3 Specific end use(s)**

Oxidizing agent.

# Sodium permanganate 40% solution

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, a TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

| Occupational exposure limit values (Workplace Exposure Limits) |                                |        |            |           |                          |            |                           |          |                  |
|--|--------------------------------|--------|------------|-----------|--------------------------|------------|---------------------------|----------|------------------|
| Country  | Name of agent                  | CAS No | Identifier | TWA [ppm] | TWA [mg/m <sup>3</sup> ] | STEL [ppm] | STEL [mg/m <sup>3</sup> ] | Notation | Source           |
| US   | manganese, inorganic compounds | -      | TLV®       | -         | 0.1                      | -          | -                         | i, Mn    | ACGIH® 2023      |
| US   | manganese, inorganic compounds | -      | TLV®       | -         | 0.02                     | -          | -                         | r, Mn    | ACGIH® 2023      |
| US   | manganese compounds            | -      | PEL (CA)   | -         | 0.2                      | -          | -                         | Mn       | Cal/OSHA PEL     |
| US   | manganese compounds            | -      | REL        | -         | 1 (10 h)                 | -          | 3                         | Mn       | NIOSH REL        |
| US   | manganese compounds            | -      | PEL        | -         | -                        | -          | -                         | Mn       | 29 CFR 1910.1000 |

#### Notation

i inhalable fraction

Mn calculated as Mn (manganese)

r respirable fraction

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

### 8.2 Exposure controls

#### Appropriate engineering controls

Use local and general ventilation.

#### Individual protection measures (personal protective equipment)

##### Eye/face protection

Wear eye/face protection.

##### Hand protection

# Sodium permanganate 40% solution

| <b>Protective gloves</b>                 |                           |   |
|--|---------------------------|---|
| <b>Material</b>                          | <b>Material thickness</b> | <b>Breakthrough times of the glove material</b> |
| CR: chloroprene (chlorobutadiene) rubber | ≥ 0,8 mm                  | >480 minutes (permeation: level 6)              |
| NBR: acrylonitrile-butadiene rubber      | ≥ 0,8 mm                  | >480 minutes (permeation: level 6)              |

| <b>Unsuitable materials</b> |  |
|-----------------------------|--|
| <b>Material</b>             |  |
| Cotton                      |  |
| Leather                     |  |

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

### **Body protection**

Protective clothing against liquid chemicals.

### **Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

### **Environmental exposure controls**

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

#### **Appearance**

|                       |                |
|-----------------------|----------------|
| <b>Physical state</b> | liquid         |
| <b>Color</b>          | not determined |
| <b>Odor</b>           | odorless       |
| <b>Odor threshold</b> | not determined |

#### **Other safety parameters**

|                                     |                |
|-------------------------------------|----------------|
| <b>pH (value)</b>                   | 6 – 8          |
| <b>Melting point/freezing point</b> | not determined |



# Sodium permanganate 40% solution

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|   |                                    |
|---|------------------------------------|
| <b>Boiling point or initial boiling point and boiling range</b> | not determined                     |
| <b>Flash point</b>  | not determined                     |
| <b>Evaporation rate</b>   | not determined                     |
| <b>Flammability (solid, gas)</b>                                | not relevant<br>(fluid)            |
| <b>Explosive limits</b>   | not determined                     |
| <b>Vapor pressure</b>   | not determined                     |
| Density   | not determined                     |
| Relative vapour density   | this information is not available  |
| <b>Solubility(ies)</b>  |                                    |
| Water solubility  | miscible in any proportion         |
| <b>Partition coefficient</b>                                    |                                    |
| n-octanol/water (log KOW)                                       | not relevant<br>(inorganic)        |
| Auto-ignition temperature                                       | not determined                     |
| <b>Decomposition temperature</b>                                | not relevant                       |
| <b>Viscosity</b>  |                                    |
| <b>Kinematic viscosity</b>                                      | not determined                     |
| <b>Dynamic viscosity</b>  | not determined                     |
| <b>Explosive properties</b>                                     | none                               |
| <b>Oxidizing properties</b>                                     | oxidizer                           |
| <b>Information for relevant hazard classes according to GHS</b> | there is no additional information |
| <b>9.2 Other information</b>                                    | there is no additional information |

# Sodium permanganate 40% solution

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The mixture contains reactive substance(s).  
Oxidizing property.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.  
See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

Dangerous/dangerous reactions with Incompatible materials.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.  
Keep reduction valves/valves and fittings free from oil and grease.

### 10.5 Incompatible materials

acids, reducing agents, Combustible materials, powdered metals, peroxides, combustible materials

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Classification procedure

If not otherwise specified the classification is based on:  
Ingredients of the mixture (additivity formula).

#### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

#### Acute toxicity

Test data are not available for the complete mixture.  
Harmful if swallowed.

#### Acute toxicity of components of the mixture

| Name of substance   | CAS No     | Exposure route | ATE       |
|---------------------|------------|----------------|-----------|
| sodium permanganate | 10101-50-5 | oral           | 500 mg/kg |

#### Skin corrosion/irritation

Causes severe burns.

# Sodium permanganate 40% solution

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## **Serious eye damage/eye irritation**

Causes serious eye damage.

## **Respiratory or skin sensitization**

### **Skin sensitization**

Shall not be classified as a skin sensitizer.

### **Respiratory sensitization**

Shall not be classified as a respiratory sensitizer.

## **Germ cell mutagenicity**

Shall not be classified as germ cell mutagenic.

## **Carcinogenicity**

Shall not be classified as carcinogenic.

## **IARC Monographs**

None of the ingredients are listed.

## **National Toxicology Program (United States)**

None of the ingredients are listed.

## **OSHA Carcinogens**

None of the ingredients are listed.

## **Reproductive toxicity**

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Specific target organ toxicity - single exposure**

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Specific target organ toxicity - repeated exposure**

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

## **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

## **11.2 Other information**

There is no additional information.

# Sodium permanganate 40% solution

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity (acute)

Test data are not available for the complete mixture.

#### Aquatic toxicity (acute) of components of the mixture

| Name of substance   | CAS No     | Endpoint | Exposure time | Value     | Species                             | Method             | Source |
|---------------------|------------|----------|---------------|-----------|-------------------------------------|--------------------|--------|
| sodium permanganate | 10101-50-5 | LC50     | 96 h          | 3.17 mg/l | rainbow trout (Oncorhynchus mykiss) | -                  | ECHA   |
| sodium permanganate | 10101-50-5 | ErC50    | 72 h          | 61 mg/l   | algae (Desmodesmus subspicatus)     | OECD Guideline 201 | ECHA   |

#### Aquatic toxicity (chronic)

Test data are not available for the complete mixture.

#### Aquatic toxicity (chronic) of components of the mixture

| Name of substance   | CAS No     | Endpoint | Exposure time | Value       | Species   | Method             | Source |
|---------------------|------------|----------|---------------|-------------|---|--------------------|--------|
| sodium permanganate | 10101-50-5 | EC50     | 3 h           | >1,000 mg/l | activated sludge of a predominantly domestic sewage | OECD Guideline 209 | ECHA   |
| sodium permanganate | 10101-50-5 | NOEC     | d             | 0.011 mg/l  | (top) predators                                     | -                  | -      |
| sodium permanganate | 10101-50-5 | NOEC     | 65 d          | 0.55 mg/l   | Salvelinus fontinalis                               | OECD Guideline 210 | ECHA   |
| sodium permanganate | 10101-50-5 | NOEC     | 72 h          | 1 mg/l      | algae (Desmodesmus subspicatus)                     | OECD Guideline 201 | ECHA   |
| sodium permanganate | 10101-50-5 | LOEC     | 72 h          | 3.2 mg/l    | algae (Desmodesmus subspicatus)                     | OECD Guideline 201 | ECHA   |

### 12.2 Persistence and degradability

#### Biodegradation

No data available.

# Sodium permanganate 40% solution

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## Persistence

No data available.

## 12.3 Bioaccumulative potential

Test data are not available for the complete mixture.

|                           |                             |
|---------------------------|-----------------------------|
| n-octanol/water (log KOW) | not relevant<br>(inorganic) |
|---------------------------|-----------------------------|

## 12.4 Mobility in soil

No data available.

## 12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of  $\geq 0.1\%$ .

## 12.6 Other adverse effects

Data are not available.

## Remarks

Keep away from drains, surface and ground water.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

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

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packages

Completely emptied packages can be recycled.  
Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions.

## SECTION 14: Transport information


### 14.1 UN number

|           |        |
|-----------|--------|
| DOT       | UN3214 |
| IMDG-Code | UN3214 |
| ICAO-TI   | UN3214 |

### 14.2 UN proper shipping name

|     |  |
|-----|--|
| DOT | Permanganates, inorganic, aqueous solutions,<br>n.o.s. |
|-----|--|


# Sodium permanganate 40% solution

|  |  |
|--|--|
| <b>IMDG-Code</b>   | PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.   |
| <b>ICAO-TI</b>   | Permanganates, inorganic, aqueous solution, n.o.s.   |
| <b>Technical name (hazardous ingredients)</b>  | sodium permanganate  |
| <b>14.3 Transport hazard class(es)</b>   |  |
| <b>DOT</b>   | 5.1  |
| <b>IMDG-Code</b>   | 5.1  |
| <b>ICAO-TI</b>   | 5.1  |
| <b>14.4 Packing group</b>  |  |
| <b>DOT</b>   | II   |
| <b>IMDG-Code</b>   | II   |
| <b>ICAO-TI</b>   | II   |
| <b>14.5 Environmental hazards</b>  | hazardous to the aquatic environment   |
| <b>Environmentally hazardous substance (aquatic environment)</b>                           | sodium permanganate  |
| <b>14.6 Special precautions for user</b>   | -  |
| <b>14.7 Transport in bulk according to IMO instruments</b>                                 | -  |
| <b>14.8 <u>Information for each of the UN Model Regulations</u></b>                        |  |
| <b>Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information</b> |  |
| Particulars in the shipper's declaration   | UN3214, Permanganates, inorganic, aqueous solutions, n.o.s., (sodium permanganate), 5.1, II, environmentally hazardous |
| Danger label(s)  | 5.1, fish and tree   |
|         |  |
| Environmental hazards  | yes<br>(hazardous to the aquatic environment)  |
| Special provisions (SP)  | 26, 353, IB2, T4, TP1  |
| ERG No   | 140  |


# Sodium permanganate 40% solution

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## International Maritime Dangerous Goods Code (IMDG) Additional information

|   |  |
|---|--|
| Marine pollutant  | yes<br>(hazardous to the aquatic environment)<br>(Sodium permanganate) |
| Danger label(s)   | 5.1, fish and tree   |
|  |  |
| Special provisions (SP)   | 274, 353   |
| Excepted quantities (EQ)  | E2   |
| Limited quantities (LQ)   | 1 L  |
| EmS   | F-H, S-Q   |
| Stowage category  | D  |
| Segregation group   | 14 - Permanganates.  |

## International Civil Aviation Organization (ICAO-IATA/DGR) Additional information

|   |   |
|---|---|
| Environmental hazards   | yes<br>(hazardous to the aquatic environment) |
| Danger label(s)   | 5.1   |
|  |   |
| Special provisions (SP)   | A37, A173                                     |
| Excepted quantities (EQ)  | E2  |
| Limited quantities (LQ)   | 0,5 L   |

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

**Toxic Substance Control Act (TSCA)** All ingredients are listed (ACTIVE)

#### Superfund Amendment and Reauthorization Act (SARA TITLE III )

**The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)**

None of the ingredients are listed

# Sodium permanganate 40% solution

## Specific Toxic Chemical Listings (EPCRA Section 313)

| Toxics Release Inventory: Specific Toxic Chemical Listings |                        |        |         |                |
|--|------------------------|--------|---------|----------------|
| Name of substance  | Name acc. to inventory | CAS No | Remarks | Effective date |
| sodium permanganate  | manganese compounds    |        | -       | 1987-01-01     |

## Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

### List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

None of the ingredients are listed

## Clean Air Act

None of the ingredients are listed

## Right to Know Hazardous Substance List

### Cleaning Product Right to Know Act Substance List (CA-RTK)

| Name of substance   | Name acc. to inventory            | CAS No | Functionality | Authoritative Lists  |
|---------------------|-----------------------------------|--------|---------------|--|
| sodium permanganate | Manganese and manganese compounds | -      | -             | ATSDR Neurotoxicants<br>CA NLs<br>CA TACs<br>CDC 4th National Exposure Report<br>CWA 303(d)<br>IRIS Neurotoxicants<br>OEHHA RELs |

## Toxic or Hazardous Substance List (MA-TURA)

| Name of substance   | Name acc. to inventory | CAS No | DEP CODE | PBT / HHS / LHS | PBT / HHS Threshold | De Minimis Concentration Threshold |
|---------------------|------------------------|--------|----------|-----------------|---------------------|------------------------------------|
| sodium permanganate | Manganese Compounds    | -      | 1027     | -               | -                   | 1.0 %                              |

## Hazardous Substances List (MN-ERTK)

None of the ingredients are listed

## Hazardous Substance List (NJ-RTK)

| Name of substance   | Name acc. to inventory | CAS No | Remarks | Classifications | Listed in | Substance number | DOT number |
|---------------------|------------------------|--------|---------|-----------------|-----------|------------------|------------|
| sodium permanganate | manganese com-         | -      | -       |                 | 1         | 2324             | -          |



## Sodium permanganate 40% solution

| Name of substance | Name acc. to inventory | CAS No | Remarks | Classifications | Listed in               | Substance number | DOT number |
|-------------------|------------------------|--------|---------|-----------------|-------------------------|------------------|------------|
| ate               | pounds                 |        |         |                 | 2<br>4<br>6<br>18<br>20 |                  |            |

### Legend

- 1 Occupational Safety and Health Administration, 29 CFR 1910-Occupational Safety and Health Standards, Subpart Z-Toxic and Hazardous Substances, July 1, 2008.
- 18 List of Toxic Release Inventory Chemicals, Section 313, Emergency Planning and Community Right to Know Act (EPCRA), Toxic Release Inventory (TRI) Program, U.S. Environmental Protection Agency, 40 CFR 372.65, July 1, 2008.
- 2 "2009 TLVs® and BEIs®, Threshold Limit Values and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists (ACGIH), 2009.
- 20 List of Hazardous Substances and Reportable Quantities (RQ), Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), U.S. Environmental Protection Agency, 40 CFR 302, Table 302.4, July 1, 2008.
- 4 "NIOSH Pocket Guide to Chemical Hazards," National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, No. 2005-149, September 2005.
- 6 "Environmental Hazardous Substance List," New Jersey Department of Environmental Protection, N.J.A.C. 7:1G-2, as printed in the Community Right to Know Survey Instruction Book, 2008.

### Hazardous Substance List (Chapter 323) (PA-RTK)

| Name acc. to inventory | CAS No    | Classification |
|------------------------|-----------|----------------|
| MANGANESE              | 7439-96-5 | *, E           |

### Legend

- \* Any compound of this substance is also an environmental hazard
- E Environmental hazard

### Hazardous Substance List (RI-RTK)

None of the ingredients are listed

### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

None of the ingredients are listed

### Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

# Sodium permanganate 40% solution

| Name of substance   | Name acc. to inventory | CAS No     | Listed in         | Special conditions | Excluded transactions | DE A - code | Concentration limit |
|---------------------|------------------------|------------|-------------------|--------------------|-----------------------|-------------|---------------------|
| sodium permanganate | sodium permanganate    | 10101-50-5 | List II chemicals | -                  | -                     | 6588        | 15% by Weight       |

## Legend

List II The term "list II chemical" means a chemical (other than a list I chemical) specified by regulation of the Attorney General as a chemical that is used in manufacturing a controlled substance in violation of this subchapter.

## SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2023-06-16

### Abbreviations and acronyms

| Abbr.            | Descriptions of used abbreviations   |
|------------------|--|
| 29 CFR 1910.1000 | 29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)  |
| 49 CFR US DOT    | 49 CFR U.S. Department of Transportation   |
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| Acute Tox.       | Acute toxicity   |
| ATE              | Acute Toxicity Estimate  |
| Cal/OSHA PEL     | California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)   |
| CAS              | Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)   |
| DEA              | Drug Enforcement Administration  |
| DEP CODE         | Department of Environmental Protection Code  |
| DGR              | Dangerous Goods Regulations (see IATA/DGR)   |
| DOT              | Department of Transportation (USA)   |
| EC50             | Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval   |
| EmS              | Emergency Schedule   |
| ErC50            | ≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control   |
| ERG No           | Emergency Response Guidebook - Number  |

## Sodium permanganate 40% solution

| Abbr.            | Descriptions of used abbreviations  |
|------------------|---|
| GHS              | "Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations   |
| HHS              | Higher hazard substance   |
| IARC             | International Agency for Research on Cancer   |
| IARC Mono-graphs | IARC Monographs on the Evaluation of Carcinogenic Risks to Humans   |
| IATA             | International Air Transport Association   |
| IATA/DGR         | Dangerous Goods Regulations (DGR) for the air transport (IATA)  |
| ICAO             | International Civil Aviation Organization   |
| ICAO-TI          | Technical instructions for the safe transport of dangerous goods by air   |
| IMDG             | International Maritime Dangerous Goods Code   |
| IMDG-Code        | International Maritime Dangerous Goods Code   |
| LC50             | Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval |
| LHS              | Lower hazard substance  |
| LOEC             | Lowest Observed Effect Concentration  |
| NIOSH REL        | National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)   |
| NOEC             | No Observed Effect Concentration  |
| OSHA             | Occupational Safety and Health Administration (United States)   |
| Ox. Sol.         | Oxidizing solid   |
| PBT              | Persistent, Bioaccumulative and Toxic   |
| PEL              | Permissible exposure limit  |
| ppm              | Parts per million   |
| RTECS            | Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)   |
| Skin Corr.       | Corrosive to skin   |
| Skin Irrit.      | Irritant to skin  |
| STEL             | Short-term exposure limit   |
| TLV®             | Threshold Limit Values  |
| TWA              | Time-weighted average   |
| vPvB             | Very Persistent and very Bioaccumulative  |

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

# Sodium permanganate 40% solution

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Transport of dangerous goods by road or rail (49 CFR US DOT).  
International Maritime Dangerous Goods Code (IMDG).  
Dangerous Goods Regulations (DGR) for the air transport (IATA).

## Classification procedure

Physical and chemical properties.  
Health hazards.  
Environmental hazards.  
The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

## List of relevant phrases (code and full text as stated in section 2 and 3)

| Code | Text                                     |
|------|--|
| H272 | May intensify fire; oxidizer.            |
| H302 | Harmful if swallowed.                    |
| H314 | Causes severe skin burns and eye damage. |
| H318 | Causes serious eye damage.               |

## Responsible for the safety data sheet

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Jasper, GA Website: www.crc-us.com  
USA

## Disclaimer

This information is based upon the present state of our knowledge.  
This SDS has been compiled and is solely intended for this product.