



# SAFETY DATA SHEET

Issue Date: 05-Sep-2024

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Version 2.01

## 1. Identification

### Product identifier

**Product Name:** WSU Sodium Permanganate 20%

### Other means of identification

**Product Code:** 64382

**Synonyms:** Permanganic acid sodium salt

**UN/ID No:** UN3214

### Recommended use of the chemical and restrictions on use

**Recommended Use:** Industrial, Manufacturing or Laboratory use.

**Restrictions on Use:** None known

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

**Manufacturer:** Water Solutions Unlimited  
8824 Union Mills Drive  
Camby, IN 46113  
800-359-3570

### Emergency telephone number

**Emergency Telephone:** CHEMTREC (US): 1-800-424-9300

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Oxidizing liquids	Category 2

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Signal word:** Danger

### Hazard statements:

Causes severe skin burns and eye damage

Suspected of damaging fertility or the unborn child

May cause damage to organs through prolonged or repeated exposure

May intensify fire; oxidizer

**Target Organ Effects:** Kidney. Respiratory system. Central nervous system. Blood.

**Precautionary Statements - Prevention:**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Keep away from heat  
 Keep/Store away from clothing/ combustible materials  
 Take any precaution to avoid mixing with combustibles

**Precautionary Statements - Response:**

Immediately call a POISON CENTER or doctor  
 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 or doctor  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower  
 Wash contaminated clothing before reuse  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Immediately call a POISON CENTER or doctor  
 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

**Precautionary Statements - Storage:**

Store locked up

**Precautionary Statements - Disposal:**

Dispose of contents/container to an approved waste disposal plant

**Unknown Acute toxicity:** Not applicable

**Other Information**

Not applicable

### 3. Composition/information on ingredients

Chemical name	CAS No	Weight-%
Sodium permanganate	10101-50-5	19.5-21
Water	7732-18-5	Balance

Any concentration shown as a range is due to batch variation.

### 4. First-aid measures

**Description of first aid measures**

**General advice** Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
<b>Skin contact</b>	IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. Get immediate medical advice/attention.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

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

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

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

**Note to physicians** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use water. Do not use dry chemicals or foams. CO2 or Halon may provide limited control. Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Dry chemical. Foam. CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May ignite combustibles (wood paper, oil, clothing, etc.). Runoff may create fire or explosion hazard. Do not allow run-off from fire-fighting to enter drains or water courses. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
<b>Hazardous combustion products</b>	Sodium oxides. Manganese oxides.
<b>Explosion Data</b>	
<b>Sensitivity to mechanical impact</b>	None.
<b>Sensitivity to static discharge</b>	Yes.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. Do not move cargo or vehicle if cargo has been

exposed to heat. Oxidizer. May ignite combustibles (wood paper, oil, clothing, etc.). Move containers from fire area if you can do it without risk. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### Personal precautions

Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See section 8 for more information. Stop leak if you can do it without risk. Corrosive material. Use personal protective equipment as required.

#### Other information

Keep combustibles (wood, paper, oil, etc) away from spilled material. DO NOT GET WATER INSIDE CONTAINERS. Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

### Methods and material for containment and cleaning up

#### Methods for containment

Dike far ahead of spill; use dry sand to contain the flow of material. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Stop leak if you can do it without risk. Keep out of drains, sewers, ditches and waterways.

#### Methods for cleaning up

Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Flush area with flooding quantities of water. Prevent product from entering drains.

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Use personal protection equipment. Avoid contact with skin, eyes or clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Handle in accordance with good industrial hygiene and safety practice. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Take off contaminated clothing and wash before reuse. Contact with skin may leave a brown stain of insoluble manganese dioxide. This can be removed by washing with a mixture of equal volume of household vinegar and 3% hydrogen peroxide, followed by washing with soap and water.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Do not store near combustible materials. Store in accordance with the particular national regulations. Store in accordance with local regulations. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

#### Incompatible Materials

Organic material. Combustible material. Hydrocarbons. Acids. Reducing agent. Metal powders.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other

recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium permanganate 10101-50-5	TWA: 0.02 mg/m <sup>3</sup> Mn respirable particulate matter TWA: 0.1 mg/m <sup>3</sup> Mn inhalable particulate matter	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn

**Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

#### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

#### Individual protection measures, such as personal protective equipment

**Eye/face protection** Face protection shield. Tight sealing safety goggles.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Wear fire/flame resistant/retardant clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced and ventilation is insufficient, a suitable respirator or evacuation may be required.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

## 9. Physical and chemical properties

#### Information on basic physical and chemical properties

**Physical State:** Liquid  
**Appearance:** No information available  
**Color:** Dark purple  
**Odor:** Odorless  
**Odor Threshold:** No information available

**pH:**  
**pH Range:** 5.0-8.0  
**Salt Out Point:** No information available  
**Melting Point/Freezing Point:** No information available  
**Boiling Point/Boiling Range:** No information available  
**Flash Point:** No information available  
**Evaporation Rate (BuAc=1):** No information available  
**Flammability (solid, gas):** No information available  
**Flammability Limits in Air:** No information available  
**Vapor Pressure (mm Hg):** No information available  
**Vapor density (Air =1):** No information available  
**Specific Gravity (H<sub>2</sub>O=1):** 1.16  
**Water Solubility:** No information available  
**Solubility(ies):** No information available

<b>Partition Coefficient (n-octanol/water):</b>	No information available
<b>Autoignition Temperature:</b>	
<b>Decomposition Temperature:</b>	No information available
<b>Kinematic Viscosity:</b>	No information available
<b>Dynamic Viscosity:</b>	No information available

**Other information**

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Molecular Weight:</b>	N/A

**10. Stability and reactivity**

<b>Reactivity</b>	Oxidizer. Heat (135°C) may result in violent exothermic chemical reactions.
<b>Chemical stability</b>	May cause fire or explosion; strong oxidizer.
<b>Possibility of hazardous reactions</b>	Contact with combustible material may cause fire. Can explode in contact with sulfuric acid, peroxides and metal powders.
<b>Conditions to avoid</b>	Heat, flames and sparks. Exposure to air or moisture over prolonged periods.
<b>Incompatible Materials</b>	Organic material. Combustible material. Hydrocarbons. Acids. Reducing agent. Metal powders.
<b>Hazardous decomposition products</b>	Sodium oxides. Manganese oxides.

**11. Toxicological information****Information on likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.

**Eye contact**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact**

Specific test data for the substance or mixture is not available. Causes severe burns.

**Ingestion**

Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Numerical measures of toxicity****Acute Toxicity:**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 3,571.40 mg/kg

**Component Information**

Chemical name	Oral LD <sub>50</sub> :	Dermal LD <sub>50</sub> :	LC <sub>50</sub> (Lethal Concentration):
Sodium permanganate 10101-50-5	= 750 mg/kg ( Rat )	-	-
Water 7732-18-5	> 90 mL/kg ( Rat )	-	-

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	Causes severe burns.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<b>Reproductive toxicity</b>	Classification based on data available for ingredients.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	May cause damage to organs.
<b>Target Organ Effects:</b>	Kidney, Respiratory system, Central nervous system, Blood.
<b>Aspiration hazard</b>	No information available.
<b>Other Adverse Effects:</b>	No information available.

**12. Ecological information**

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Product Information**

<b>Species</b>	Fathead Minnow
<b>Endpoint type</b>	LC50
<b>Effective dose</b>	6.95 mg/L
<b>Species</b>	Ceriodaphnia dubia
<b>Endpoint type</b>	LC50
<b>Effective dose</b>	0.46 mg/L

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium permanganate 10101-50-5	-	Information taken from Potassium Permanganate (CAS# 7722-64-7): 2.97 - 3.11 mg/L (LC50 96 h - Cyprinus carpio) 3.16 - 3.77 mg/L (LC50 96 h - Cyprinus carpio)	-	-

		2.3 mg/L (LC50 96 h flow-through - Lepomis macrochirus) 1.8 - 5.6 mg/L (LC50 96 h static - Lepomis macrochirus) 2.7 mg/L (LC50 96 h - Lepomis macrochirus) 1.08 - 1.38 mg/L (LC50 96 h - Oncorhynchus mykiss) 0.769 - 1.27 mg/L (LC50 96 h static - Oncorhynchus mykiss)		
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**Persistence and Degradability:** No information available.

**Bioaccumulation:** There is no data for this product.

**Mobility:** No information available.

**Other Adverse Effects:** No information available.

**13. Disposal considerations**

**Waste treatment methods**  
**Waste from residues/unused products** Should not be released into the environment. Dispose of in accordance with local, state, and national regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. Transport information**

**DOT**

<b>UN/ID No</b>	UN3214
<b>Proper shipping name</b>	PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S. (SODIUM PERMANGANATE)
<b>Hazard Class</b>	5.1
<b>Packing Group</b>	II
<b>Description</b>	UN3214, PERMANGANATES, INORGANIC, AQUEOUS SOLUTION, N.O.S. (SODIUM PERMANGANATE), 5.1, PG II



**15. Regulatory information**

**International Inventories**

Chemical name	TSCA	AICS	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS
Sodium permanganate 10101-50-5	Present ACTIVE	Present	Present	-	Present	-	Present	Present	Present	Present
Water 7732-18-5	Present ACTIVE	Present	Present	-	Present	-	Present	Present	Present	Present

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**AICS** - Australian Inventory of Chemical Substances

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

### US Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Sodium permanganate 10101-50-5	1.0

#### **SARA 311/312 Hazard Categories**

Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 and later calendar years will need to be consistent with updated hazard classifications.

#### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

#### **Clean Water Act (CWA)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### **OSHA - Process Safety Management - Highly Hazardous Chemicals**

This product does not contain any substances regulated under Process Safety Management (29 CFR 1910.119).

#### **Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS)**

This product does not contain any substances regulated under the Chemical Facility Anti-Terrorism Standards (6 CFR 27).

## **16. Other information**

#### **NSF/ANSI/CAN 60 Certification**



**Maximum Use (mg/L unless otherwise indicated):** 176

**Prepared By:** HSE Department  
**Issue Date:** 05-Sep-2024  
**Revision Date:** 06-Sep-2024  
**Revision Note:** SDS sections updated. 16.

**Disclaimer:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**