OXFORD LAB FINE CHEM LLP

Regd Office: Unit no 12, 1st Floor,
Neminath Industrial Estate No.6,
Navghar, Vasai (East), Palghar - 410210.
Maharashtra, INDIA.

Tel: +91 250 2390032 / 2390989 / 2390990
Email: sales@oxfordlabchem.com /
info@oxfordlabchem.com
Web: www.oxfordlabchem.com

Oxford
Range of
Laboratory Chemicals

MATERIAL SAFETY DATA SHEET

WINKLER'S SOLUTION 'A'

CAS NO. :

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: WINKLER'S SOLUTION 'A'
CAS#: Not available.
C.I. No.: Not available.
Synonym: Not available.
Chemical Name: WINKLER'S SOLUTION 'A'
Chemical Formula: Not available.

Brand: OXFORD

Details Of The Supplier Of The Safety Data Sheet:

Company identification: **OXFORD LAB FINE CHEM LLP**
Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,
Navghar, Vasai (East). Palghar - 401 210.
Mumbai, Maharashtra, INDIA.
Tel: 91-250-2390989
Tel/Fax: 91-250-2390032

Section 2: Composition and Information on Ingredients

Chemical name	Cas no.	Concentration
Water	7732-18-5	65%
Manganese(II) sulfate monohydrate	10034-96-5	35%

Section 3: Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear pink liquid.
Warning! Harmful if inhaled or swallowed. May cause eye, skin, and respiratory tract irritation. May cause lung damage. May cause central nervous system effects.
Target Organs: Central nervous system, lungs, reproductive system.

Potential Health Effects

Eye: May cause mild eye irritation.
Skin: May cause skin irritation. Low hazard for usual industrial handling.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea.
Inhalation: May cause respiratory tract irritation. The lowest exposure concentration of manganese at which early effects on the CNS and the lungs may occur is still unknown. However, once neurological signs are present, they tend to continue and worsen after exposure ends.
Chronic: Chronic inhalation or ingestion may result in manganism characterized by neurological symptoms such as headache, apathy, and weakness of the legs, followed by psychosis and neurological symptoms similar to those of Parkinson's disease. May impair fertility. Other chronic effects from inhaling high amounts of manganese include an increased incidence of cough and bronchitis and susceptibility to infectious lung disease.

Section 4: First Aid Measures

Eyes: **Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.**
Skin: **Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Remove contaminated clothing and shoes.**
Ingestion: **If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.**
Inhalation: **Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.**
Notes to Physician: **Treat symptomatically and supportively.**

Section 5: Fire and Explosion Data

General Information: **As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Material will not burn.**
Extinguishing Media: **For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.**
Flash Point: Not applicable.

Section 5: Fire and Explosion Data

Autoignition Temperature: **Not applicable.**
Explosion Limits, Lower: **Not available.**
Upper: **Not available.**
NFPA Rating: **(estimated) Health: 1; Flammability: 0; Instability: 0**

Section 6: Accidental Release Measures

General Information: **Use proper personal protective equipment as indicated in Section 8.**
Spills/Leaks: **Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation.**

Section 7: Handling and Storage

Handling: **Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid breathing dust.**
Storage: **Store in a tightly closed container.**

Section 8: Exposure Controls/Personal Protection

Engineering Controls: **Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.**

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
Manganese(II) sulfate monohydrate	0.2 mg/m3 TWA (as Mn) (listed under Manganese, inorganic compounds).	1 mg/m3 TWA (as Mn) (listed under Manganese compounds, n.o.s.).500 mg/m3 IDLH (as Mn) (listed under Manganese compounds, n.o.s.).	5 mg/m3 Ceiling (as Mn) (listed under Manganese compounds, n.o.s.).
Manganese(II) sulfate anhydrous	0.2 mg/m3 TWA (as Mn) (listed under Manganese, inorganic compounds).	1 mg/m3 TWA (as Mn) (listed under Manganese compounds, n.o.s.).500 mg/m3 IDLH (as Mn) (listed under Manganese compounds, n.o.s.).	5 mg/m3 Ceiling (as Mn) (listed under Manganese compounds, n.o.s.).

OSHA Vacated PELs: Water: **No OSHA Vacated PELs are listed for this chemical. Manganese(II) sulfate monohydrate: No OSHA Vacated PELs are listed for this chemical. Manganese(II) sulfate anhydrous: No OSHA Vacated PELs are listed for this chemical.**

Personal Protective Equipment

Eyes: **Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.**

Skin: **Wear impervious gloves.**

Clothing: **Wear appropriate protective clothing to minimize contact with skin.**

Respirators: **Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.**

Section 9: Physical and Chemical Properties

Physical State : **Liquid**
Appearance : **clear pink**
Odor : **Odorless.**
pH : **Not available.**

Section 9: Physical and Chemical Properties (Continued)

Vapor Pressure	**: 14 mm Hg @16 deg C**
Vapor Density	**: 0.7**
Evaporation Rate	**:1.0 (water=1)**
Viscosity	**: Not available.**
Boiling Point	**: 100 deg C**
Freezing/Melting Point	**:Not available.**
Decomposition Temperature	**:Not available.**
Solubility	**: Completely soluble in water.**
Specific Gravity/Density	**:1.27**
Molecular Formula	**:Solution**
Molecular Weight	**:Not available.**

Section 10: Stability and Reactivity Data

Chemical Stability: Stable.
Conditions to Avoid: Confined spaces.
Incompatibilities with Other Materials: Can react with strong acid, strong oxidizing agents, powdered metals; may react violently with hydrogen peroxide.
Hazardous Decomposition Products: Oxides of sulfur, oxides of manganese.
Hazardous Polymerization: Has not been reported.

Section 11: Toxicological Information

RTECS#:
CAS# 7732-18-5: ZC0110000
CAS# 10034-96-5: OP0893500
CAS# 7785-87-7: OP1050000
LD50/LC50:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;

CAS# 10034-96-5:

CAS# 7785-87-7:
Oral, mouse: LD50 = 2330 mg/kg;
Oral, rat: LD50 = 2150 mg/kg;

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Section 11: Toxicological Information (Continued)

Carcinogenicity:
CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 10034-96-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7785-87-7: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: The U.S. EPA stated that epidemiological studies of inorganic manganese compounds in humans indicate effects on the respiratory system at levels below 1 mg/m3.
Teratogenicity: No data available.
Reproductive Effects: Men exposed to manganese dusts showed a decrease in fertility.
Mutagenicity: No data available.
Neurotoxicity: Manganese is neurotoxic.

Section 12: Ecological Information

Toxicity: No data available.

Persistence - degradability : No data available.

Bioaccumulative potential : Not established.

Mobility in soil : Not established.

Results of PBT and vPvB assessment : No data available.

Other adverse effects : No data available.

Section 13: Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14: Transport Information

Land transport (ADR-RID)

General information : Not regulated.

Sea transport (IMDG) [English only]

General information : Not regulated.

Air transport (ICAO-IATA) [English only]

General information : Not regulated.

Section 15: Other Regulatory Information

US FEDERAL

TSCA

CAS# 7732-18-5 is listed on the TSCA inventory.
CAS# 10034-96-5 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).
CAS# 7785-87-7 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 10034-96-5: delayed.
CAS # 7785-87-7: delayed.

Section 15: Other Regulatory Information (Continued)

Section 313

This material contains Manganese(II) sulfate monohydrate (listed as Manganese compounds, n.o.s.), 35%, (CAS# 10034-96-5) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Manganese(II) sulfate anhydrous (listed as Manganese compounds, n.o.s.), -%, (CAS# 7785-87-7) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 10034-96-5 (listed as Manganese compounds, n.o.s.) is listed as a hazardous air pollutant (HAP).
CAS# 7785-87-7 (listed as Manganese compounds, n.o.s.) is listed as a hazardous air pollutant (HAP).
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 10034-96-5 can be found on the following state right to know lists: California, (listed as Manganese compounds, n.o.s.), New Jersey, (listed as Manganese compounds, n.o.s.), Pennsylvania, (listed as Manganese compounds, n.o.s.), Minnesota, (listed as Manganese compounds, n.o.s.).

CAS# 7785-87-7 can be found on the following state right to know lists: California, (listed as Manganese compounds, n.o.s.), New Jersey, (listed as Manganese compounds, n.o.s.), Pennsylvania, (listed as Manganese compounds, n.o.s.), Minnesota, (listed as Manganese compounds, n.o.s.).

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN N

Risk Phrases:

R 48/20/22 Harmful : danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Section 15: Other Regulatory Information (Continued)

Safety Phrases:

S 22 Do not breathe dust.
S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

WGK (Water Danger/Protection)

CAS# 7732-18-5: No information available.
CAS# 10034-96-5: 1
CAS# 7785-87-7: 1

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 7785-87-7 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2A.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 10034-96-5 (listed as Manganese compounds, n.o.s.) is listed on the Canadian Ingredient Disclosure List.
CAS# 7785-87-7 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

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