

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 15.02.2006

1 Identification of substance:

· **Product details:** Reagent for water analysis

· **Product name:** Manganese HR Set (Sodium periodate)

· **Catalog number:** 251 406 **Model:** Mn-1 TP

· **Supplier:**

WTW Wissenschaftlich-Technische Werkstätten GmbH

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· **Emergency information:**

Poison Center Berlin, Germany

phone: +49(0)30 19240

2 Composition/Data on components:

· **Chemical characterization**

· **Description:** Mixture of anorganic compounds

· **Dangerous components:**

CAS: 7790-28-5	sodium periodate	 Xn,  O; R 8-22-36/37/38	40-45%
EINECS: 232-197-6			

· **Additional information** For the wording of the listed risk phrases refer to section 16.

* 3 Hazards identification

· **Hazard designation:**



Xn Harmful
O Oxidising

· **Information pertaining to particular dangers for man and environment**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

R 8 Contact with combustible material may cause fire.

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

· **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

4 First aid measures

· **General information** Instantly remove any clothing soiled by the product.

· **After inhalation** Supply fresh air and call for doctor for safety reasons.

· **After skin contact**

Instantly rinse with water.

If skin irritation continues, consult a doctor.

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- **After eye contact**
Rinse opened eye for several minutes under running water.
Seek medical treatment.
 - **After swallowing**
Drink copious amounts of water, induce vomiting.
Call a doctor immediately.
 - **Information for doctor**
 - **The following symptoms may occur:**
after swallowing:
sickness
diarrhoea
vomiting
-

* 5 Fire fighting measures

- **Suitable extinguishing agents**
Water spray jet
Foam
 - **Special hazards caused by the material, its products of combustion or resulting gases:**
Formation of toxic gases is possible during heating or in case of fire.
Sulphur oxides (SO_x)
iodine compounds
sodium monoxide
sodium oxide
 - **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
 - **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
-

6 Accidental release measures

- **Person-related safety precautions:**
Put on breathing apparatus.
Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.
Ensure adequate ventilation
Keep away from ignition sources
 - **Measures for environmental protection:** Do not allow product to reach sewage system or water bodies.
 - **Measures for cleaning/collecting:**
Dispose of contaminated material as waste according to item 13.
Collect mechanically.
Ensure adequate ventilation.
-

* 7 Handling and storage

- **Handling**
 - **Information for safe handling:**
Keep away from heat and direct sunlight.
Keep containers tightly sealed.
Prevent formation of dust.
 - **Information about protection against explosions and fires:**
Substance/product is oxidizing when dry.
Protect from heat.
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Keep ignition sources away - Do not smoke.

- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:**
 - Store away from flammable substances.
 - Store away from oxidizing agents.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Protect from heat and direct sunlight.
 - Store under dry conditions.
 - Protect from humidity and keep away from water.
 - This product is hygroscopic.
 - Protect from the effects of light.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
 - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **Personal protective equipment**
- **General protective and hygienic measures**
 - Keep away from foodstuffs, beverages and food.
 - Take off immediately all contaminated clothing
 - Wash hands during breaks and at the end of the work.
 - Avoid contact with the eyes and skin.
 - Do not eat, drink or smoke while working.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter P2
- **Protection of hands:**
 - Only use chemical-protective gloves with CE-labelling of category III.
 - Preventive skin protection by use of skin-protecting agents is recommended.
 - After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
 - nitrile rubber, NBR
 - Recommended thickness of the material: ≥ 0.11 mm
- **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.
 - Value for the permeation: Level ≥ 6 (480 min)
- **Eye protection:** Tightly sealed safety glasses.
- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

· Form:	Powder
· Colour:	White
· Odour:	Odourless
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	300°C
	Not applicable
· Flash point:	Not applicable
· Inflammability (solid, gaseous)	Contact with combustible material may cause fire.

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· Density at 20°C	3.194 g/cm ³
· Solubility in / Miscibility with Water:	Soluble
· pH-value at 20°C:	4.7
· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	100.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** Explosive thermal decomposition
- **Materials to be avoided:**
 - organic substances
 - acids
 - metals
 - reducing agents
 - aluminium
- **Dangerous reactions** Reacts with powdered metals
- **Dangerous products of decomposition:**
 - sodium monoxide, iodine, hydrogen iodide
 - see chapter 5

* 11 Toxicological information

- **Acute toxicity:** Quantitative data on the toxicity of the preparation are not available.

· LD/LC50 values that are relevant for classification:		
7790-28-5 sodium periodate		
Oral	LD50	264 mg/kg (rat)
	LD50 IPR	58 mg/kg (mouse)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effect known.
- **Additional toxicological information:**
 - The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:
 - Harmful
 - Irritant

12 Ecological information:

- **Information about elimination (persistence and degradability):**
- **Other information:**
 - Quantitative data on the ecological effect of this product are not available.
 - Does not cause biolocial oxygen deficit.
- **Ecotoxical effects:**

· Acquatic toxicity:	
7757-82-6 sodium sulphate	
EC50	2564 mg/l/48h (Daphnia magna)

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LC50 13500-14500 mg/l/96h (Pimephales promelas)

· Remark:Toxic for fish:
sulphates > 7 g/l**· Bacterial toxicity:** sulphates toxic > 2.5 g/l**· General notes:**Water hazard class 1 (German Regulation) (Self-assessment acc. VwVwS Annex 4): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Must not reach sewage water or drainage ditch undiluted or unneutralized.

13 Disposal considerations

· Product:**· Recommendation**Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to disposers of hazardous waste.**· European waste catalogue**

16 05 07 discarded inorganic chemicals consisting of or containing dangerous substances

· Uncleaned packagings:**· Recommendation:** Disposal must be made according to official regulations.**· Recommended cleaning agent:** Water, if necessary with cleaning agent.

14 Transport information

· ADR/GGVSE: UN 3316 CHEMIE-TESTSATZ, 9, II.
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.**· ICAO/IMDG: UN 3316 CHEMICAL KIT, 9, II EMS-Number: F-A S-P**.
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· ICAO/IATA: Chemical KIT, 9, UN 3316, II

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*15 Regulatory information

· Designation according to EC guidelines:

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

· Code letter and hazard designation of product:

Xn Harmful
O Oxidising

· Hazard-determining components of labelling:

sodium periodate

· Risk phrases:

8 Contact with combustible material may cause fire.
22 Harmful if swallowed.
36/37/38 Irritating to eyes, respiratory system and skin.

· Safety phrases:

17 Keep away from combustible material.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37 Wear suitable protective clothing and gloves.
60 This material and its container must be disposed of as hazardous waste.

· National regulations**· Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

16 Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant R-phrases

22 Harmful if swallowed.
36/37/38 Irritating to eyes, respiratory system and skin.
8 Contact with combustible material may cause fire.

· Department issuing data specification sheet: Department TSS, Dr. Manfred Kaul**· Data compared to the previous version altered.**