

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 23.02.2005

* 1 Identification of substance:

- **Product details:** Reagent for water analysis
- **Product name:** Ntot2 (HR) HR Set 10-150 mg/l Part 2/2 (Vario Total N Persulfate RGT)
- **Catalog number:** 251 996 **Model:** Ntot2 TC (HR)
- **Supplier:**
 WTW Wissenschaftlich-Technische Werkstätten GmbH
 Dr.-Karl-Slevogt-Straße 1
 D-82362 Weilheim
 Fax: +49(0)881 183-420
 Tel.: +49(0)881 183-0
 Tel.: +49(0)881 183-100
 Internet: <http://www.WTW.com>
 E-Mail: Info@WTW.com
- **Emergency information:**
 Poison Center Berlin, Germany
 Tel.: +49(0)30 19240

* 2 Composition/Data on components:

- **Description:** Mixture consisting of the following components.

· Dangerous components:

CAS: 7775-27-1 EINECS: 231-892-1	disodium peroxodisulphate	 Xn,  O; R 8-22-36/37/38-42/43	90-100%
CAS: 7727-21-1 EINECS: 231-781-8 EC Number: 016-061-00-1	potassium persulphate	 Xn,  O; R 8-22-36/37/38-42/43	5-10%

- **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.
- R 42/43 May cause sensitisation by inhalation and skin contact.

· 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.

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* 4 First aid measures

· General information

Instantly remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· After inhalation

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness bring patient into stable side position for transport.

· After skin contact

Instantly wash with water and soap and rinse thoroughly.

Seek medical treatment.

· After eye contact

Rinse opened eye for several minutes under running water.

Call a doctor immediately.

· After swallowing

Rinse out mouth and then drink plenty of water.

Call a doctor immediately.

· The following symptoms may occur:

after inhalation:

coughing

mucous membrane irritation

breathing difficulty

allergic reactions

after swallowing:

gastric or intestinal trouble

vomiting

irritation

· Danger

Danger of pulmonary oedema.

risk of airways sensitization

risk of skin sensitization

* 5 Fire fighting measures

· Suitable extinguishing agents

CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Use fire fighting measures that suit the environment.

· 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)

· Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

· Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

Collect contaminated fire fighting water separately. It must not enter drains.

* 6 Accidental release measures

· Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid causing dust.

Use breathing protection against the effects of fumes/dust/aerosol.

· 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.

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Collect mechanically.
Ensure adequate ventilation.

* 7 Handling and storage

- **Handling**
- **Information for safe handling:** Work only in fume cupboard.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Dust can combine with air to form an explosive mixture.
- **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.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store under dry conditions.
Protect from humidity and keep away from water.
Protect from the effects of light.
- **Storage class** Not required.

* 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:

7775-27-1 disodium peroxodisulphate

OES (Great Britain)	Long-term value: 1 mg/m ³ measured as [S2O8]
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7727-21-1 potassium persulphate

OES (Great Britain)	Long-term value: 1 mg/m ³ measured as [S2O8]
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- **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.
After use of gloves apply skin-cleaning agents and skin cosmetics.

· **Material of gloves**

Nitrile

Natural rubber, NR

Recommended thickness of the material: ≥ 0.11 mm

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.

· **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)

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- **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:	> 100°C
· Boiling point/Boiling range:	Not applicable
· Flash point:	Not applicable
· Inflammability (solid, gaseous)	Contact with combustible material may cause fire.
· Self-inflammability:	Product is not selfigniting.
· Density at 20°C	2.407 g/cm ³
· Solubility in / Miscibility with Water:	Soluble
· pH-value (25 g/l) at 20°C:	4.5
· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	100.0 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Materials to be avoided:**
 - combustible substances
 - alcohols
 - reducing agents
- **Dangerous reactions**
 - Can react violently with oxygen rich (oxidizing) material. Explosive.
 - Risk of dust explosion
- **Dangerous products of decomposition:**
 - Oxygen
 - (with water)
 - 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:		
7775-27-1 disodium peroxodisulphate		
Oral	LD50	930 mg/kg (rat)
7727-21-1 potassium persulphate		
Oral	LD50	802 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritant effect.

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· **Sensitization:**

Sensitization possible by inhalation.
Sensitization possible by skin contact.

· **Subacute to chronic toxicity:**

CAS 7775-27-1:

MERCK: Sensitization test (guinea pig): positiv (OECD 406)

· **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.
Methods for the determination of biodegradability are not applicable to inorganic substances.

· **Ecotoxic effects:**

· **Acquatic toxicity:**

7775-27-1 disodium peroxodisulphate

EC50	133 mg/l/48h (Daphnia magna)
LC50	771 mg/l/96h (Onchorhynchus mykiss)

7727-21-1 potassium persulphate

Daphnia EC50	357 mg/l/24h (Daphnia magna)
LC50	100 mg/l/96h (Poecilia reticulata)

· **Remark:**

lethal for fish:
sulphates > 7 g/l
Reacts with water to form toxic decomposition products.

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): 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.

· **European waste catalogue**

16 05 07	discarded inorganic chemicals consisting of or containing dangerous substances
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· **Uncleaned packagings:**

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

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* 14 Transport information

· ADR/GGVSE: UN 3316 CHEMIE-TESTSATZ, 9, II

· IMDG/GGVSee: UN 3316 CHEMICAL KIT, 9, II EMS-Number: F-A S-P

ICAO/IATA: CHEMICAL KIT, 9, UN 3316, II

* 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:**

disodium peroxodisulphate
potassium persulphate

· **Risk phrases:**

8 Contact with combustible material may cause fire.
22 Harmful if swallowed.
36/37/38 Irritating to eyes, respiratory system and skin.
42/43 May cause sensitisation by inhalation and skin contact.

· **Safety phrases:**

17 Keep away from combustible material.
22 Do not breathe dust.

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24 Avoid contact with skin.

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

37 Wear suitable gloves.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

60 This material and its container must be disposed of as hazardous waste.

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.

42/43 May cause sensitisation by inhalation and skin contact.

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.**

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