

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 23.02.2005

Product name: Ntot2 (HR) HR Set 10-150 mg/l Part 1/2

(Total N Acid LR/HR mg/l; ppm)

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- **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.
Do not induce vomiting; instantly call for medical help.
- **The following symptoms may occur:**
after inhalation:
damage to the affected mucous membranes
coughing
breathing difficulty
after swallowing:
cramps
diarrhoea
pain
sickness
vomiting
- **Danger**
Danger of impaired breathing.
Danger of gastric perforation.
- **Treatment**
If swallowed or in case of vomiting, danger of entering the lungs
Subsequent observation for pneumonia and pulmonary oedema

* 5 Fire fighting measures

- **Suitable extinguishing agents** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents** Water.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
Development of hazardous combustion gases or vapours possible in the event of fire.
nitrous gases
Sulphur oxides (SO_x)
hydrogen
- **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
- **Measures for environmental protection:** Do not allow product to reach sewage system or water bodies.
- **Measures for cleaning/collecting:**
Neutralize with diluted sodium hydroxide solution or by throwing on lime sand, lime or sodium carbonate.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

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* 7 Handling and storage

- **Handling**
- **Information for safe handling:**
 - Prevent formation of aerosols.
 - Open and handle container with care.
- **Information about protection against explosions and fires:**
 - Protect from heat.
 - The product is not flammable
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:**
 - Store away from water.
 - Store away from metals.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Store under dry conditions.
 - This product is hygroscopic.
- **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:**
 - 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.
 - Do not inhale gases / fumes / aerosols.
 - Avoid contact with the eyes and skin.
 - Do not eat, drink or smoke while working.
- **Breathing equipment:**
 - In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
- **Recommended filter device for short term use:** Filter B
- **Protection of hands:**
 - Acid resistant gloves
 - Only use chemical-protective gloves with CE-labelling of category III.
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - 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**
 - 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.
 - Butyl rubber, BR
 - Fluorocarbon rubber (Viton)
 - Recommended thickness of the material: ≥ 0.7 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.

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· **Body protection:** Acid resistant protective clothing

* 9 Physical and chemical properties:

· Form:	Fluid
· Colour:	Clear
· Odour:	Recognizable
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	Not determined
· Flash point:	Not applicable
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Density at 20°C	1.748 g/cm ³
· Solubility in / Miscibility with Water:	Fully miscible
· pH-value at 20°C:	< 1
· Solvent content:	
Organic solvents:	0.0 %
Water:	< 20 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** strong heating
- **Materials to be avoided:**
 - oxidizing agents
 - ammonia
 - alkali compounds
 - alkalis
 - acids
 - metals
 - halogen compounds
 - combustible substances
 - organic solvents
 - nitriles
 - peroxides
- **Dangerous reactions**
 - Heating occurs when water is added
 - Corrosive action on metals
 - When diluting, always add acid to water, never vice versa
 - Reacts with metals forming hydrogen
 - > Explosive
 - Reacts with organic substances
- **Dangerous products of decomposition:**
 - Hydrogen
 - nitrous gases
 - Sulphur oxides (SO_x)
 - see chapter 5

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* 11 Toxicological information

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

· **LD/LC50 values that are relevant for classification:**

7664-93-9 sulphuric acid

Oral	LD50	2140 (25%) mg/kg (rat)
Inhalative	LC 50	510 (pure) mg/m ³ /2h (rat)

· **Primary irritant effect:**

· **on the skin:** Strong caustic effect on skin and mucous membranes.

· **on the eye:** Strong caustic 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:

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

* 12 Ecological information:

· **Information about elimination (persistence and degradability):**

· **Other information:**

Inorganic substance. Does not cause biocological oxygen deficit.

Quantitative data on the ecological effect of this product are not available.

· **Ecotoxic effects:**

· **Aquatic toxicity:**

7664-93-9 sulphuric acid

Daphnia EC50	29 mg/l/24h (Daphnia magna)
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· **Remark:**

Forms corrosive mixtures with water even if diluted.

Toxic for algae

Toxic for fish:

· **Remark:** neutralization possible

· **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.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

* 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:**

C Corrosive

· **Hazard-determining components of labelling:**

sulphuric acid

· **Risk phrases:**

35 Causes severe burns.

· **Safety phrases:**

20 When using do not eat or drink.

23 Do not breathe fumes/aerosol.

25 Avoid contact with eyes.

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

30 Never add water to this product.

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

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

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

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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**

35 Causes severe burns.

- **Department issuing data specification sheet:** Department TSS, Dr. Manfred Kaul

- **Data compared to the previous version altered.**

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