Material Safety Data Sheet
According to 91/155 EEC

Reviewed on 08.02.2005

* 1 Identification of substance:

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

· **Product name:** **Reagent Set 0-30 mg/l N** **(NO3-N Reagent A 0-30 mg/l)**

· **Catalog number:** 251 993 **Model:** NO3-1 TC

· **Supplier:**
WTW Wissenschaftlich-Technische Werkstätten GmbH
Dr.-Karl-Slevogt-Straße 1
D-82362 Weilheim ´Tel.: +49(0)881 183-0 Internet: http://www.WTW.com
Fax: +49(0)881 183-420 Tel.: +49(0)881 183-100 E-Mail: Info@WTW.com

·

· **Emergency information:**
Poison Center Berlin, Germany
Tel.: +49(0)30 19240

* 2 Composition/Data on components:

· **Description:** Mixture of the substances listed below with harmless additions.

· **Dangerous components:**

CAS: 7664-93-9 EINECS: 231-639-5 EC Number: 016-020-00-8	sulphuric acid	C; R 35	80-90%

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

* 3 Hazards identification

· **Hazard designation:**

C Corrosive

· **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 35 Causes severe burns.

· **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 or oxygen; call for doctor.
In case of unconsciousness bring patient into stable side position for transport.

· **After skin contact**
Instantly rinse with water.
Instantly wash with polyethylene glycol 400.

(Contd. on page 2)

Material Safety Data Sheet
According to 91/155 EEC

Reviewed on 08.02.2005

Product name: Reagent Set 0-30 mg/l N (NO3-N Reagent A 0-30 mg/l)

(Contd. of page 1)

Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
· **After eye contact**
Rinse opened eye for several minutes under running water.
Call a doctor immediately.
· **After swallowing**
Do not induce vomiting; instantly call for medical help.
Drink copious amounts of water and provide fresh air. Instantly call for doctor.
· **The following symptoms may occur:**
after inhalation:
damage to the affected mucous membranes
sickness
after swallowing:
pain
vomiting
diarrhoea
breathing difficulty
burns
· **Danger**
Danger of impaired breathing.
Danger of system failure.
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**
Foam.
Water.
· **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.
nitrous gases
Sulphur oxides (SOx)
· **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.
Inform respective authorities in case product reaches water or sewage system.
· **Measures for cleaning/collecting:**
Neutralize with diluted sodium hydroxide solution or by throwing on lime sand, lime or sodium carbonate.
Ensure adequate ventilation.
Dispose of contaminated material as waste according to item 13.

(Contd. on page 3)

Material Safety Data Sheet
According to 91/155 EEC

Reviewed on 08.02.2005

Product name: Reagent Set 0-30 mg/l N (NO3-N Reagent A 0-30 mg/l)

(Contd. of page 2)

* 7 Handling and storage

· **Handling**
· **Information for safe handling:**
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Open and handle container with care.
Prevent formation of aerosols.
Use only in well ventilated areas.
· **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 metals.
· **Further information about storage conditions:**
This product is hygroscopic.
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:**
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:** Use breathing protection against the effects of fumes/dust/aerosol.
· **Recommended filter device for short term use:** Filter P3
· **Protection of hands:**
Acid resistant gloves
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**
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: ≥ 0.5 mm
· **Penetration time of glove material**
The exact break trough 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.

(Contd. on page 4)

Material Safety Data Sheet
According to 91/155 EEC

Reviewed on 08.02.2005

Product name: Reagent Set 0-30 mg/l N (NO3-N Reagent A 0-30 mg/l)

(Contd. of page 3)

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

* 9 Physical and chemical properties:

· **Form:**	Fluid
· **Colour:**	Clear
· **Odour:**	Weak, characteristic
· **Melting point/Melting range:**	Not determined
· **Boiling point/Boiling range:**	~ 200°C
· **Flash point:**	Not applicable
· **Self-inflammability:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive.
· **Vapour pressure at 20°C:**	23 hPa
· **Density at 20°C**	1.748 g/cm³
· **Solubility in / Miscibility with Water:**	Fully miscible
· **pH-value at 20°C:**	< 1
· **Solvent content:**	
Organic solvents:	0.0 %
Water:	> 10 %

* 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**
--> forms heat
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
Diluting or dissolving in water always causes rapid heating
· **Dangerous products of decomposition:**
Hydrogen
nitrous gases
Sulphur oxides (SOx)

(Contd. on page 5)

Material Safety Data Sheet
According to 91/155 EEC

Reviewed on 08.02.2005

Product name: Reagent Set 0-30 mg/l N (NO3-N Reagent A 0-30 mg/l)

(Contd. of page 4)

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:**		
7664-93-9 sulphuric acid		
Oral	LD50	2140 (25%) mg/kg (rat)
Inhalative	LC 50	510 (pure) mg/m³/2h (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 biolocigal oxygen deficit.
Quantitative data on the ecological effect of this product are not available.
· **Ecotoxical effects:**

· **Acquatic toxicity:**	
7664-93-9 sulphuric acid	
Daphnia EC50	29 mg/l/24h (Daphnia magna)

· **Remark:**
Forms corrosive mixtures with water even if diluted.
Toxic for algae
· **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

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

(Contd. on page 6)

Material Safety Data Sheet
According to 91/155 EEC

Reviewed on 08.02.2005

Product name: Reagent Set 0-30 mg/l N (NO3-N Reagent A 0-30 mg/l)

(Contd. of page 5)

· **Recommended cleaning agent:** Water, if necessary with cleaning agent.

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.

(Contd. on page 7)

Material Safety Data Sheet
According to 91/155 EEC

Reviewed on 08.02.2005

Product name: Reagent Set 0-30 mg/l N (NO3-N Reagent A 0-30 mg/l)

(Contd. of page 6)

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).
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**
35 Causes severe burns.

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