

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 04.02.2005

* 1 Identification of substance:

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

· **Product name:** NH4-3 TC Reagent HR Set (Vario Ammonia Salicylate F5)

· **Catalog number:** 251 998 **Model:** NH4-3 TC (HR)

· **Supplier:**

WTW Wissenschaftlich-Technische Werkstätten GmbH

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· **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: 54-21-7 EINECS: 200-198-0	sodium salicylate	 Xn; R 22-36	45-50%
CAS: 13755-38-9 EINECS: 238-373-9	sodium nitroprusside dihydrate	 T; R 25	≤ 2.5%

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

* 3 Hazards identification

· **Hazard designation:**



Xn Harmful

· **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 22 Harmful if swallowed.

R 36 Irritating to eyes.

· **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**

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 and call for doctor for safety reasons.

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- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
 - **After eye contact**
Rinse opened eye for several minutes under running water.
Call a doctor immediately.
 - **After swallowing**
Drink copious amounts of water and provide fresh air. Instantly call for doctor.
Induce vomiting.
 - **The following symptoms may occur:**
after swallowing:
Fever
breathing difficulty
Disorientation
headache
sickness
diarrhoea
Dizziness
gastric pain
vomiting
after inhalation:
coughing
mucous membrane irritation
 - **Danger** Danger of system failure.
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* 5 Fire fighting measures

- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant 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.
cyanide compounds, sodium monoxide
nitrous gases
 - **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.
Avoid causing dust.
 - **Measures for environmental protection:** Do not allow product to reach sewage system or water bodies.
 - **Measures for cleaning/collecting:**
Collect mechanically.
Ensure adequate ventilation.
Dispose of contaminated material as waste according to item 13.
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* 7 Handling and storage

- **Handling**
- **Information for safe handling:**
Thorough dedusting.
Any deposit of dust which cannot be avoided must be removed regularly.

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- **Information about protection against explosions and fires:** Protect from heat.
- **Storage**
- **Requirements to be met by storerooms and containers:** Store in cool location.
- **Information about storage in one common storage facility:** store away from solvents
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Store under dry conditions.
 - Protect from humidity and keep away from water.
- **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.
 - Avoid contact with the eyes.
 - 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.
 - 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**
 - Nitrile
 - 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.
 - 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:** Light weight protective clothing

* 9 Physical and chemical properties:

· Form:	Powder
· Colour:	Whitish
· Odour:	Odourless
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	Not applicable
· Flash point:	Not applicable
· Ignition temperature:	$\sim 250^{\circ}\text{C}$

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· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Density at 20°C	1.247 g/cm ³
· Solubility in / Miscibility with Water:	Soluble
· pH-value (50 g/l) at 20°C:	8.1
· 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:**
 - oxidizing agents
 - alkali metals
 - acids
- **Dangerous reactions** Contact with acids releases toxic gases
- **Dangerous products of decomposition:** 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:**

54-21-7 sodium salicylate

Oral	LD50	930 mg/kg (rat)
	LDLo	700 mg/kg (human)

13755-38-9 sodium nitroprusside dihydrate

Oral	LD50	99 mg/kg (rat)
	LDLo	20 mg/kg (rat)

- **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

The following complies to cyanogen compounds / nitriles in general:

Utmost caution! Release of hydrocyanic acid is possible - blockade of cellular respiration.

The following applies to soluble iron compounds: nausea and vomiting after swallowing. The absorption of large quantities is followed by cardiovascular disorders. Toxic effect on liver and kidneys.

* 12 Ecological information:

- **Information about elimination (persistence and degradability):**
- **Other information:** Quantitative data on the ecological effect of this product are not available.

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· Behaviour in environmental systems:	
54-21-7 sodium salicylate	
log P(o/w)	-1.43 (.)
· Ecotoxical effects:	
· Acquatic toxicity:	
54-21-7 sodium salicylate	
Daphnia EC50	230 mg/l/24h (Daphnia magna)
LC50	90 mg/l/48h (Leuciscus idus)
13755-38-9 sodium nitroprusside dihydrate	
Daphnia EC50	1.0 mg/l/24h (Daphnia magna)
LC50	0.08 mg/l (fish)
· Remark:	
Toxic for fish:	
CAS 13755-38-9 (Fe): > 0,9 mg/l / pH 6,5-7,5	
MERCK: the following applies to dissolved iron compounds in general:	
fish: toxic as from 0.9 mg/l at pH 6.5 - 7.5	
lethal as from 1 mg/l at pH 5.5 - 6.7	
· General notes:	
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.	
Do not allow product to reach ground water, water bodies or sewage system.	

* 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 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
· Uncleaned packagings:	
· Recommendation: Disposal must be made according to official regulations.	
· Recommended cleaning agent: Water, if necessary with cleaning agent.	

* 14 Transport information

· Land transport ADR/RID (cross-border)	
· ADR/RID-GGVSE Class: -	
· Maritime transport IMDG:	
· IMDG Class:	-
· Marine pollutant:	No
· Air transport ICAO-TI and IATA-DGR:	
· ICAO/IATA Class:	-
· Transport/Additional information: Not dangerous according to the above specifications.	

* 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	

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· Hazard-determining components of labelling:

sodium salicylate

· Risk phrases:

22 Harmful if swallowed.

36 Irritating to eyes.

· Safety phrases:

22 Do not breathe dust.

24 Avoid contact with skin.

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

36 Wear suitable protective clothing.

46 If swallowed, seek medical advice immediately and show this container or label.

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.

25 Toxic if swallowed.

36 Irritating to eyes.

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

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