



Material Safety Data Sheet

According to 91/155 EEC

Printing date 04.04.2005

Reviewed on 04.04.2005

* 1 Identification of substance:

- **Product details:** Reagent for water analysis
- **Product name:** DEHA Reagent Solution
- **Catalog number:** 461180, 461184, 461185, 4157581, 4157582, 4461180
- **Supplier:**
Tintometer GmbH
Schleefstraße 8a-12
D - 44287 Dortmund
Made in Germany
- **Informing department:** Department Laboratory
- **Emergency information:**
Poison Center Berlin, Germany
phone: +49(0)30 19240

phone: +49(0)231 94510-0

* 2 Composition/Data on components:

- **Description:** aqueous solution

- **Dangerous components:**

CAS: 7697-37-2	nitric acid	C, O; R 8-35	2.5-5%
EINECS: 231-714-2			
EC Number: 007-004-00-1			

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

* 3 Hazards identification

- **Hazard designation:**



Xi Irritant

- **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 36/38 Irritating to eyes 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 wash with water and soap and rinse thoroughly.
- **After eye contact**
Rinse opened eye for several minutes under running water.
Call a doctor immediately.

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- **After swallowing**
Rinse out mouth and then drink plenty of water.
Seek medical treatment.
 - **The following symptoms may occur:** mucous membrane irritation
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* 5 Fire fighting measures

- **Suitable extinguishing agents** 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.
Nitrogen oxides (NO_x)
nitrous gases
 - **Protective equipment:**
Wear full protective suit.
Wear self-contained breathing apparatus.
 - **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.
 - **Measures for environmental protection:** Do not allow product to reach sewage system or water bodies.
 - **Measures for cleaning/collecting:**
Ensure adequate ventilation.
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).
-

* 7 Handling and storage

- **Handling**
 - **Information for safe handling:** Prevent formation of aerosols.
 - **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:**
Protect from heat and direct sunlight.
Keep container tightly sealed.
Store under dry conditions.
 - **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:	
7697-37-2 nitric acid	
OES (Great Britain)	Short-term value: 10 mg/m ³ , 4 ppm
	Long-term value: 5.2 mg/m ³ , 2 ppm

- **Additional information:** The lists that were valid during the compilation were used as basis.

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- **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.
 - **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
 - **Recommended filter device for short term use:** Filter B
 - **Protection of hands:**
 The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 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.
 nitrile
 nitrile rubber, NBR
 Recommended thickness of the material: ≥ 0.11 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.
 - **Body protection:** Protective work clothing.
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* 9 Physical and chemical properties:

· Form:	Fluid
· Colour:	Yellowish
· Odour:	Odourless
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	100°C
· Flash point:	Not applicable
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Density at 20°C	1.044 g/cm ³
· Solubility in / Miscibility with Water:	Fully miscible
· pH-value at 20°C:	0.1
· Solvent content:	
Organic solvents:	0.0 %
Water:	< 95 %
· Solids content:	> 1 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
- **Materials to be avoided:**
 alkali metals
 ammonia
 alkalis

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acids
metals
organic solvents
metal, lye

- **Dangerous reactions**

Corrosive action on metals
Reacts with metals forming hydrogen
---> Explosive

- **Dangerous products of decomposition:**

Hydrogen
see chapter 5

* 11 Toxicological information

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

* 12 Ecological information:

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

· Behaviour in environmental systems:	
7697-37-2 nitric acid	
log P(o/w)	-2.3 (.)

- **Ecotoxicological effects:**

- **Remark:**

High aquatic toxicity.
Forms corrosive mixtures with water even if diluted.

- **General notes:**

Also poisonous for fish and plankton in water bodies.
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.

* 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

· Land transport ADR/RID (cross-border)



- **ADR/RID-GGVS/E Class:** 8 (C1) Corrosive substances.
- **Kemler Number:** 80
- **UN-Number:** 3264
- **Packaging group:** III
- **Label:** 8
- **Designation of goods:** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

· Maritime transport IMDG:



- **IMDG Class:** 8
- **UN Number:** 3264
- **Label:** 8
- **Packaging group:** III
- **EMS Number:** F-A,S-B
- **Marine pollutant:** No
- **Correct technical name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

· Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 8
- **UN/ID Number:** 3264
- **Label:** 8
- **Packaging group:** III
- **Correct technical name:** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID)

* 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:**
Xi Irritant
- **Risk phrases:**
36/38 Irritating to eyes and skin.
- **Safety phrases:**
23 Do not breathe fumes/aerosol.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves.

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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.

8 Contact with combustible material may cause fire.

· **Department issuing data specification sheet:** Technical Department

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

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