

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 21.02.2005

* 1 Identification of substance:

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

· **Product name:** Silica HR Set (Vario Silica Citric Acid F10)

· **Catalog number:** 251 412 **Model:** Si-2 TP (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:

· **Chemical characterization:**

· **CAS No. Designation:**

77-92-9 citric acid

· **Identification number(s):**

· **EINECS Number:** 201-069-1

* 3 Hazards identification

· **Hazard designation:**



Xi Irritant

· **Information pertaining to particular dangers for man and environment**

R 36 Irritating to eyes.

* 4 First aid measures

· **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.

· **After swallowing**

Drink copious amounts of water, induce vomiting.

Seek medical treatment.

· **The following symptoms may occur:**

after swallowing:

sickness

diarrhoea

mucous membrane irritation

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cramps

*** 5 Fire fighting measures**

- **Suitable extinguishing agents**
 - Water
 - Foam
 - Fire-extinguishing powder
 - **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.
 - combustible
 - **Protective equipment:**
 - Wear self-contained breathing apparatus.
 - Wear full protective suit.
 - **Additional information**
 - Ambient fire may liberate hazardous vapours.
 - 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.
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*** 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:**
 - Ensure adequate ventilation.
 - Collect mechanically.
 - Dispose of contaminated material as waste according to item 13.
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*** 7 Handling and storage**

- **Handling**
 - **Information for safe handling:** No special measures required.
 - **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 metals.
 - **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.
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*** 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:** Not required.
 - **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.
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Take off immediately all contaminated clothing

Wash hands during breaks and at the end of the work.

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 P2· **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**

nitrile rubber, NBR

Nitrile

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.

· **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:** Protective work clothing.

* 9 Physical and chemical properties:

· Form:	Powder
· Colour:	White
· Odour:	Odourless
· Melting point/Melting range:	153°C
· Boiling point/Boiling range:	Not determined
· Flash point:	Not applicable
· Inflammability (solid, gaseous)	Product is not inflammable.
· Ignition temperature:	345°C
· Danger of explosion:	Product is not explosive.
· Vapour pressure at 20°C:	< 0.1 hPa
· Density at 20°C	1.665 g/cm ³
· Settled apparent density at 20°C	560 kg/m ³
· Solubility in / Miscibility with Water at 20°C:	1330 g/l
· pH-value (7.93 g/l) at 20°C:	2.2
· 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

alkalis

metals

reducing agents

· **Dangerous reactions** Risk of dust explosion if enriched with fine dust in presence of air

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 · **Dangerous products of decomposition:** see chapter 5

* 11 Toxicological information

 · **Acute toxicity:**

 · **LD/LC50 values that are relevant for classification:**
77-92-9 citric acid

Oral LD50 3000 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.

* 12 Ecological information:

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

 · **Other information:**

The product is easily biodegradable.

CAS: 77-92-9 Citric acid: 98% / 2 d

 · **Behaviour in environmental systems:**
77-92-9 citric acid

log P(o/w) -1.72 (20°C) (.)

 · **Mobility and bioaccumulation potential:** Does not accumulate in organisms

 · **Ecotoxic effects:**

 · **Aquatic toxicity:**
77-92-9 citric acid

Daphnia EC50 ~ 120 mg/l/72 h (Daphnia magna)

LC50 440-760 mg/l/96h (Leuciscus idus)

 · **Additional ecological information:**

 · **CSB-value:**
77-92-9 citric acid

COD 0.728 g/g (.)

 · **BSB5-value:**
77-92-9 citric acid

BSB5 0.526 g/g (.)

 · **General notes:**

Water hazard class 1 (German Regulation) (Assessment by list): 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 08 discarded organic 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:**
 - **IMDG/GGVSEE:**
 - **EMS-Number:**
 - **ICAO/IATA:**
 - **Transport/Additional information:** Not dangerous according to the above specifications.
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***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 Irritating to eyes.
 - **Safety phrases:**
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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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.

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