

Material Safety Data Sheet According to 91/155 EEC

Reviewed on 17.02.2005

* 1 Identification of substance:

- **Product details:** Reagent for water analysis
- **Product name:** Vario Ferro F10
- **Catalog number:** 251 405 **Model:** Fe-2 TP
- **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: 7681-57-4 EINECS: 231-673-0 EC Number: 016-063-00-2	disodium disulphite	<input checked="" type="checkbox"/> Xn, R 22-31-41	20-25%
CAS: 7775-14-6 EINECS: 231-890-0 EC Number: 016-028-00-1	sodium dithionite	<input checked="" type="checkbox"/> Xn, R 7-22-31	10-20%

- **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 31 Contact with acids liberates toxic gas.

R 41 Risk of serious damage 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.

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 17.02.2005

Product name: Vario Ferro F10

(Contd. of page 1)

* 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.

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.

· **After swallowing** Drink copious amounts of water and provide fresh air. Instantly call for doctor.

· **Information for doctor** Sulphites are strong sensitizers.

· **The following symptoms may occur:**

after inhalation:

breathing difficulty

coughing

mucous membrane irritation

allergic reactions

after swallowing:

headache

sickness

diarrhoea

Profuse sweating

vomiting

gastric or intestinal trouble

* 5 Fire fighting measures

· **Suitable extinguishing agents**

Fire-extinguishing powder

Limestone powder

Dry sand

· **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.

Sulphur oxides (SO_x)

· **Protective equipment:**

Wear full protective suit.

Wear self-contained breathing apparatus.

· **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.

* 6 Accidental release measures

· **Person-related safety precautions:**

Put on breathing apparatus.

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.

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 17.02.2005

Product name: Vario Ferro F10

(Contd. of page 2)

* 7 Handling and storage

- **Handling**
- **Information for safe handling:** Prevent formation of dust.
- **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:**
Do not store together with acids.
Store away from oxidizing agents.
- **Further information about storage conditions:**
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:**

7681-57-4 disodium disulphite
OES (Great Britain) Long-term value: 5 mg/m ³

- **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.

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:** Combination filter E-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.

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 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.

* 9 Physical and chemical properties:

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|------------------|-------------|
| · Form: | Powder |
| · Colour: | Light beige |
| · Odour: | Sulphurous |

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| · Melting point/Melting range: Not determined |
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(Contd. on page 4)

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 17.02.2005

Product name: Vario Ferro F10

(Contd. of page 3)

· Boiling point/Boiling range:	1461°C
· Flash point:	Not applicable
· Self-inflammability:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive.
· Density	Not determined
· Solubility in / Miscibility with Water:	Soluble
· pH-value (15 g/l) at 20°C:	5.3
· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	100.0 %

* 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** strong heating
- **Materials to be avoided:**
 - oxidizing agents
 - > forms heat
 - acids
 - sodium nitrite
 - sodium chlorite
- **Dangerous reactions** Contact with acids releases toxic gases
- **Dangerous products of decomposition:**
 - Carbon monoxide and carbon dioxide
 - Nitrogen oxides (NOx)
 - Sulphur oxides (SOx)

* 11 Toxicological information

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

· LD/LC50 values that are relevant for classification:		
7681-57-4 disodium disulphite		
Oral	LD50	1540 mg/kg (rat)
7775-14-6 sodium dithionite		
Oral	LD50	2500 mg/kg (rat)
7647-14-5 sodium chloride		
Oral	LD50	3000 mg/kg (rat)
Dermal	LD50	> 10000 mg/kg (rabbit)
6132-04-3 Sodium citrate tribasic dihydrate		
	LD50 IVN	449 mg/kg (rabbit)

- **Primary irritant effect:**
 - **on the skin:** Irritant to skin and mucous membranes.
 - **on the eye:** Strong irritant with the danger of severe eye injury.
- **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

(Contd. on page 5)

Material Safety Data Sheet

According to 91/155 EEC

Reviewed on 17.02.2005

Product name: Vario Ferro F10

(Contd. of page 4)

Irritant

* 12 Ecological information:

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

· Acquatic toxicity:	
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7681-57-4 disodium disulphite	
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EC50	89 mg/l/48h (Daphnia magna)
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LC50	150-220 mg/l/96h (Onchorhynchus mykiss)
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7647-14-5 sodium chloride	
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EC50	1000 mg/l/48h (Daphnia magna)
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LC50	7650 mg/l/96h (Pimephales promelas)
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- **Remark:**
- **Algal toxicity:** CAS No. 7681-57-4 Desmodesmus subspicatus IC50: 48mg/l/72 h
- **Bacterial toxicity:** CAS No. 7681-57-4 Pseudomonas putida EC50: 56 mg/l/17 h
- **Additional ecological information:**

· CSB-value:	
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7681-57-4 disodium disulphite	
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COD	0.168 g/g (.)
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- **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.

* 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	
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16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals
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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleaning agent:** Water, if necessary with cleaning agent.

* 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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(Contd. on page 6)

Material Safety Data Sheet

According to 91/155 EEC

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Product name: Vario Ferro F10

(Contd. of page 5)

* 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

· Hazard-determining components of labelling:

disodium disulphite

· Risk phrases:

22 Harmful if swallowed.

31 Contact with acids liberates toxic gas.

41 Risk of serious damage to eyes.

· Safety phrases:

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

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

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.

31 Contact with acids liberates toxic gas.

41 Risk of serious damage to eyes.

7 May cause fire.

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