

Safety data sheet according to 1907/2006/EC, Article 31

Print date 09.02.2012 (DD.MM.YYYY)

Version number 41

Revision: 09.02.2012

* 1 Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier** Reagent for water analysis
- **Product name:** Vario Ferro F10, 25 ml
- **Catalog number:** 251405Y
- **1.2 Details of the supplier of the safety data sheet**
- **Supplier:**
YSI
1725 Brannum Lane
Yellow Springs, OH 45387
USA
tel: +1 937-767-7241
- **Informing department:**
MSDSinfo@ysi.com
- **Emergency information:**
Chemtrec toll free (USA and Canada): (800) 424-9300
Chemtrec International Telephone Number: 001 703-527-3887 (Collect Calls Accepted)

* 2 Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R22: Harmful if swallowed.



Xi; Irritant

R41: Risk of serious damage to eyes.

R31: Contact with acids liberates toxic gas.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS05
- **Signal word** Danger
- **Hazard-determining components of labelling:**
disodium disulphite
- **Hazard statements**
H318 Causes serious eye damage.
EUH031 Contact with acids liberates toxic gas.

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Precautionary statements

- P280 Wear protective gloves and eye protection.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/physician.

* 3 Composition/information on ingredients

3.2 Chemical characterization: Mixtures

- Description:** Mixture of organic and inorganic compounds

Dangerous components:

CAS: 7681-57-4 EINECS: 231-673-0 Index number: 016-063-00-2	disodium disulphite	☒ Xn R22; ☒ Xi R41 R31 ☞ Eye Dam. 1, H318; ☠ Acute Tox. 4, H302	20-30%
CAS: 7775-14-6 EINECS: 231-890-0 Index number: 016-028-00-1	sodium dithionite	☒ Xn R22 R7-31 ☞ Self-heat. 1, H251; ☠ Acute Tox. 4, H302	15-25%

- REACH - Pre-registered substances** All components are REACH pre-registered.
- Additional information** For the wording of the listed risk phrases refer to section 16.

* 4 First aid measures

4.1 Description of first aid measures

- General information** Instantly remove any clothing soiled by the product.
- After inhalation** Supply fresh air; consult doctor in case of symptoms.
- After skin contact** Instantly wash with water and soap and rinse thoroughly.
- After eye contact**
Rinse opened eye for several minutes (at least 10 min) under running water.
Call a doctor immediately.
- After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
Call a doctor immediately.
- 4.2 Most important symptoms and effects, both acute and delayed**
after inhalation:
coughing
mucous membrane irritation
after swallowing:
headache
sickness
diarrhoea
profuse sweating
allergic reactions
vomiting
breathing difficulty
gastric or intestinal trouble
- Information for doctor** Sulphites are strong sensitizers.
- 4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

* 5 Firefighting measures

- 5.1 Extinguishing media**
- Suitable extinguishing agents**
Fire-extinguishing powder

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Limestone powder

Dry sand

- **For safety reasons unsuitable extinguishing agents** Water.
 - **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
mixture with combustible ingredients
Sulphur oxides (SO_x)
 - **5.3 Advice for firefighters**
 - **Protective equipment:** Wear self-contained breathing apparatus.
 - **Additional information**
Collect contaminated fire fighting water separately. It must not enter drains.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.
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6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Put on breathing apparatus.
Wear protective equipment. Keep unprotected persons away.
Avoid causing dust.
 - **6.2 Environmental precautions:** Do not allow product to reach sewage system or water bodies.
 - **6.3 Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to item 13.
Collect mechanically.
Ensure adequate ventilation.
 - **6.4 Reference to other sections**
See Section 8 for information on personal protection equipment.
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* 7 Handling and storage

- **7.1 Precautions for safe handling** Thorough dedusting.
 - **Information about protection against explosions and fires:**
Protect from heat.
Substance/product is auto-extinguishing, but can burn when combined with flammable material.
 - **7.2 Conditions for safe storage, including any incompatibilities**
 - **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:**
Protect from heat and direct sunlight.
Store under dry conditions.
Protect from humidity and keep away from water.
Protect from the effects of light.
 - **Recommended storage temperature:** 20°C +/- 3°C
 - **Storage class** 10-13
 - **7.3 Specific end use(s)** No further relevant information available.
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* 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

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· 8.1 Control parameters

· Components with limit values that require monitoring at the workplace:

7681-57-4 disodium disulphite (20-30%)

 WEL (Great Britain) Long-term value: 5 mg/m³

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

· 8.2 Exposure controls

· 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:** Filter P2

 · **Protection of hands:** After use of gloves apply skin-cleaning agents and skin cosmetics.

· Material of gloves

nitrile rubber, NBR

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 ≥ 1 (>10 min)

· Eye protection:

Tightly sealed safety glasses.

use against the effects of fumes / dust

 · **Body protection:** Protective work clothing.

* 9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· Appearance:

Form: Powder

Colour: Whitish

 · **Odour:** Sulphurous

 · **pH-value (12.2 g/l) at 20°C:** 5.6

 · **Melting point/Melting range:** Not determined

 · **Boiling point/Boiling range:** 1461°C

 · **Flash point:** Not applicable

 · **Danger of explosion:** Product is not explosive.

 · **Density** Not determined

· Solubility in / Miscibility with

Water: Soluble

· Solvent content:

Organic solvents: 0.0 %

Solids content: 100.0 %

 · **9.2 Other information** No further relevant information available.

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*10 Stability and reactivity

- **Reactivity**
 - **Thermal decomposition / conditions to be avoided:** strong heating
 - **Possibility of hazardous reactions** Contact with acids releases toxic gases
 - **Conditions to avoid** No further relevant information available.
 - **Incompatible materials:**
 - alkali metals
 - acids
 - sodium nitrite
 - sodium chlorite
 - oxidizing agents
 - **Hazardous decomposition products:**
 - Sulphur dioxide
 - Nitrogen oxides (NO_x)
 - carbon monoxide and carbon dioxide
 - Sulphur oxides (SO_x)
 - see chapter 5
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11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**
 - Quantitative data on the toxicity of the preparation are not available.
 - The following statements refer to the individual components.

- **LD/LC50 values that are relevant for classification:**

7775-14-6 sodium dithionite

Oral	LD50	2500 mg/kg (rat)
		IUCLID

7681-57-4 disodium disulphite

Oral	LD50	1540 mg/kg (rat)
		(GESTIS)

- **Primary irritant effect:**
- **on the skin:** slight irritations possible
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitizing effect by inhalation and skin contact is possible by prolonged exposure.
- **Subacute to chronic toxicity:**
 - chronic: dermatitis
 - repeated skin exposure can produce local skin destruction or dermatitis
- **Additional toxicological information:**
 - Harmful
 - Irritant
 - disorder of electrolyte balance
- **Mutagenicity:** Disodium disulphite has shown positive results in screening tests for mutagenicity. (IUCLID)
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** no data available

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* 12 Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

7681-57-4 disodium disulphite

EC50	89 mg/l/48h (Daphnia magna) (MERCK)
LC50	150-220 mg/l/96h (Oncorhynchus mykiss) (MERCK)

7775-14-6 sodium dithionite

EC50	98 mg/l/48h (Daphnia magna) MERCK
LC50	46-68 mg/l/96h (Leuciscus idus) UICLID

· **12.2 Persistence and degradability** No further relevant information available.

· Other information:

Quantitative data on the ecological effect of this product are not available.
The following statements refer to the individual components.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **Behaviour in environmental systems:**

· **12.4 Mobility in soil** No further relevant information available.

· Ecotoxicological effects:

· **Remark:** Toxic

for fish:

sulphates > 7 g/l

· **Bacterial toxicity:** sulphates toxic > 2.5 g/l

· **Additional ecological information:**

· General notes:

Water hazard class 1 (German Regulation) (Self-assessment acc. VwVwS Annex 4): 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.

· **12.5 Results of PBT and vPvB assessment** no data available

· **12.6 Other adverse effects** No further relevant information available.

* 13 Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

· European waste catalogue

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.

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* 14 Transport information

· 14.1 UN-Number · ADR, ADN, IMDG, IATA	Void
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	Void
· 14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA · Class	Void
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards: · Marine pollutant:	No
· 14.6 Special precautions for user	Not applicable.
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.

* 15 Regulatory information

- **15.4 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations**
- **Information about limitation of use:**
Observe employment restrictions for pregnant and nursing mothers according to the 'mother protection guideline' (92/85/EEC)
Employment restrictions concerning young persons must be observed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 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 phrases**

H251 Self-heating: may catch fire.

H302 Harmful if swallowed.

H318 Causes serious eye damage.

R22 Harmful if swallowed.

R31 Contact with acids liberates toxic gas.

R41 Risk of serious damage to eyes.

R7 May cause fire.

- **Abbreviations and acronyms:**

EC50: effective concentration, 50 percent (in vivo)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

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LD50: Lethal dose, 50 percent

· Sources

Data arise from reference works and literature.

International Chemical Safety Cards (ICSCs)

IUCLID (International Uniform Chemical Information Database)

· * Data compared to the previous version altered.

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