

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

Print date 31.01.2012 (DD.MM.YYYY)

Version number 19

Revision: 31.01.2012

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

- **1.1 Product identifier** Reagent for water analysis
- **Product name:** Vario Manganese Citrate (Buffer) F10 ml
- **Catalog number:** 251406Y
- **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**



Eye Irrit. 2 H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Void
- **Information concerning particular hazards for human and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" (1999/45/EC) in the latest valid version.
- **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.
- **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** GHS07
- **Signal word** Warning
- **Hazard statements**
H319 Causes serious eye irritation.
- **Precautionary statements**
P280 Wear protective clothing.

(Contd. on page 2)

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(Contd. of page 1)

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

* 3 Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**
- **Description:** Mixture of organic and inorganic compounds

- **Dangerous components:**

CAS: 77-92-9	citric acid	 Xi R36	10-20%
EINECS: 201-069-1		 Eye Irrit. 2, H319	

- **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**
- **After inhalation** Supply fresh air.
- **After skin contact**
Instantly rinse with water.
If skin irritation continues, consult a doctor.
- **After eye contact**
Rinse opened eye for several minutes (at least 10 min) under running water.
Seek medical treatment.
- **After swallowing**
Rinse out mouth and then drink 1-2 glasses of water.
In case of persistent symptoms consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed**
After swallowing of large amounts:
coughing
pain
mucous membrane irritation
sickness
vomiting
- **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** Use fire fighting measures that suit the environment.
- **5.2 Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
Sulphur oxides (SO_x)
Phosphorus oxides (P_xO_x)
Sodium oxide
carbon monoxide and carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained breathing apparatus.
Wear full protective suit.
- **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.

(Contd. on page 3)

Safety data sheet

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Revision: 31.01.2012

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(Contd. of page 2)

Ambient fire may liberate hazardous vapours.


6 Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
 - **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** No dangerous materials are released.
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* 7 Handling and storage

- **7.1 Precautions for safe handling** Thorough dedusting.
 - **Information about protection against explosions and fires:** No special measures required.
 - **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:** Store away from metals.
 - **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store under dry conditions.
Protect from humidity and keep away from water.
This product is hygroscopic.
Protect from the effects of light.
 - **Recommended storage temperature:** 20°C +/- 5°C
 - **Storage class** 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.
- **8.1 Control parameters**
- **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.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
Wash hands during breaks and at the end of the work.
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:** Preventive skin protection by use of skin-protecting agents is recommended.
- **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.

(Contd. on page 4)

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Revision: 31.01.2012

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(Contd. of page 3)

Value for the permeation: Level  1 (>10 min)

- **Eye protection:** Safety glasses
 - **Body protection:** Protective work clothing.
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* 9 Physical and chemical properties

· 9.1 Information on basic physical and chemical properties	
· Appearance:	
Form:	Powder
Colour:	White
· Odour:	Odourless
· pH-value (19 g/l) at 20°C:	6.3
· Melting point/Melting range:	Not determined
· Boiling point/Boiling range:	Not determined
· Flash point:	Not applicable
· Danger of explosion:	Product is not explosive.
· Density at 20°C	1.578 g/cm ³
· 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.

* 10 Stability and reactivity

- **Reactivity**
 - **Thermal decomposition / conditions to be avoided:** To avoid thermal decomposition do not overheat.
 - **Possibility of hazardous reactions**
Reacts with certain metals
Aqueous solution reacts with metals.
 - **Conditions to avoid** No further relevant information available.
 - **Incompatible materials:**
nitrates
reducing agents
aluminium
oxidizing agents
 - **Hazardous decomposition products:**
see chapter 5
sodium monoxide
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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.

(Contd. on page 5)

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(Contd. of page 4)

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

Oral	LD50	3000 mg/kg (rat) (IUCLID)
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· Primary irritant effect:

- **on the skin:** No irritant effect.
- **on the eye:** Irritant effect.
- **Sensitization:** No sensitizing effect known.

· Additional toxicological information:

- The usual precautionary measures should be adhered to general rules for handling chemicals.
- **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)** no data available

*12 Ecological information

· 12.1 Toxicity

- **Aquatic toxicity:** No further relevant information available.
- **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.

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

· 12.3 Bioaccumulative potential

Depending on the concentration, phosphorus compounds may contribute to the eutrophication of water supplies.

· 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

- **vPvB assessments:** 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.

· 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.

(Contd. on page 6)

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Revision: 31.01.2012

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(Contd. of page 5)

 · **Recommended cleaning agent:** Water, if necessary with cleaning agent.

* 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:** Employment restrictions concerning young persons must be observed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 16 Other information

- **Relevant phrases**

H319 Causes serious eye irritation.

R36 Irritating to eyes.

- **Abbreviations and acronyms:**

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

LD50: Lethal dose, 50 percent

- **Sources**

IUCLID (International Uniform Chemical Information Database)

International Chemical Safety Cards (ICSCs)

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