

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

Printing date 03.07.2018


Version number 37

Revision: 03.07.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Product name:** Fe-1 TP
- **Catalog number:** 251404
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation:** Reagent for water analysis
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier:**
Xylem Analytics Germany GmbH
WTW
Dr.-Karl-Slevogt-Straße 1
82362 Weilheim
Germany
Tel. +49 881 183-0
- **Informing department:** E-Mail: Info.WTW@Xyleminc.com
- **1.4 Emergency telephone number:** Chemtrec (USA & Canada) 800-424-9300 (INTERNATIONAL) 001 703-527-3887

SECTION 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.
- **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.
- **Precautionary statements**
P261 Avoid breathing fume.
P280 Wear protective gloves / 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 doctor.
- **Additional information:**
EUH031 Contact with acids liberates toxic gas.
EUH208 Contains methenamine. May produce an allergic reaction.
- **2.3 Other hazards** No further relevant information available.

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Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of organic and inorganic compounds

Dangerous components:

CAS: 7681-57-4 EINECS: 231-673-0 Index No: 016-063-00-2 Reg.nr.: 01-2119531326-45-XXXX	disodium disulphite	☠ Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	10-20%
CAS: 7775-14-6 EINECS: 231-890-0 Index No: 016-028-00-1 Reg.nr.: 01-21-19520510-57-XXXX	sodium dithionite	☠ Self-heat. 1, H251; ⚠ Acute Tox. 4, H302	10-20%
CAS: 100-97-0 EINECS: 202-905-8 Index No: 612-101-00-2 Reg.nr.: 01-2119474895-20-XXXX	methenamine	☠ Flam. Sol. 2, H228; ⚠ Skin Sens. 1, H317	0.1-<1%

Additional information For the wording of the listed hazard phrases refer to section 16.

SECTION 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 rinse with water.

If skin irritation or rash occurs: Get medical advice/attention.

After eye contact

Rinse opened eye for several minutes (at least 15 min) under running water.

Call a doctor immediately.

After swallowing

Rinse out mouth and then drink 1-2 glasses of water.

Seek immediate medical advice.

4.2 Most important symptoms and effects, both acute and delayed:

burns

allergic reactions

after inhalation:

coughing

mucous membrane irritation

after swallowing:

absorption

sickness

vomiting

gastric or intestinal trouble

diarrhoea

pain

breathing difficulty

Information for doctor Sulphites are strong sensitizers.

4.3 Indication of any immediate medical attention and special treatment needed: No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media**Suitable extinguishing agents**

Fire-extinguishing powder

Carbon dioxide (CO₂)

Dry sand

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- **For safety reasons unsuitable extinguishing agents**
 - Water.
 - Foam
- **5.2 Special hazards arising from the substance or mixture**
 - mixture with combustible ingredients
 - Substance/product is auto-extinguishing, but can burn when combined with flammable material.
 - Formation of toxic gases is possible during heating or in case of fire.
 - Can be released in case of fire:
 - Sulphur oxides (SO_x)
 - Sodium oxide
 - Carbon monoxide (CO) and carbon dioxide (CO₂)
- **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.
 - Ambient fire may liberate hazardous vapours.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
- **Advice for non-emergency personnel:**
 - Wear protective equipment. Keep unprotected persons away.
 - Ensure adequate ventilation
 - Use breathing protection against the effects of fumes/dust/aerosol.
 - Avoid causing dust.
- **Advice for emergency responders:**
 - Put on breathing apparatus.
 - Protective equipment: see section 8
- **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:**
 - Ensure adequate ventilation.
 - Collect mechanically.
 - Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
- **Advice on safe handling:**
 - Prevent formation of dust.
 - Thorough dedusting.
- **Hygiene measures:**
 - Avoid contact with the eyes.
 - Avoid contact with the skin.
 - Take off immediately all contaminated clothing.
 - Wash hands during breaks and at the end of the work.
 - Do not eat, drink or smoke when using this product.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:**
 - Store in cool location.
 - Protect from heat.
- **Information about storage in one common storage facility:**
 - Store away from oxidising agents.
 - Do not store together with acids.
- **Further information about storage conditions:**
 - Store in cool, dry conditions in well sealed containers.
 - Protect from heat and direct sunlight.

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- Protect from the effects of light.
- Store under dry conditions.
- Protect from humidity and keep away from water.
- **Recommended storage temperature:** 20°C +/- 5°C
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

• 8.1 Control parameters

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

CAS: 7681-57-4 disodium disulphite

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

CAS: 100-97-0 methenamine

OEL (Sweden)	Short-term value: 5 mg/m ³ Long-term value: 3 mg/m ³ S, V
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• Regulatory information

WEL (Great Britain): EH40/2011

OEL (Sweden): AFS2011:18

• DNELs

Derived No Effect Level (DNEL)

CAS: 7681-57-4 disodium disulphite

Inhalative	DNEL	10 mg/m ³ (Worker / long-term /systemic effects) (MERCK)
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CAS: 7775-14-6 sodium dithionite

Inhalative	DNEL	10 mg/m ³ (Worker / long-term /systemic effects)
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CAS: 100-97-0 methenamine

Dermal	DNEL	8.8 mg/kg (Worker / long-term /systemic effects)
Inhalative	DNEL	31 mg/m ³ (Worker / long-term /systemic effects)

• Recommended monitoring procedures:

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

• PNECs

Predicted No Effect Concentration (PNEC)

CAS: 7681-57-4 disodium disulphite

PNEC	75.4 mg/l (Sewage treatment plant) 0.1 mg/l (Marine water) 1 mg/l (Fresh water)
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CAS: 7775-14-6 sodium dithionite

PNEC	45.3 mg/l (Sewage treatment plant) 0.1 mg/l (Marine water)
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CAS: 100-97-0 methenamine

PNEC	100 mg/l (Sewage treatment plant) 0.5 mg/l (Marine water) 2.4 mg/l (Fresh water sediment) 3 mg/l (Fresh water)
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• **Additional information:** The lists that were valid during the compilation were used as basis.

• 8.2 Exposure controls

• Engineering measures:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See item 7.

• Personal protective equipment

• **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.

• **Recommended filter device for short term use:** Combination filter ABEK-P2

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Protection of hands:

Protective gloves.

Preventive skin protection by use of skin-protecting agents is recommended.

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**

Value for the permeation: Level = 1 (< 10 min)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection: Tightly sealed safety glasses.**Body protection:** Protective work clothing.**Limitation and supervision of exposure into the environment:**

Do not allow product to reach sewage system or water bodies.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties**Appearance:****Form / Physical state:** Powder**Colour:** White**Odour:** Odourless**Odour threshold:** Not applicable**pH-value (10.4 g/l) at 20°C:** 3.4**Melting point/Freezing point:** Not determined**Initial boiling point and boiling range:** Not determined**Flash point:** Not applicable**Flammability (solid, gas):** The product is not combustible.**Decomposition temperature:** Not determined.**Auto-ignition temperature:** Product is not self-igniting.**Explosive properties:** Product is not explosive.**Flammability or explosive limits:****Lower:** Not applicable**Upper:** Not applicable**Oxidising properties:** none**Vapour pressure:** Not applicable.**Density:** Not determined**Relative density:** Not determined.**Vapour density:** Not applicable.**Evaporation rate:** Not applicable.**Solubility(ies):****Water:** Soluble**Partition coefficient: n-octanol/water:** Not applicable.**Viscosity:** Not applicable.**Solvent content:****Organic solvents:** 0.0 %**Solids content:** 100.0 %**9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity see section 10.3**10.2 Chemical stability** Stable at ambient temperature (room temperature).

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10.3 Possibility of hazardous reactions

Contact with acids releases toxic gases

Reacts with moist air

Reacts with oxidizing agents

10.4 Conditions to avoid

Exposure to moisture.

strong heating

10.5 Incompatible materials:

sodium nitrite

sodium chlorite

10.6 Hazardous decomposition products:

Sulphur dioxide

In case of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects**Acute toxicity** Based on available data, the classification criteria are not met.**LD/LC50 values that are relevant for classification:**

The following statements refer to the individual components.

CAS: 7681-57-4 disodium disulphiteOral LD50 1540 mg/kg (rat) (OECD 401)
(MERCK)Dermal LD50. > 2000 mg/kg (rat)
(RTECS)**CAS: 7775-14-6 sodium dithionite**

Oral LD50 500 mg/kg (ATE)

LD50. 2500 mg/kg (rat)
(IUCLID)**CAS: 100-97-0 methenamine**Oral LD50 9200 mg/kg (rat)
(IUCLID)

Dermal LD50. > 2000 mg/kg (rat) (OECD 402)

Primary irritant effect:**Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation**

Causes serious eye damage.

Risk of corneal clouding.

Information on components:**CAS: 7681-57-4 disodium disulphite**

Irritation of skin OECD 404 (rabbit: no irritation)

Irritation of eyes OECD 405 (rabbit: severe irritations)

CAS: 7775-14-6 sodium dithionite

Irritation of skin OECD 404 (rabbit: no irritation)

CAS: 100-97-0 methenamine

Irritation of skin OECD 404 (rabbit: no irritation)

Irritation of eyes OECD 405 (rabbit: no irritation)

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.**Information on components:**

Contains methenamine. May produce an allergic reaction.

CAS: 7681-57-4 disodium disulphite

Sensitisation OECD 406 (guinea pig: negative)

CAS: 100-97-0 methenamine

Sensitisation OECD 406 (guinea pig: positive)

Patch test (human) (positive)
(IUCLID)**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** The following statements refer to the mixture:

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- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
- **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Information on components:**

CAS 7681-57-4: Did not show carcinogenic effects in animal experiments (IUCLID).
 CAS 7681-57-4: No impairment of reproductive performance in animal experiments (IUCLID).
 CAS 7681-57-4: Did not show teratogenic effects in animal experiments.
 OECD 414: Teratogenicity testing
 OECD 473: Mutagenicity testing
 OECD 471, 474, 476, 487: Germ cell mutagenicity testing

CAS: 7681-57-4 disodium disulphite

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)

CAS: 100-97-0 methenamine

OECD 471 (negative) (Bacterial Reverse Mutation Test - Ames test)

OECD 474 (negative) (Mammalian Erythrocyte Micronucleus Test) (IUCLID)

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

CAS: 7681-57-4 disodium disulphite

EC50	89 mg/l/48h (Daphnia magna) (OECD 202) (MERCK)
IC50	48 mg/l/72h (Desmodesmus subspicatus) (OECD 201) (MERCK)
LC50	150 - 220 mg/l/96h (rainbow trout) (DIN 38412 Teil 15) (Merck)

CAS: 7775-14-6 sodium dithionite

EC50	98 mg/l/48h (Daphnia magna) MERCK
IC50	206 mg/l/72h (Desmodesmus subspicatus) MERCK
LC50	46-68 mg/l/96h (gold orfe) (DIN 38412) (Merck)

CAS: 100-97-0 methenamine

EC50	36 mg/l/48h (Daphnia magna) (IUCLID)
EC10	5 mg/l (fish)
LC50 (static)	41 mg/l/96h (bluegill) (US-EPA)

· **Bacterial toxicity:**

sulphates toxic > 2.5 g/l

CAS: 7681-57-4 disodium disulphite

EC50	56 mg/l (Pseudomonas putida) (17h) (IUCLID)
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CAS: 7775-14-6 sodium dithionite

EC50	107 mg/l (Pseudomonas putida) IUCLID
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CAS: 100-97-0 methenamine

EC50 (static)	> 5000 mg/l (Bacterial toxicity) (DIN 38412) (Merck, Vibrio fischeri)
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· **Other information:**

Toxic for fish:

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sulphates > 7 g/l

· 12.2 Persistence and degradability**CAS: 100-97-0 methenamine**

OECD 302 C 39-47% / 28d (.) (Modified MITI Test (II))

· 12.3 Bioaccumulative potential**CAS: 7775-14-6 sodium dithionite**

log Pow < -4.7 (.) (calculated)

CAS: 100-97-0 methenaminelog Pow -2.84 (.) (experimental)
(IUCLID)**· 12.4 Mobility in soil** No further relevant information available.**· 12.5 Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

· 12.6 Other adverse effects Avoid transfer into the environment.**· Water hazard:**

Do not allow product to reach ground water, water bodies or sewage system.

Danger to drinking water if even small quantities leak into soil.

SECTION 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 hazardous substances, including mixtures of laboratory chemicals

· Uncleaned packagings:**· Recommendation:** Disposal must be made according to official regulations.**· Recommended cleaning agent:** Water, if necessary with cleaning agent.

SECTION 14: Transport information

· 14.1 UN-Number**· ADR, IMDG, IATA**

Void

· 14.2 UN proper shipping name**· ADR, IMDG, IATA**

Void

· 14.3 Transport hazard class(es)**· ADR, IMDG, IATA****· Class**

Void

· 14.4 Packing group**· ADR, IMDG, IATA**

Void

· 14.5 Environmental hazards:

Not applicable.

· 14.6 Special precautions for user

Not applicable.

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

· Transport/Additional information:

Not dangerous according to the above specifications.

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SECTION 15: Regulatory information

· 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

· Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

None of the ingredients is listed.

· Directive 2012/18/EU (SEVESO III):

· Named dangerous substances - ANNEX I None of the ingredients is listed.

· 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.

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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

H228 Flammable solid.

H251 Self-heating: may catch fire.

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

· Training hints Provide adequate information, instruction and training for operators.

· Abbreviations and acronyms:

OECD: Organisation for Economic Co-operation and Development

STOT: specific target organ toxicity

SE: single exposure

RE: repeated exposure

EC50: half maximal effective concentration

IC50: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

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

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Sol. 2: Flammable solids – Category 2

Self-heat. 1: Self-heating substances and mixtures – Category 1

Acute Tox. 4: Acute toxicity – Category 4

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

· Sources

Data arise from safety data sheets, reference works and literature.

IUCLID (International Uniform Chemical Information Database)

RTECS (Registry of Toxic Effects of Chemical Substances)

· * Data compared to the previous version altered.