

**SECTION 1: Identification of the substance or mixture and of the supplier****Product identifier****Trade name:** Reagent FE1**Synonym:** *for iron***Article number:** CAY840-V10AAE**Recommended use of the chemical and restrictions on use** *No further relevant information available.***Application of the substance / the mixture** *Laboratory chemicals***Supplier's details****Manufacturer/Supplier:***Endress+Hauser**Conducta GmbH+Co. KG**Dieselstraße 24**D-70839 Gerlingen***Further information obtainable from:***Phone: +49 (0)7156 209-10117**E-Mail: MSDS.PCC@endress.com***Emergency phone number** +27 (0)861 555 777**SECTION 2: Hazard identification****Classification of the substance or mixture***skull and crossbones**Acute Tox. 3 H301 Toxic if swallowed.**corrosion**Skin Corr. 1B H314 Causes severe skin burns and eye damage.**Eye Dam. 1 H318 Causes serious eye damage.**Acute Tox. 4 H312 Harmful in contact with skin.**Acute Tox. 4 H332 Harmful if inhaled.**Skin Sens. 1 H317 May cause an allergic skin reaction.***GHS label elements****GHS label elements***The product is classified and labelled according to the Globally Harmonised System (GHS).***Hazard pictograms**

GHS05 GHS06

**Signal word** *Danger***Hazard-determining components of labelling:***ammonium thioglycolate**thioglycolic acid***Hazard statements***Toxic if swallowed.*

**Trade name: Reagent FE1**

(Contd. of page 1)

*Harmful in contact with skin or if inhaled.  
Causes severe skin burns and eye damage.  
May cause an allergic skin reaction.*

**Precautionary statements**

*IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
Specific treatment (see on this label).  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Take off contaminated clothing and wash it before reuse.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.*

**Other hazards**

*The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.*

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**SECTION 3: Composition or information on ingredients**

**Mixtures**

**Description:** Mixture of substances listed below with nonhazardous additions.

**Dangerous components:**

CAS: 5421-46-5 EINECS: 226-540-9	ammonium thioglycolate ⚠ Acute Tox. 3, H301; ⚠ Met. Corr. 1, H290; ⚠ Skin Sens. 1, H317	10-20%
CAS: 68-11-1 EINECS: 200-677-4	thioglycolic acid ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Skin Corr. 1B, H314	10-20%

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

**SECTION 4: First-aid measures**

**Description of necessary first-aid measures**

**General information:**

*Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
In case of irregular breathing or respiratory arrest provide artificial respiration.*

**After inhalation:**

*Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.*

**After skin contact:**

*Immediately wash with water and soap and rinse thoroughly.  
Immediately rinse with water.*

**After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*

**After swallowing:**

*Do not induce vomiting; call for medical help immediately.  
Drink plenty of water and provide fresh air. Call for a doctor immediately.*

**Most important symptoms or effects, acute and delayed** *No further relevant information available.*

**Indication of immediate medical attention and special treatment needed, if necessary**

*No further relevant information available.*

(Contd. on page 3)

**Trade name: Reagent FE1**

(Contd. of page 2)

## SECTION 5: Fire-fighting measures

**Suitable extinguishing media**

**Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents:** no further information

**Specific hazards arising from the chemical**

During heating or in case of fire poisonous gases are produced.

**Special protective actions for fire fighters** No further relevant information available.

**Protective equipment:** Mount respiratory protective device.

## SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Wear protective clothing.

**Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralising agent.

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## SECTION 7: Handling and storage

**Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

**Information about fire - and explosion protection:** Keep respiratory protective device available.

**Conditions for safe storage, including any incompatibilities**

**Storage:**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep container tightly sealed.

**Storage class:** 6.1 B

**Specific end use(s)** No further relevant information available.

## SECTION 8: Exposure controls or personal protection

**Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

**CAS: 68-11-1 thioglycolic acid**

OEL	Long-term value: 2 ppm
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	SKIN
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**Additional information:** The lists valid during the making were used as basis.

**Exposure controls**

**Appropriate engineering controls** No further data; see section 7.

(Contd. on page 4)

**Trade name: Reagent FE1**

(Contd. of page 3)

**Individual protection measures, such as personal protective equipment (PPE)****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
 Immediately remove all soiled and contaminated clothing  
 Wash hands before breaks and at the end of work.  
 Avoid contact with the eyes.  
 Avoid contact with the eyes and skin.

**Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

**Hand protection**

Protective gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.  
 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.

**Material of gloves**

Nitrile rubber, NBR  
 Natural rubber, NR

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.

**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.

**Eye or face protection**

Tightly sealed goggles

**Body protection:** Protective work clothing

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****General Information**

<b>Physical state</b>	Fluid
<b>Colour:</b>	Yellow
<b>Odour:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.
<b>Melting point/freezing point:</b>	Undetermined.
<b>نقطة الغليان أو نقطة الغليان الأولية ونطاق الغليان</b>	100 °C
<b>Flammability</b>	Not applicable.
<b>Upper or lower flammability or explosive limits</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
<b>Flash point:</b>	Not applicable.
<b>Decomposition temperature:</b>	Not determined.
<b>pH at 20 °C</b>	3.5
<b>Viscosity:</b>	
<b>Viscosity</b>	Not determined.

(Contd. on page 5)

## Trade name: Reagent FE1

(Contd. of page 4)

<b>Dynamic:</b>	<i>Not determined.</i>
<b>Solubility</b>	
<b>water:</b>	<i>Fully miscible.</i>
<b>Partition coefficient: n-octanol or water</b>	<i>Not determined.</i>
<b>Vapour pressure at 20 °C:</b>	<i>23 hPa</i>
<b>Vapour density + Relative density</b>	
<b>Density at 20 °C:</b>	<i>1.093 g/cm<sup>3</sup></i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not determined.</i>
<b>Other information</b>	
<b>Appearance:</b>	
<b>Form:</b>	<i>Fluid</i>
<b>Important information on protection of health and environment, and on safety.</b>	
<b>Ignition temperature:</b>	<i>Product is not selfigniting.</i>
<b>Explosive properties:</b>	<i>Product does not present an explosion hazard. Not determined.</i>
<b>Solvent content:</b>	
<b>Water:</b>	<i>64.5 %</i>
<b>Solids content:</b>	<i>0.0 %</i>
<b>Change in condition</b>	
<b>Evaporation rate</b>	<i>Not determined.</i>
<b>Information with regard to physical hazard classes</b>	
<b>Explosives</b>	<i>Void</i>
<b>Flammable gases</b>	<i>Void</i>
<b>Aerosols</b>	<i>Void</i>
<b>Oxidising gases</b>	<i>Void</i>
<b>Gases under pressure</b>	<i>Void</i>
<b>Flammable liquids</b>	<i>Void</i>
<b>Flammable solids</b>	<i>Void</i>
<b>Self-reactive substances and mixtures</b>	<i>Void</i>
<b>Pyrophoric liquids</b>	<i>Void</i>
<b>Pyrophoric solids</b>	<i>Void</i>
<b>Self-heating substances and mixtures</b>	<i>Void</i>
<b>Substances and mixtures, which emit flammable gases in contact with water</b>	<i>Void</i>
<b>Oxidising liquids</b>	<i>Void</i>
<b>Oxidising solids</b>	<i>Void</i>
<b>Organic peroxides</b>	<i>Void</i>
<b>Corrosive to metals</b>	<i>Void</i>
<b>Desensitised explosives</b>	<i>Void</i>

**SECTION 10: Stability and reactivity****Reactivity** *No further relevant information available.***Chemical stability****Thermal decomposition / conditions to be avoided:***No decomposition if used according to specifications.***Possibility of hazardous reactions** *No dangerous reactions known.***Conditions to avoid** *No further relevant information available.***Incompatible materials:** *No further relevant information available.***Hazardous decomposition products:** *No dangerous decomposition products known.*

(Contd. on page 6)

Trade name: Reagent FE1

(Contd. of page 5)

**SECTION 11: Toxicological information****Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity***Toxic if swallowed.**Harmful in contact with skin or if inhaled.***Skin corrosion or irritation** *Causes severe skin burns and eye damage.***Serious eye damage or irritation** *Causes serious eye damage.***Respiratory and skin sensitization** *May cause an allergic skin reaction.***Information on other hazards****endocrine disrupting potential***None of the ingredients is listed.***\* SECTION 12: Ecological information****Toxicity****Aquatic toxicity:** *No further relevant information available.***Persistence and degradability** *No further relevant information available.***Bioaccumulative potential** *No further relevant information available.***Mobility in soil** *No further relevant information available.***Results of PBT and vPvB assessment****PBT:** *Not applicable.***vPvB:** *Not applicable.***Endocrine disrupting properties***The product does not contain substances with endocrine disrupting properties.***Other adverse effects****Additional ecological information:****General notes:***Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water**Do not allow product to reach ground water, water course or sewage system, even in small quantities.**Must not reach sewage water or drainage ditch undiluted or unneutralised.**Danger to drinking water if even extremely small quantities leak into the ground.***SECTION 13: Disposal considerations****Waste treatment methods****Recommendation***Must not be disposed together with household garbage. Do not allow product to reach sewage system.***Uncleaned packaging:****Recommendation:** *Disposal must be made according to official regulations.***Recommended cleansing agents:** *Water, if necessary together with cleansing agents.***\* SECTION 14: Transport information****UN number****IMDG, IATA**

UN2922

**UN proper shipping name****ADR**UN2922 CORROSIVE LIQUID, TOXIC, N.O.S.  
(ammonium thioglycolate, THIOGLYCOLIC ACID)  
CORROSIVE LIQUID, TOXIC, N.O.S. (ammonium  
thioglycolate, THIOGLYCOLIC ACID)**IMDG****IATA**Corrosive liquid, toxic, n.o.s. (ammonium thioglycolate/  
THIOGLYCOLIC ACID solution)

(Contd. on page 7)

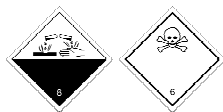
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**Trade name: Reagent FE1**

(Contd. of page 6)

**Transport hazard class(es)**

**ADR**



**Class** 8 (CT1) Corrosive substances.  
**Label** 8+6.1

**IMDG**



**Class** 8 Corrosive substances.  
**Label** 8/6.1

**IATA**



**Class** 8 Corrosive substances.  
**Label** 8 (6.1)  
**Packing group** II  
**ADR, IMDG, IATA** II  
**Environmental hazards:** Not applicable.  
**Special precautions for user** Warning: Corrosive substances.  
**Hazard identification number (Kemler code):** 86  
**EMS Number:** F-A,S-B  
**Segregation groups** (SGG1) Acids  
**Stowage Category** B  
**Stowage Code** SW2 Clear of living quarters.  
**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

**Transport/Additional information:**

**ADR**

**Limited quantities (LQ)** 1L  
**Transport category** 2  
**Tunnel restriction code** E

**IMDG**

**Limited quantities (LQ)** 1L  
**Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 500 ml  
**UN "Model Regulation":** UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (AMMONIUM THIOGLYCOLATE, THIOGLYCOLIC ACID), 8 (6.1), II

**SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**GHS label elements**

The product is classified and labelled according to the Globally Harmonised System (GHS).

(Contd. on page 8)



**Trade name: Reagent FE1**

(Contd. of page 7)

**Hazard pictograms**

GHS05 GHS06

**Signal word** *Danger***Hazard-determining components of labelling:**

*ammonium thioglycolate*  
*thioglycolic acid*

**Hazard statements**

*Toxic if swallowed.*  
*Harmful in contact with skin or if inhaled.*  
*Causes severe skin burns and eye damage.*  
*May cause an allergic skin reaction.*

**Precautionary statements**

*IF SWALLOWED: Immediately call a POISON CENTER/ doctor.*  
*Specific treatment (see on this label).*  
*IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*  
*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*  
*Take off contaminated clothing and wash it before reuse.*  
*Store locked up.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

**Directive 2012/18/EU**

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

**National regulations:**

**Waterhazard class:** *Water hazard class 3 (Self-assessment): extremely hazardous for water.*

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

**SECTION 16: Other information**

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

**Department issuing SDS:** *PCC-TWR*

**Contact:** *MSDS.pcc@endress.com*

**Abbreviations and acronyms:**

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

*ICAO: International Civil Aviation Organisation*

*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*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)*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Met. Corr. 1: Corrosive to metals – Category 1*

*Acute Tox. 3: Acute toxicity – Category 3*

*Acute Tox. 4: Acute toxicity – Category 4*

*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*

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

*Skin Sens. 1: Skin sensitisation – Category 1*

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