

## 1 Identification

### Product identifier

Trade name: **Reagent FE1**

Synonym: *for iron*

Article number: *CAY840-V10AAE*

Application of the substance / the mixture *Laboratory chemicals*

### Details of the supplier of the safety data sheet

#### 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](mailto:MSDS.PCC@endress.com)*

Emergency telephone number: *+1 604 682 5050*

## \* 2 Hazard identification

### Classification of the substance or mixture



GHS06 *Skull and crossbones*

*Acute Toxicity (Oral) - Category 3*

*H301 Toxic if swallowed.*



GHS05 *Corrosion*

*Skin Corrosion - Category 1B*

*H314 Causes severe skin burns and eye damage.*

*Serious Eye Damage - Category 1*

*H318 Causes serious eye damage.*



GHS07

*Acute Toxicity (Dermal) - Category 4* *H312 Harmful in contact with skin.*

*Acute Toxicity (Inhalation) - Category 4* *H332 Harmful if inhaled.*

*Skin Sensitizer - Category 1*

*H317 May cause an allergic skin reaction.*

### Label elements

#### GHS label elements

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

#### Hazard pictograms



GHS05 GHS06 GHS07

Signal word *Danger*

#### Hazard-determining components of labelling:

*ammonium thioglycolate  
thioglycolic acid*


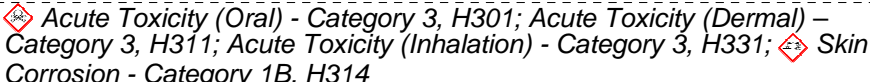
#### Hazard statements

*Toxic if swallowed.  
Harmful in contact with skin or if inhaled.  
Causes severe skin burns and eye damage.*

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*May cause an allergic skin reaction.***Precautionary statements***IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**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.**Specific measures (see on this label).**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.***3 Composition/Information on ingredients****Chemical characterisation: Mixtures****Description:** *Mixture of substances listed below with nonhazardous additions.*

<b>Dangerous components:</b>		
CAS: 5421-46-5	ammonium thioglycolate 	10-30% *
CAS: 68-11-1	thioglycolic acid 	10-30% *

**Additional information:** *For the wording of the listed hazard phrases refer to section 16.***\* 4 First-aid measures****Description of 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.***Information for doctor:****Most important symptoms and effects, both acute and delayed***No further relevant information available.***Indication of any immediate medical attention and special treatment needed***No further relevant information available.*

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## 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:**

CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

**Special hazards arising from the substance or mixture**

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

**Advice for firefighters** No further relevant information available.

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

## 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 item 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.

## \* 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.

**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.

## \* 8 Exposure controls/ Personal protection

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

**Control parameters**

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

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

EL TWA: 1 ppm

Skin; S(D)

EV TWA: 3.8 mg/m<sup>3</sup>, 1 ppm

Skin

**Additional information:** The lists valid during the making were used as basis.

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**Exposure controls****Personal protective equipment:****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.***Protection of hands:***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 protection:***Tightly sealed goggles***Body protection:** *Protective work clothing***9 Physical and chemical properties****Information on basic physical and chemical properties****General Information****Appearance:**

<b>Form:</b>	<i>Fluid</i>
<b>Colour:</b>	<i>Yellow</i>
<b>Odour:</b>	<i>Characteristic</i>
<b>Odour threshold:</b>	<i>Not determined.</i>
<b>pH-value at 20 °C:</b>	<i>3.5</i>

**Change in condition**

<b>Melting point/freezing point:</b>	<i>Undetermined.</i>
<b>Initial boiling point and boiling range:</b>	<i>100 °C</i>

**Flash point:** *Not applicable.***Flammability (solid, gas):** *Not applicable.*

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<b>Decomposition temperature:</b>	<i>Not determined.</i>
<b>Auto-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>Explosion limits:</b>	
<b>Lower:</b>	<i>Not determined.</i>
<b>Upper:</b>	<i>Not determined.</i>
<b>Vapour pressure at 20 °C:</b>	<i>23 hPa</i>
<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>Evaporation rate</b>	<i>Not determined.</i>
<b>Solubility in / Miscibility with water:</b>	<i>Fully miscible.</i>
<b>Partition coefficient: n-octanol/water:</b>	<i>Not determined.</i>
<b>Viscosity:</b>	
<b>Dynamic:</b>	<i>Not determined.</i>
<b>Kinematic:</b>	<i>Not determined.</i>
<b>Solvent content:</b>	
<b>Water:</b>	<i>64.5 %</i>
<b>Solids content:</b>	<i>0.0 %</i>
<b>Other information</b>	<i>No further relevant information available.</i>

**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.*

**\*11 Toxicological information****Information on toxicological effects****Acute toxicity****Primary irritant effect:**

**Skin corrosion/irritation** *Caustic effect on skin and mucous membranes.*

**Serious eye damage/irritation**

*Strong caustic effect.*

*Strong irritant with the danger of severe eye injury.*

**Respiratory or skin sensitisation** *Sensitisation possible through skin contact.*

**Additional toxicological information:**

*The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:*

*Toxic*

*Harmful*

*Corrosive*

*Irritant*

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*Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.*

**12 Ecological information****Toxicity**

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

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

**Behaviour in environmental systems:**

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

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

**Additional ecological information:****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 course or sewage system.*

*Must not reach sewage water or drainage ditch undiluted or unneutralised.*

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

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

**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.

**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)

**Transport hazard class(es)****ADR****Class**

8 (CT1) Corrosive substances.

**Label**

8+6.1

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— CDN —

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## 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** Acids  
**Stowage Category** B  
**Stowage Code** SW2 Clear of living quarters.  
**Transport in bulk according to Annex II of Marpol 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

## \*15 Regulatory information

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

### GHS label elements

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

### Hazard pictograms



GHS05 GHS06 GHS07

**Signal word** Danger

### Hazard-determining components of labelling:

ammonium thioglycolate  
 thioglycolic acid

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**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.**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.**Specific measures (see on this label).**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.***National regulations:****Waterhazard class:** *Water hazard class 1 (Self-assessment): slightly hazardous for water.***Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.***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***Date of the latest revision of the safety data sheet** *03/18/2022 / 2***Abbreviations and acronyms:***ICAO: International Civil Aviation Organisation**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***\* Data compared to the previous version altered.**