



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

Printing date 19.12.2016

Version number 1

Revision: 19.12.2016

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

- **1.1 Product identifier**
- **Trade name: Fertenol MZ/H**
- **Application of the substance / the mixture** Rust remover/ rust-removing agent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
CIS Pharma AG  
Hauptstrasse 159  
4416 Bubendorf  
Schweiz  
Tel. +41 (0) 61 935 5323  
Fax. +41 (0) 61 931 2717
- Qualified Person: Dr. Christian Geraths; christian.geraths@cis-pharma.com
- **1.4 Emergency telephone number:**  
Swiss Toxicological Information Centre  
CH-8030 Zürich  
Tel.: 0041 44 251 51 51  
National emergency call: 145

**SECTION 2: Hazards identification**

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



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

STOT SE 3 H335 May cause respiratory irritation.

- **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 GHS07

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
hydrogen chloride  
Fatty alcohol ethoxylate
- **Hazard statements**  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.

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**Precautionary statements**

- P260 Do not breathe dusts or mists.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 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/doctor.  
 P405 Store locked up.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional information:**

Contains but-2-yne-1,4-diol. May produce an allergic reaction.

**2.3 Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

**3.2 Chemical characterisation: Mixtures****Description:** Mixture: consisting of the following components.**Dangerous components:**

	non-ionic surfactants	≤ 2.5%
	☠ Eye Dam. 1, H318; ☠ Aquatic Acute 1, H400	
CAS: 7647-01-0	hydrogen chloride	25-50%
EINECS: 231-595-7	☠ Skin Corr. 1B, H314; ☠ STOT SE 3, H335	
CAS: 598-82-3	Lactic acid	10-25%
EINECS: 209-954-4	☠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	
CAS: 77-92-9	citric acid	2.5-10%
EINECS: 201-069-1	☠ Eye Irrit. 2, H319	
CAS: 110-65-6	but-2-yne-1,4-diol	≤ 2.5%
EINECS: 203-788-6	☠ Acute Tox. 3, H301; Acute Tox. 3, H331; ☠ STOT RE 2, H373; ☠ Skin Corr. 1B, H314; ☠ Acute Tox. 4, H312; Skin Sens. 1, H317	
CAS: 107-54-0	3,5-dimethylhex-1-yn-3-ol	≤ 2.5%
EINECS: 203-500-9	☠ Flam. Liq. 3, H226; ☠ Acute Tox. 2, H300; ☠ Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

**Regulation (EC) No 648/2004 on detergents / Labelling for contents**

non-ionic surfactants 5 - 15%

**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:** Immediately remove any clothing soiled by the product.**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**After skin contact:** Immediately wash with water and soap and rinse thoroughly.**After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.**4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

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- **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:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**  
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 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.
- **6.4 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

- **7.1 Precautions for safe handling** Store in cool, dry place in tightly closed receptacles.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 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.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**

#### 7647-01-0 hydrogen chloride

WEL (Great Britain) Short-term value: 8 mg/m<sup>3</sup>, 5 ppm  
Long-term value: 2 mg/m<sup>3</sup>, 1 ppm  
(gas and aerosol mists)

PEL (USA) Ceiling limit: 7 mg/m<sup>3</sup>, 5 ppm

REL (USA) Ceiling limit: 7 mg/m<sup>3</sup>, 5 ppm

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TLV (USA) Ceiling limit: 2.98 mg/m<sup>3</sup>, 2 ppm  
 MAK (Switzerland) Short-term value: 6 mg/m<sup>3</sup>, 4 ppm  
 Long-term value: 3 mg/m<sup>3</sup>, 2 ppm  
 SSc;

**110-65-6 but-2-yne-1,4-diol**

MAK (Switzerland) Short-term value: 0.36 mg/m<sup>3</sup>, 0.1 ppm  
 Long-term value: 0.36 mg/m<sup>3</sup>, 0.1 ppm  
 H S SSc;

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

· **8.2 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

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

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

## SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Appearance:**

**Form:**

Fluid

**Colour:**

According to product specification

· **Odour:**

Characteristic

· **Odour threshold:**

Not determined.

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- **pH-value at 20 °C:** < 1
- **Change in condition**
  - Melting point/freezing point:** Undetermined.
  - Initial boiling point and boiling range:** 100 °C
- **Flash point:** >100 °C
- **Flammability (solid, gas):** Not applicable.
- **Ignition temperature:** 1010 °C
- **Decomposition temperature:** Not determined.
- **Auto-ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower:** Not determined.
  - Upper:** Not determined.
- **Vapour pressure at 20 °C:** 23 hPa
- **Density at 20 °C:** 1.1 g/cm<sup>3</sup>
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.
- **water:** Fully miscible.
- **Partition coefficient: n-octanol/water:** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **9.2 Other information** No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### 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 relevant for classification:**


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**7647-01-0 hydrogen chloride**  
 Oral LD50 900 mg/kg (rabbit)
- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **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-single exposure**  
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### SECTION 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:**  
The surfactant contained in this preparation complies with the biodegradability criteria as laid down in regulation (EC) No. 648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the member states and will be made available to them at their direct request or at the request of a detergent manufacturer.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.  
Danger to drinking water if even small quantities leak into the ground.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 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

- **14.1 UN-Number**
- **ADR, IMDG, IATA** UN3264
- **14.2 UN proper shipping name**
- **ADR** 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID)
- **IMDG, IATA** CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID)

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### · 14.3 Transport hazard class(es)

#### · ADR, IMDG, IATA



· Class	8 Corrosive substances.
· Label	8
· 14.4 Packing group	
· ADR, IMDG, IATA	II
· 14.5 Environmental hazards:	
· Marine pollutant:	No
· 14.6 Special precautions for user	Warning: Corrosive substances.
· Danger code (Kemler):	80
· EMS Number:	F-A,S-B
· Segregation groups	Acids
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.

#### · Transport/Additional information:

· ADR	
· 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
· 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 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (HYDROCHLORIC ACID), 8, II

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## SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Named dangerous substances - ANNEX I hydrogen chloride
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- National regulations:
- Waterhazard class (Germany): Water hazard class 2 (Self-assessment): hazardous for water.
- 15.2 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.

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**Relevant phrases**

H226 Flammable liquid and vapour.  
 H300 Fatal if swallowed.  
 H301 Toxic if swallowed.  
 H312 Harmful in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H319 Causes serious eye irritation.  
 H331 Toxic if inhaled.  
 H335 May cause respiratory irritation.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H400 Very toxic to aquatic life.

**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)  
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  
 ICAO: International Civil Aviation Organisation  
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)  
 ADR: Accord européen sur le transport 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  
 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)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 Flam. Liq. 3: Flammable liquids – Category 3  
 Acute Tox. 2: Acute toxicity – Category 2  
 Acute Tox. 3: Acute toxicity – Category 3  
 Acute Tox. 4: Acute toxicity – Category 4  
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
 Skin Irrit. 2: Skin corrosion/irritation – Category 2  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
 Skin Sens. 1: Skin sensitisation – Category 1  
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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

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