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

- **Informations to product No. 7027**
- **Product name:**

Acidum formicicum crudum 85%
Rohe Ameisensäure 85%
Formic acid 85%

- **Supplier of the Product / responsible Company:**

Caesar & Loretz GmbH
Herderstr. 31
40721 Hilden
Tel.: 02103/4994-0
Fax: 02103/32360
e-mail: info@caelo.de

- **Emergency telephone:**

Giftinformationszentrum Mainz
Langenbeckstr. 1, 55131 Mainz
Tel.: 06131/19240

- **Relevant identified uses of the substance or mixture and uses advised against:**

No further relevant information available.

- **Application of the substance / mixture:**

Ingredient for pharmaceutical drugs or active pharmaceutical ingredient.

2 Hazards identification

- **GHS-Labeling Elements:**



- **Signal word:** Danger

- **H-Phrases:**

H314 Causes severe skin burns and eye damage

- **P-Phrases:**

P260 Do not breathe dust/fume/gas/mist/vapours/spray

P280 Wear protective gloves/protective clothing/eye protection/face protection

P301 IF SWALLOWED:

P330 Rinse mouth


P353 Rinse skin with water/shower

P305 IF IN EYES:

P351 Rinse continuously with water for several minutes

P310 Immediately call a POISON CENTER or doctor/physician

Skin Corr. 1A

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3 Composition / information on ingredients

- **Chemical characterization**
- **CAS-No.: Substance name**
64-18-6 Formic acid (85%)
- **EINECS-No.:** 200-579-1
- **REACH Reg. No.:** 01-2119491174-37-0000
- **INCI-Name:** Formic Acid

- **CAS-No.: Substance name**
7732-18-5 Water
- **EINECS-No.:** 231-791-2
- **REACH Reg. No.:** Exempted from the obligation to register according to Annex 4 / 5 REACH-regulation.
- **INCI-Name:** Aqua

4 First aid measures


- **General advices:** Take off contaminated clothes immediately.
- **after inhalation:** Bring the person out of the contaminated area to fresh air, Seek medical help immediately. Show product-label or this MSDS.
- **after skin contact:** Take off contaminated clothes and shoes, wash immediately with plenty of water and soap.
- **after eye contact:** Rinse out with plenty of water with the eyelid wide open , seek medical advice, even if no immediate symptoms are observed.
- **after swallowing:** Rinse mouth, drink plenty of water. Do not induce vomiting, get medical help immediately.

5 Fire-fighting measures

- **Suitable extinguishing media:** All regular extinguishing media can be used. Select fire fighting measures suitable to surrounding environment.
- **Specific hazards during fire fighting:** Combustible. In case of fire dangerous vapours/gases can be generated: Smoke gases, acid vapours.
- **Special protective equipment for fire-fighters:** Suitable protective clothes and respiratory protection.
- **Additional information:** Prevent fire extinguishing water from contaminating surface water, the ground water system or soil. Residues must be deposited according to local regulations.

6 Accidental release measures

- **Personal protective measures:** Good ventilation of working place. Respiratory protection required.
- **Methods for cleaning:** Absorb with liquid-binding material: Sand, silica gel, acid binder, universal binder, saw dust. Disposal according to Chapter 13 of this MSDS. Clean up with water.
- **Additional information:** Do not empty into drains, prevent from contaminating surface water or the ground water system.

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7 Handling and storage

- **Handling:**
- **Advice on safe handling:** protect from basic substances.
- **Informations to fire or explosion protection:** Keep away from ignition sources. Do not smoke. Good ventilation of working place.
- **Storage:**
- **Requirements for storage areas and containers:**
Suitable material for containers and tubes: Glass, stainless steel, enamel, plastic.
- **Additional informations to storage conditions:**
Protect closed containers from heat: raise in pressure by release of carbon monoxide!

8 Exposure controls / personal protective equipment

Components with limit values that require monitoring at the workplace:

64-18-6 Formic acid


MAK: 9 mg/m³, 5 ml/m³

TLV 9,4 mg/m³

- **Personal protective equipment:**
- **Respiratory protection:** Respiratory protection od good ventilation / exhaustion of working place.
- **Hand protection:** Protection gloves of nitrile rubber.
- **Eye protection:** Safety glasses.
- **Body protection:** Acid-proof clothing.

9 Physical and chemical properties

- **Form:** liquid
- **Colour:** colourless
- **Odour:** pungent
- **Melting point / melting range:** not determined
- **Boiling point / boiling range:** 106 °C
- **Flash point:** 65 °C
- **Ignition temperature:** 500 °C
- **Explosion hazard:** The product is not explosive, but explosive vapour-air-mixtures can be formed.
- **Explosion limits:**
- **lower:** 14,0 Vol %
- **upper:** 47,6 Vol %
- **Vapour pressure:** (20 °C) 28 hPa
- **Density:** (20 °C) 1,195 g/cm³
- **Solubility in / Miscibility with**
- **Water:** Completely miscible
- **pH-range:** (10 g/l, 20 °C) 2,2
- **Viscosity:**
- **dynamic:** (20 °C) 1,4 mPas
- **kinematic:** (20 °C) 1 s DIN 53211/4

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10 Stability and reactivity


- **Thermal decomposition / conditions to avoid:** Release of carbon monoxide after heating and with catalysts acids possible.
- **Materials to avoid:** Alkali metals, earth alkali metals, strong oxidants bases.
- **Hazardous reactions:** Hydrogen release with base metals: alkali and earth alkali metals, iron, zinc and others. Exothermic reactions with bases and amines.
- **Hazardous decomposition products:** Release of carbon monoxide after heating and with catalysts acids possible.

11 Toxicological information

- **Acute toxicity:**
LD/LD50-data relevant for hazard classification:
Formic acid oral 1210-1830 mg/kg rat
inhalativ 7,4 mg/l/4h rat
- **Spezific symptoms in animal experiments:** Acute inhalation risk (Rat): Mortality after 3 min. Exposition in a saturated atmosphere at room temperature. Test result depending on toxicity ant volatility). No mutagene effect in Ames-test.
- **Primary irritant effect:**
 - **on skin:** Burning effect on skin and mucous membranes.
 - **on eyes:** Irritant. Lachrymation.
- **Other information (experimatal toxicology):** The vapour is stronger irritant than acetic acid on mucous membranes. Lung edema possible. On skin inflammations can be caused. After chronical exposition albuminuria and haematuria are reported.

12 Ecological information

- **Information about elimination (persistence and degradability):**
Test method: OECD 301E/ EEC 84/449, C.3
Analysis method: DOC-reduction
Elimination: > 90%
Evaluation: Readily biodegradable.
CSB: 348 mg/g
BSB5: 86 mg/g
AOX: not relevant
- **Mobility and bioaccumulation potential:** log P(o/w): -0,54
- **Aquatic toxicity:**
Fish toxicity: Leuciscus idus 46-100 mg/l/96h
Daphnia toxicity (acute): EC/LC50 (48h) 34,2 mg/l
Algeal toxicity: EC/LC50 (72h) 26,9 mg/l
Bacteria toxicity: EC/LC50 (17h) 46,7 mg/l
- **Behaviour in sewage plants:** In biological sewage plants small concentrations do not cause disturbances of the biodegradation activity of bacteria.
- **Water hazard class:** 1 (VwVwS): slightly hazardous for water.

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13 Disposal considerations


- **Product:**
- **Recommendation:** Disposal according to local regulations as pharmaceutical waste or organic laboratory chemicals or Acids.
- **Empty contaminated packaging:**
- **Recommendation:** Disposal according to the local regulations.

14 Transport informations

- **Land transport according to ADR:**
- **Proper shipping name:** Formic acid 8, II (E)
- **Class:** 8
- **UN-number:** 3412
- **Packing group:** II
- **Classification code:** C3
- **Limited quantities (Table 3.4.6. ADR):** 1 Liter
- **Hazard classification number:**
- **Special provisions (Chapter 3.3 ADR):**
- **Additional informations for sea transport IMDG:**
- **EMS-No.:** F-A, S-B
- **Properties:** Fp=65°C

15 Regulatory information

- **Labelling according to actual legislation (GHS, Globally Harmonized System of Classification and Labelling of Chemicals):**
 The product is classified and labelled according to GHS-regulations.
- **Hazard symbols:** GHS05
- **Signal word:** Danger
- **H-Phrases:**
 H314 Causes severe skin burns and eye damage
- **P-Phrases:**
 P260 Do not breathe dust/fume/gas/mist/vapours/spray
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 P301 IF SWALLOWED:
 P330 Rinse mouth
 P353 Rinse skin with water/shower
 P305 IF IN EYES:
 P351 Rinse continuously with water for several minutes
 P310 Immediately call a POISON CENTER or doctor/physician
- **National regulations (Germany):**
- **Water hazard class:** see chapter 12
- **Storage class TRGS 510:** 8A
- **VbF class:** -

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16 Other Information

The information provided in this MSDS is correct to the best of our knowledge at the date of edition.

· **Reason for last revision:** Adjustment to regulation (EC) 1907/2006 (REACH) and GHS-labelling system.