

Trade name: Acid formicicum 98%

Substance number: 203000

Version: 4 / CH

Date revised: 26.09.2019

Replaces Version: 3 / CH

Print date: 26.09.19

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

### **1.1. Product identifier**

Acid formicicum 98%

Item No. 20300000

### **1.3. Details of the supplier of the safety data sheet**

#### **Address/Manufacturer**

Hänseler AG

Industriestrasse 35

9100 Herisau

Telephone no. 0041 (0)71 353 58 58

E-mail address of sdb@haenseler.ch

person responsible

for this SDS

### **1.4. Emergency telephone number**

Switzerland :145 / Abroad +41 (0)44 251 51 51

## **SECTION 2: Hazards identification \*\*\***

### **2.1. Classification of the substance or mixture**

#### **Classification (Regulation (EC) No. 1272/2008)**

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 3 H226

Acute Tox. 4 H302

Acute Tox. 3 H331

Skin Corr. 1A H314

Eye Dam. 1 H318

The product is classified and labelled in accordance with Regulation (EC) No 1272/2008

For explanation of abbreviations see section 16.

### **2.2. Label elements**

#### **Labelling according to regulation (EC) No 1272/2008**

##### **Hazard pictograms \*\*\***



##### **Signal word**

Danger

##### **Hazard statements \*\*\***

H226

Flammable liquid and vapour.

H302

Harmful if swallowed.

H331

Toxic if inhaled.

H314

Causes severe skin burns and eye damage.

EUH071

Corrosive to the respiratory tract.

##### **Precautionary statements \*\*\***

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition

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sources. No smoking.  
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 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 or doctor.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.

**Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)**

contains \*\*\* Formic acid

**SECTION 3: Composition/information on ingredients \*\*\*****Molecular weight**

Value 46.03 g/mol

**Hazardous ingredients \*\*\*****Formic acid**

CAS No. 64-18-6  
 EINECS no. 200-579-1  
 Registration no. 01-2119491174-37-XXXX  
 Concentration  $\geq$  100 %  
 Classification (Regulation (EC) No. 1272/2008)

Skin Corr. 1A H314  
 Acute Tox. 4 H302  
 Flam. Liq. 3 H226  
 Acute Tox. 3 H331

## Concentration limits (Regulation (EC) No. 1272/2008)

Eye Irrit. 2 H319  $\geq 2 < 10$   
 Skin Corr. 1A H314  $\geq 90$   
 Skin Corr. 1B H314  $\geq 10 < 90$   
 Skin Irrit. 2 H315  $\geq 2 < 10$

CLP Regulation (EC) No 1272/2008, Annex VI, Note B  
 DSD Directive 67/548/EEC, Annex I, Note B

**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

Remove affected person from danger area. Remove contaminated, soaked clothing immediately and dispose of safely. Adhere to personal protective measures when giving first aid

**After inhalation**

Ensure supply of fresh air. If necessary, give oxygen. Summon a doctor immediately. If the patient is likely to become unconscious, place and transport in stable sideways position.

**After skin contact**

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Summon a doctor immediately.

**After eye contact**

Separate eyelids, wash the eyes thoroughly with water (15 min.). Summon a doctor immediately. Shield unaffected eye.

**After ingestion**

Let plenty of water be drunk in small gulps. Ensure supply of fresh air. Summon a doctor immediately.

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Do not induce vomiting. No trials on neutralisation.

#### 4.2. Most important symptoms and effects, both acute and delayed

Irritating to respiratory system. Irritation of mucosa, Acidosis

### **SECTION 5: Firefighting measures**

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Carbon dioxide, Dry powder, Water spray jet, Extinguish greater fire with water spray or alcohol-resistant foam.

##### Non suitable extinguishing media

Full water jet

#### 5.2. Special hazards arising from the substance or mixture

Carbon monoxide (CO); Can build mixtures of gas and air which are capable of explosion.

#### 5.3. Advice for firefighters

##### Special protective equipment for fire-fighting

Wear full protective suit. Use self-contained breathing apparatus.

### **SECTION 6: Accidental release measures**

#### 6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep away unprotected persons.

#### 6.2. Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

#### 6.3. Methods and material for containment and cleaning up

Ensure adequate ventilation. Neutralize. Take up with absorbent material (eg sand, kieselguhr). When picked up, treat material as prescribed under Section 13 "Disposal". Clean up affected area. Pick up rest with weakly alkaline solution.

### **SECTION 7: Handling and storage**

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Provide good ventilation of working area (local exhaust ventilation if necessary). Provide good room ventilation even at ground level (vapours are heavier than air). Handle and open container with care. Avoid formation of aerosols.

##### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Vapours can form an explosive mixture with air. Take action to prevent static discharges.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Recommended storage temperature

Value	15	25	°C
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##### Requirements for storage rooms and vessels

Provide acid-resistant floor. Suitable materials: Polyethylene/Polypropylene. Do not use light metal drums.

##### Hints on storage assembly

Do not store together with: Alkalies, Oxidising agents

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**Storage classes**

Storage class according to TRGS 510	3	Flammable liquid
Storage category (Switzerland)	3	Flammable liquid

**Further information on storage conditions**

Keep container tightly closed and in a well-ventilated place. Protect from light. Protect from atmospheric moisture and water. Product is hygroscopic. Keep in a cool place

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limit values****Formic acid**

List	SUVA			
Type	MAK			
Value	9,5	mg/m <sup>3</sup>	5	ppm(V)
Short term exposure limit	19	mg/m <sup>3</sup>	10	ppm(V)

Pregnancy group: S; Status: 2017; Remarks: SSc; Auge & Haut, OAWKT AN; NIOSH, OSHA

**Derived No/Minimal Effect Levels (DNEL/DMEL)****Formic acid**

Type of value	Derived No Effect Level (DNEL)			
Reference group	Worker			
Duration of exposure	Acute			
Route of exposure	inhalative			
Mode of action	Local effects			
Concentration	19			mg/m <sup>3</sup>

Type of value	Derived No Effect Level (DNEL)			
Reference group	Worker			
Duration of exposure	Long term			
Route of exposure	inhalative			
Mode of action	Local effects			
Concentration	9.5			mg/m <sup>3</sup>

Type of value	Derived No Effect Level (DNEL)			
Reference group	Consumer			
Duration of exposure	Acute			
Route of exposure	inhalative			
Mode of action	Local effects			
Concentration	9.5			mg/m <sup>3</sup>

Type of value	Derived No Effect Level (DNEL)			
Reference group	Consumer			
Duration of exposure	Long term			
Route of exposure	inhalative			
Mode of action	Local effects			
Concentration	3			mg/m <sup>3</sup>

**Predicted No Effect Concentration (PNEC)****Formic acid**

Type of value	PNEC			
Type	Freshwater			
Concentration	2			mg/l

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Type of value	PNEC		
Type	Saltwater		
Concentration	0.2		mg/l
Type of value	PNEC		
Type	Sewage treatment plant (STP)		
Concentration	7.2		mg/l
Type of value	PNEC		
Type	Soil		
Concentration	1.5		mg/kg

## 8.2. Exposure controls

### General protective and hygiene measures

Keep away from food-stuffs, beverages and feed-stocks. Wash hands before breaks and after work. Avoid contact with skin and eyes. Hold eye wash fountain available. Do not inhale gases/vapours/aerosols. At work do not eat, drink, smoke or take drugs.

### Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Gas filter E. Multi-purpose filter ABEK

### Hand protection

Gloves (acid-resistant)  
 Appropriate Material Polychloroprene  
 Material thickness 0.5 mm  
 Breakthrough time >= 8 h  
 Gloves (acid-resistant)  
 Appropriate Material Butyl rubber - Butyl  
 Material thickness 0.5 mm  
 Breakthrough time >= 8 h  
 Gloves (acid-resistant)  
 Appropriate Material Fluoro carbon rubber - FKM  
 Material thickness 0.4 mm  
 Breakthrough time >= 8 h  
 Not suitable: leather gloves  
 Not suitable: gloves made of thick material

### Eye protection

Tightly fitting safety glasses; Face shield

### Body protection

Acid-resistant protective clothing

## **SECTION 9: Physical and chemical properties \*\*\***

### 9.1. Information on basic physical and chemical properties

Form	liquid		
Colour	colourless		
Odour	pungent		
<b>pH value</b>			
Value	2.2		
Concentration/H <sub>2</sub> O	10		g/l
Temperature	20		°C
<b>Melting point</b>			
Value	4		°C

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Method OECD 102

**Initial boiling point and boiling range**

Value 100.23 °C

Method OECD 103

**Flash point**

Value 49.5 °C

**Upper/lower flammability or explosive limits**

Lower explosion limit 12 %(V)

Upper explosion limit 38 %(V)

**Vapour pressure**

Value 42 mbar

Temperature 20 °C

Method OECD 104

**Density**Value 1.2195 g/cm<sup>3</sup>

Temperature 20 °C

**Solubility in water**

Remarks Completely miscible

**Auto-ignition temperature**

Value 528 °C

**Viscosity****dynamic**

Value 1.72 mPa.s

Temperature 20 °C

**kinematic**Value 1.41 mm<sup>2</sup>/s

Temperature 20 °C

Method DIN 51562

**9.2. Other information****Other information**

The product is not dangerous for explosions. Forms explosive mixture with air are possible.

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No decomposition if stored and applied as directed.

**10.2. Chemical stability**

To avoid thermal decomposition, do not overheat.

**10.3. Possibility of hazardous reactions**

Possible incompatibility with materials listed under section 10.5.

**10.4. Conditions to avoid**

Keep away from sources of heat and ignition. Flames. Sparks

**10.5. Incompatible materials**

Strong bases, Strong oxidising agents, Reactions with light metals. Reacts violently with: Strong bases, Oxidising agents, Reactions with light metals, with evolution of hydrogen. Formation of explosive gas/air mixtures.

**10.6. Hazardous decomposition products**

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Carbon monoxide and carbon dioxide

**SECTION 11: Toxicological information \*\*\*****11.1. Information on toxicological effects****Acute oral toxicity**

ATE	730	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)	

**Acute oral toxicity (Components)****Formic acid**

Species	rat	
LD50	730	mg/kg
Method	OECD 401	
Remarks	Ingestion causes burns of the upper digestive and respiratory tracts.	

**Acute inhalational toxicity**

ATE	7.85	mg/l
Administration/Form	Vapors	
Method	calculated value (Regulation (EC) No. 1272/2008)	
ATE	0.5	mg/l
Administration/Form	Dust/Mist	
Method	calculated value (Regulation (EC) No. 1272/2008)	

**Acute inhalative toxicity (Components)****Formic acid**

LC50	7.85	mg/l
Duration of exposure	4	h
Administration/Form	Vapors	
Method	OECD 403	
Remarks	Strong corrosive action on the skin and mucous membrane.	

**Skin corrosion/irritation (Components)****Formic acid**

Species	rabbit
evaluation	corrosive
Method	OECD 404
Remarks	Strong corrosive action on the skin and mucous membrane.

**Serious eye damage/irritation (Components)****Formic acid**

evaluation	irritant - risk of serious damage to eyes
Remarks	Risk of serious damage to eyes.

**Sensitization (Components)****Formic acid**

Species	guinea pig
evaluation	non-sensitizing
Method	OECD 406

**Mutagenicity (Components)****Formic acid**

evaluation	No mutagenicity in the Ames-test.
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**Formic acid**

evaluation	No experimental information on genotoxicity in vitro available.
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**Experience in practice**

After Swallowing: burns in mouth, throat, oesophagus and gastrointestinal tract. Risk of perforation in the

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oesophagus and stomach.

**SECTION 12: Ecological information \*\*\*****12.1. Toxicity****Fish toxicity (Components)****Formic acid**

Species	zebra fish ( <i>Brachydanio rerio</i> )		
LC50	130		mg/l
Duration of exposure	96	h	
Method	OECD 203		
Remarks	Test conducted with a similar formulation.		

**Daphnia toxicity (Components)****Formic acid**

Species	Daphnia magna		
EC50	365		mg/l
Duration of exposure	48	h	
Method	OECD 202		
Remarks	Test conducted with a similar formulation.		

**Algae toxicity (Components)****Formic acid**

Species	Selenastrum capricornutum		
EC50	1.240		mg/l
Duration of exposure	72	h	
Method	OECD 201		
Remarks	Test conducted with a similar formulation.		

**Bacteria toxicity (Components)****Formic acid**

Species	Pseudomonas putida		
EC50	46.7		mg/l
Duration of exposure	17	h	
Method	DIN 38412 Part 8		
Remarks	Test conducted with a similar formulation.		

**12.2. Persistence and degradability****Biodegradability (Components)****Formic acid**

Value	100		%
Duration of test evaluation	9	d	
	Readily biodegradable		

**Chemical oxygen demand (COD) (Components)****Formic acid**

Value	348		mg/g
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**Biochemical oxygen demand (BOD5) (Components)****Formic acid**

Value	86		mg/g
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**12.5. Results of PBT and vPvB assessment****Evaluation of persistence and bioaccumulation potential (Components)****Formic acid**

The Substance doesn't meets PBT/vPvB-criteria



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## 12.6. Other adverse effects

### Behaviour in environment compartments

Because of the n-octanol/water distribution coefficient (log p<sub>OW</sub>) accumulation in organisms is not possible.

### General information / ecology

Harmful to aquatic organisms. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal recommendations for the product

EWC waste code

No not dispose with rubbish.

Disposal in compliance with local and national regulations.

EWC waste code




Should not be released into the sanitary sewer system.

#### Disposal recommendations for packaging

Disposal in compliance with local and national regulations.

Unpurified packings can contain mixtures of gas and air which are capable of explosion.

## SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
Tunnel restriction code	D/E		
14.1. UN number	1779	1779	1779
14.2. UN proper shipping name	FORMIC ACID	FORMIC ACID	FORMIC ACID
14.3. Transport hazard class(es)	8	8	8
Subsidiary risk	3	3	3
Label			
14.4. Packing group	II	II	II
Limited Quantity	1 I		
Transport category	2		

## SECTION 15: Regulatory information \*\*\*

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

Water Hazard Class (Germany) \*\*\*

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Water Hazard Class  
(Germany)

WGK 1

Remarks

Derivation of WGK according to Annex 1 No. 5.2 AwSV

**SECTION 16: Other information****Hazard statements listed in Chapter 3**

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H331	Toxic if inhaled.

**CLP categories listed in Chapter 3**

Acute Tox. 3	Acute toxicity, Category 3
Acute Tox. 4	Acute toxicity, Category 4
Flam. Liq. 3	Flammable liquid, Category 3
Skin Corr. 1A	Skin corrosion, Category 1A

**Supplemental information**

Relevant changes compared with the previous version of the safety data sheet are marked with: \*\*\*  
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.