

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

Printing date 21.07.2023

Version number 1

Revision: 03.07.2023

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

· **1.1 Product identifier**

· **Trade name:** Formic acid 85 % techn.

· **Article number:** 11

· **CAS Number:**

64-18-6

· **EC number:**

200-579-1

· **Index number:**

607-001-00-0

· **Registration number** 01-2119491174-37

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

· **Application of the substance / the mixture**

Chemical.

Intermediate product, metal pickling, pH value control in the textile and leather industry, preservative, etc.

· **1.3 Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Möller Chemie GmbH & Co. KG

Bürgerkamp 1

D-48565 Steinfurt

Tel.: 02551/9340-0

Fax: 02551/9340-60

· **Further information obtainable from:** Product safety department

· **1.4 Emergency telephone number:**

Poison Control Center Mainz - 24 hour emergency service - Tel.: +49 (0) 6131/19240

### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**

GHS02   GHS05   GHS06

· **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.*· **Precautionary statements***P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.**P321 Specific treatment (see on this label).**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Additional information:***EUH071 Corrosive to the respiratory tract.*· **2.3 Other hazards***The product does not contain any substance above the legal limits included on the list for endocrine disrupting properties established under Article 59(1) of Regulation (EC) No 1907/2006 or under Commission Delegated Regulation (EU) 2017/2100 or of Commission Regulation (EU) 2018/605 has endocrine disrupting properties.*· **Results of PBT and vPvB assessment**· **PBT:***The product does not contain any substances above legal limits that meet the criteria for PBT (persistent, bioaccumulative and toxic).*· **vPvB:***The product does not contain any substances above legal limits that meet the criteria for vPvB (very persistent and very bioaccumulative).*

## SECTION 3: Composition/information on ingredients

· **3.1 Substances**· **CAS No. Description***64-18-6 Formic acid > 85 %*· **Identification number(s)***EC number: 200-579-1**Index number: 607-001-00-0*

## SECTION 4: First aid measures

· **4.1 Description of first aid measures***General information: Immediately remove any clothing soiled by the product.*· **After inhalation:***Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.**After skin contact: Wash with water and soap and rinse thoroughly.**After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.*

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- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting.  
Seek medical treatment.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **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:** CO<sub>2</sub>, powder or water spray. Fight larger fire with alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Carbon monoxide, carbon dioxide
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

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

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Avoid contact with skin, eyes and clothes.  
Mount respiratory protective device.
- **6.2 Environmental precautions:** 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, diatomaceous earth, acid binder, universal binder, 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**  
Ensure good ventilation/exhaustion at the workplace.  
Keep away from sources of ignition - No smoking
- **Information about fire - and explosion protection:** Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool place.
- **Information about storage in one common storage facility:**  
Do not store together with alkalis (caustic solutions).
- **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**

- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.

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- **DNELs**

- Workers:

- Short-term, local, inhalation: 19 mg/m<sup>3</sup>

- Long-term, systemic, inhalation: 9,5 mg/m<sup>3</sup>

- Consumer:

- Short-term, local, inhalation: 9,5 mg/m<sup>3</sup>

- Long-term, systemic, inhalative: 3 mg/m<sup>3</sup>

- **PNECs**

- Fresh water: 2 mg/l

- Sea water: 0.2 mg/l

- sporadic release: 1 mg/l

- Sediment (fresh water): 13,4 mg/kg

- Sediment (sea water): 1,34 mg/kg

- Soil: 1,5 mg/kg

- Sewage treatment plant: 7,2 mg/l

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

- **8.2 Exposure controls**

- **Appropriate engineering controls** No further data; see item 7.

- **Individual protection measures, such as personal protective equipment**

- **General protective and hygienic measures:**

- The usual precautionary measures are to be adhered to when handling chemicals.

- Avoid contact with the eyes and skin.

- Immediately remove all soiled and contaminated clothing

- Do not inhale gases / fumes / aerosols.

- **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

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

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

- **Material of gloves**

- Chloroprene rubber, CR

- Butyl rubber, BR

- Nitrile rubber, NBR

- Natural rubber, NR

- Polyvinyl chloride

- 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.

- **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/face protection**



Tightly sealed goggles

- **Body protection:** Acid resistant protective clothing

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### SECTION 9: Physical and chemical properties

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

##### · General Information

· <b>Colour:</b>	Colourless
· <b>Odour:</b>	Pungent
· <b>Odour threshold:</b>	Not determined.
· <b>Melting point/freezing point:</b>	-13 °C
· <b>Boiling point or initial boiling point and boiling range</b>	107 °C
· <b>Flammability</b>	Not applicable.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	14.9 Vol %
· <b>Upper:</b>	47.6 Vol %
· <b>Flash point:</b>	min. 59 °C
· <b>Ignition temperature:</b>	500 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>pH (10 g/l) at 20 °C</b>	2.2
· <b>Viscosity:</b>	
· <b>Kinematic viscosity at 20 °C</b>	1.42 mm <sup>2</sup> /s
· <b>Dynamic at 20 °C:</b>	1.7 mPas
· <b>Solubility</b>	
· <b>water:</b>	Fully miscible.
· <b>Partition coefficient n-octanol/water (log value) at 23 °C</b>	-1.9 log KOW (pH-Wert: 5)
· <b>Vapour pressure at 20 °C:</b>	24.2 hPa
· <b>Density and/or relative density</b>	
· <b>Density at 20 °C:</b>	1.195 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.

#### · 9.2 Other information

· <b>Appearance:</b>	
· <b>Form:</b>	Fluid
· <b>Important information on protection of health and environment, and on safety.</b>	
· <b>Auto-ignition temperature:</b>	Not determined.
· <b>Explosive properties:</b>	Product does not present an explosion hazard.
· <b>Change in condition</b>	
· <b>Evaporation rate</b>	Not determined.

#### · Information with regard to physical hazard classes

· <b>Explosives</b>	Void
· <b>Flammable gases</b>	Void
· <b>Aerosols</b>	Void
· <b>Oxidising gases</b>	Void
· <b>Gases under pressure</b>	Void
· <b>Flammable liquids</b>	
· <b>Flammable liquid and vapour.</b>	
· <b>Flammable solids</b>	Void
· <b>Self-reactive substances and mixtures</b>	Void
· <b>Pyrophoric liquids</b>	Void
· <b>Pyrophoric solids</b>	Void
· <b>Self-heating substances and mixtures</b>	Void
· <b>Substances and mixtures, which emit flammable gases in contact with water</b>	Void
· <b>Oxidising liquids</b>	Void
· <b>Oxidising solids</b>	Void
· <b>Organic peroxides</b>	Void

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- |                                  |      |
|----------------------------------|------|
| · <b>Corrosive to metals</b>     | Void |
| · <b>Desensitised explosives</b> | Void |

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** With proper handling and storage, no dangerous reactions occur.
- **10.2 Chemical stability** Slow decomposition possible.
- **Thermal decomposition / conditions to be avoided:** Temperature: > 30°C
- **10.3 Possibility of hazardous reactions**  
 Reacts with amines.  
 Reacts with alkali (lyes).
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**  
 bases  
 uncoated metals, common metals
- **10.6 Hazardous decomposition products:** Carbon monoxide

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity**  
 Harmful if swallowed.  
 Toxic if inhaled.

· <b>LD/LC50 values relevant for classification:</b>		
Inhalative	LC50/ 4h	3 mg/l (ATE)

- |            |          |              |
|------------|----------|--------------|
| Inhalative | LC50/ 4h | 3 mg/l (ATE) |
|------------|----------|--------------|
- **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.
  - **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** Based on available data, the classification criteria are not met.
  - **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.
  - **Additional toxicological information:**  
 The product does not contain any substance above the legal limits included on the list for endocrine disrupting properties established under Article 59(1) of Regulation (EC) No 1907/2006 or under Commission Delegated Regulation (EU) 2017/2100 or of Commission Regulation (EU) 2018/605 has endocrine disrupting properties.
  - **11.2 Information on other hazards**
  - **Endocrine disrupting properties** Substance is not listed.

### SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:**  
 LC50/96 h: 130 mg/l (*Brachydanio rerio*)  
 LC50/96 h: 68 mg/l (*Leuciscus idus*)  
 EC50/48 h: 365 mg/l (*Daphnia magna*)  
 EC50/17 h: 46,7 mg/l (*Pseudomonas putida*)
- **12.2 Persistence and degradability** Easily biodegradable

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- **12.3 Bioaccumulative potential**  
Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
- **vPvB:** This substance is not considered to be very persistent nor very bioaccumulative (vPvB).
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**  
CSB-value: 318 mg/g  
BSB5-value: 86 mg/g
- **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.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation** Disposal according to local regulations.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN number or ID number</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                   | UN1779  |
| <ul style="list-style-type: none"> <li>· <b>14.2 UN proper shipping name</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | 1779 FORMIC ACID<br>FORMIC ACID   |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR</b></li> </ul>                           | <div style="display: flex; align-items: center; gap: 10px;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | 8 (CF1) Corrosive substances.<br>8+3  |
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> </ul>  | <div style="display: flex; align-items: center; gap: 10px;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>   | 8 Corrosive substances.<br>8/3  |

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· **IATA**

· <b>Class</b>	8 Corrosive substances.
· <b>Label</b>	8 (3)
· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	II
· <b>14.5 Environmental hazards:</b> · <b>Marine pollutant:</b>	No
· <b>14.6 Special precautions for user</b> · <b>Hazard identification number (Kemler code):</b> · <b>EMS Number:</b> · <b>Segregation groups</b> · <b>Stowage Category</b> · <b>Segregation Code</b>	Warning: Corrosive substances. 83 F-A,S-B (SGG1) Acids A SG36 Stow "separated from" SGG18-alkalis. SG49 Stow "separated from" SGG6-cyanides
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>  · <b>Transport category</b> · <b>Tunnel restriction code</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml 2 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1779 FORMIC ACID, 8 (3), II

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 40
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.

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- **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**  
Substance is not listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has 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:** Product safety department
- **Contact:** Mrs. Steyer
- **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*  
*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*  
*EINECS: European Inventory of Existing Commercial Chemical Substances*  
*CAS: Chemical Abstracts Service (division of the American Chemical Society)*  
*DNEL: Derived No-Effect Level (REACH)*  
*PNEC: Predicted No-Effect Concentration (REACH)*  
*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. 4: Acute toxicity – Category 4*  
*Acute Tox. 3: Acute toxicity – Category 3*  
*Skin Corr. 1B: Skin corrosion/irritation – Category 1B*  
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*

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