

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

- **Product name:** **Formic Acid 85 %**
 - **Application of the substance / the preparation**
Intermediate for organic synthesis
Textile auxiliary
Preservative
Cleaning material/ Detergent
 - **Manufacturer/Supplier:**
Perstorp Specialty Chemicals AB
SE-284 80 Perstorp, Sweden
Tel. +46 435 38000
Fax +46 435 37067
- polyolinfo@perstorp.com
www.perstorp.com
- **Further information obtainable from:** EHS-department Perstorp Specialty Chemicals AB
 - **Information in case of emergency:** (Int.) +46 8 337043 (Emergency Response Center, Sweden)

2 Hazards identification

- **Hazard description:**



C Corrosive

- **Information concerning particular hazards for human and environment:**
R 34 Causes burns.
- **Classification system:**
The classification is according to the latest editions of the EU-lists, and extended by company and literature data.
- **Additional information:**
Splash in the eyes gives pain, corrosion damage can appear.
Skin contact can cause smarting pain, red spots and malignant ulcer.
Inhalation can give smarting pain in the nose and throat, cough, hoarseness, stream of tears.

3 Composition/information on ingredients

- **Chemical components:**

CAS: 64-18-6 EINECS: 200-579-1	formic acid	 C; R 35	80-89%
CAS: 7732-18-5 EINECS: 231-791-2	water		11-20%

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

- **General information:** Remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
Wash with water and soap and rinse thoroughly.
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
- **After eye contact:**
Rinse opened eye for 15 minutes under running water. Then consult a doctor.
Seek immediate medical advice.

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- **After swallowing:**
Rinse out mouth and then drink plenty of water or milk.
Do not induce vomiting; call for medical help immediately.

5 Fire-fighting measures

- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:**
Respiratory protective device.
Wear fully protective suit.
- **Additional information** Cool endangered receptacles with water spray.

6 Accidental release measures

- **Person-related safety precautions:**
Wear protective equipment. Keep unprotected persons away.
Avoid contact with skin and eyes.
- **Measures for environmental protection:**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
- **Measures for cleaning/collecting:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).
Dilute with plenty water.

7 Handling and storage

- **Information for safe handling:** Ensure good ventilation/exhaustion at the workplace.
- **Information about fire - and explosion protection:**
Protect from heat.
Fumes can combine with air to form an explosive mixture.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Store only in the original receptacle.
Prevent any seepage into the ground.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.

8 Exposure controls/personal protection

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

64-18-6 formic acid

WEL	Long-term value: 9.6 mg/m ³ , 5 ppm
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- **Additional information:**
Ensure that eyewash stations and safety showers are proximal to the work-station location.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Be sure to clean skin thoroughly after work and before breaks.
The usual precautionary measures are to be adhered to when handling chemicals.
- **Respiratory protection:**
Use suitable respiratory protective device in case of insufficient ventilation.

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Filter ABE yellow/grey

· **Protection of hands:**



Protective gloves

· **Material of gloves**

Butyl rubber, BR

PVC gloves

Chloroprene rubber, CR

· **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

9 Physical and chemical properties

· **General Information**

Form:	Liquid
Colour:	Colourless
Odour:	Pungent

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	106°C

· **Flash point:** 61°C

· **Ignition temperature:** 490°C

· **Explosion limits:**

Lower: 18 Vol %

Upper: 57 Vol %

· **Vapour pressure at 20°C:** 4.7 kPa

· **Density at 20°C:** 1190 kg/m³

· **Solubility in / Miscibility with water:** Fully miscible.

· **pH-value at 20°C:** -1.5

· **Partition coefficient (n-octanol/water):** -1.55 / -0.22 log POW

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**

Mixes with high formic acid content can decompose spontaneously and create overpressure and receptacle burst. Sunlight and heat increase the risk of decomposition.

· **Dangerous reactions**

Violent reactions with strong alkalis and oxidizing agents.

Reacts with metals forming hydrogen.

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· **Dangerous decomposition products:** Carbon monoxide

11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

64-18-6 formic acid

Oral	LD50	1100 mg/kg (mouse)
Dermal	LD50	940 mg/kg (mouse)
Inhalative	LC50/4 h	7.4 mg/l (rat)

· **Primary irritant effect:**

· **on the skin:** Corrosive effect on skin and mucous membranes.

· **on the eye:** Corrosive.

· **Inhalation:**

May be irritating.

Can give smarting pain in noas and throat, headache, tiredness, dizziness and coughing. High concentration can give difficulties in breathing.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

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

12 Ecological information

· **Information about elimination (persistence and degradability):**

64-18-6 formic acid

BOD7	218 mg/g (-)
COD	300 mg/g (-)
TOC	219 mg/l (-)

· **Other information:** The product is readily biodegradable.

· **Behaviour in environmental systems:**

· **Mobility and bioaccumulation potential:**

Low potential for accumulation in organisms

64-18-6 formic acid

BCF	0.22 - (-)
logPow	-0.54 - (calculated)

· **Ecotoxicological effects:**

· **Aquatic toxicity:**

64-18-6 formic acid

EC50/12 h	46 mg/l (bacteria)
EC50/24 h	34 mg/l (daphnia)
EC50/48 h	151 mg/l (daphnia)
EC50/72 h	27 mg/l (alga)
EC50/96 h	25 mg/l (alga)
LC50/48 h	122 mg/l (fish)
LC50/96 h	46-100 mg/l (fish)

· **Remark:** Harmful to aquatic organisms

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13 Disposal considerations

- **Product:**
- **Recommendation**
Disposal should be carried out in accordance with national and local regulations. Consult local authorities for detailed advice.

- **European waste catalogue**

07 00 00	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 01 00	wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 08	other still bottoms and reaction residues

- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 8 Corrosive substances.
- **Danger code (Kemler):** 83
- **UN-Number:** 1779
- **Packaging group:** II
- **Hazard label:** 8+3
- **Description of goods:** 1779 FORMIC ACID

- **Maritime transport IMDG:**



- **IMDG Class:** 8
- **UN Number:** 1779
- **Label:** 8+3
- **Packaging group:** II
- **Proper shipping name:** FORMIC ACID

- **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 8
- **UN/ID Number:** 1779
- **Label:** 8+3
- **Packaging group:** II
- **Proper shipping name:** FORMIC ACID

15 Regulatory information

- **Labelling according to EU guidelines:**
The product has been classified and labeled in accordance with EU Directives on Dangerous Substances.

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· Symbol and hazard designation of product:

C Corrosive

· Hazard-determining components of labelling:

formic acid

· Risk phrases:

34 Causes burns.

· Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

28 After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer).

36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16 Other information

This Safety Data Sheet is not a Product Specification. It is based on our present knowledge and experience and it is intended to serve as a guide for safe handling of the product regarding to health and environmental aspects.

· Explanation R-phrases

35 Causes severe burns.

· Department issuing SDS: EHSQ-department, Perstorp Specialty Chemicals AB.