

FORMIC ACID 85%

Version 3.5 Revision Date: 04.10.2016 SDS Number: 150000103880 Date of last issue: -
 Date of first issue: 03.12.2015
 SDSIN / PRD / 0001

- Hazard statements : H227 Combustible liquid.
 H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H331 Toxic if inhaled.
- Precautionary statements : **Prevention:**
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing vapours.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
 P304 + P340 IF INHALED: Remove person to fresh air and keep 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/ physician.
 P363 Wash contaminated clothing before reuse.
 P370 + P378 In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
Storage:
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
Disposal:
 P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Components**

Chemical name	CAS-No.	Concentration (% w/w)
formic acid	64-18-6	> 85 - 87

4. FIRST AID MEASURES

- General advice : Take off all contaminated clothing immediately.
 Remove victim from exposure and then have him lie down in the recovery position.
 If not breathing, give artificial respiration.

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- If inhaled : Remove person to fresh air and keep comfortable for breathing.
Get immediate medical advice/ attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Cover wound with sterile dressing.
Get immediate medical advice/ attention.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Immediate medical attention is required.
- If swallowed : Rinse mouth with water.
Drink plenty of water.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
Get immediate medical advice/ attention.
- Most important symptoms and effects, both acute and delayed : corrosive effects
Harmful if swallowed.
Causes serious eye damage.
Toxic if inhaled.
Causes severe burns.
- Notes to physician : Treat symptomatically.
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5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water
Dry powder
Alcohol-resistant foam
Carbon dioxide (CO₂)
- Hazardous combustion products : Carbon monoxide
- Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.
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6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Keep people away from and upwind of spill/leak.
Wear respiratory protection.
Avoid contact with skin, eyes and clothing.
- Environmental precautions : Do not empty into drains.
- Methods and materials for containment and cleaning up : Large spills should be collected mechanically (remove by pumping) for disposal.
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Residues
 Soak up with inert absorbent material.
 Sand
 Universal binder

7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Keep away from sources of ignition - No smoking.
- Advice on safe handling : Use only with adequate ventilation.
 The pressure in sealed containers can increase under the influence of heat.
 Keep away from heat.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Conditions for safe storage : Keep away from sources of ignition - No smoking.
 Protect from sunlight.
 Keep away from combustible material.
 The product may form CO (carbon monoxide) under prolonged storage.
 Before entering storage tanks, the CO (carbon monoxide) level should be checked.
 Materials to avoid
 Bases
 Amines
 Strong acids and oxidizing agents
 Copper
 Aluminium
 Combustible material
- Recommended storage temperature : < 30 °C
- Storage period : <= 24 Months

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
formic acid	64-18-6	TWA	5 ppm 9 mg/m ³	IN OEL
		TWA	5 ppm	ACGIH
		STEL	10 ppm	ACGIH

Engineering measures : Ensure adequate ventilation.

Personal protective equipment

Respiratory protection : Respirator with a gas filter

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51 %(V)
Formic acid

Lower explosion limit : lower flammability limit
18 %(V)
Formic acid

Vapour pressure : < 4.4 kPa (20 °C)

Relative vapour density : No data available

Relative density : 1.2 (20 °C)

Density : 1.2 g/cm³ (20 °C)

Solubility(ies)
Water solubility : completely soluble

Partition coefficient: n-
octanol/water : log Pow: -2.1 (23 °C)
pH: 7
Formic acid

Decomposition temperature : 350 °C
Method: DSC
Formic acid

Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Explosive properties : Not classified

Oxidizing properties : Not classified

Surface tension : 71.5 mN/m, 20 °C, Formic acid

10. STABILITY AND REACTIVITY

Reactivity : Reacts with the following substances:
Bases
Amines

Chemical stability : Stable under normal conditions.
The product may form CO (carbon monoxide) under pro-
longed storage.

Possibility of hazardous reac- : Exothermic reaction
tions : Reacts with the following substances:
Bases
Amines

Conditions to avoid : Do not expose to temperatures above: 30 °C

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To avoid thermal decomposition, do not overheat.

Incompatible materials : Strong oxidizing agents
Strong acids
Bases
Amines
Copper
Aluminium
Combustible material

Hazardous decomposition products : Thermal decomposition
Carbon monoxide

The product may form CO (carbon monoxide) under prolonged storage.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

Harmful if swallowed.
Toxic if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 588.24 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 3.53 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : Assessment: Not classified

Components:**formic acid:**

Acute oral toxicity : LD50 Oral (Rat): 730 mg/kg

Acute inhalation toxicity : LC50 (Rat): 7.85 mg/l
Exposure time: 4 h

Skin corrosion/irritation

Causes severe burns.

Components:**formic acid:**

Assessment: Corrosive

Serious eye damage/eye irritation

Causes serious eye damage.

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Toxicity to algae : EC50 (Chlorella pyrenoidosa (aglae)): 1,240 mg/l
Exposure time: 72 h

Persistence and degradability**Components:****formic acid:**

Biodegradability : Result: Readily biodegradable

Bioaccumulative potential**Components:****formic acid:**

Bioaccumulation : Bioconcentration factor (BCF): 3.2
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: -2.1

Mobility in soil**Product:**

Mobility : Medium: Water
Remarks: soluble

Other adverse effects**Product:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).
Remarks: Not applicable

Components:**formic acid:**

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : In accordance with local and national regulations.
Do not dispose of waste into sewer.
Can be incinerated, when in compliance with local regulations.

Contaminated packaging : In accordance with local and national regulations.
The hazard and precautionary statements displayed on the label also apply to any residues left in the container.

