

Formic Acid 95%

1. Identification

Product Name: Formic Acid 95%

Item #:

Synonyms: Formylic Acid, Aminic acid, Hydrogen carboxylic acid

Recommended Use: N/A

Restrictions on Use: N/A

Manufacturer/Supplier:

In Case of Emergency:

Avantik

Chemtrec US 1-800-424-9300

19 Chapin Road - Building C

Chemtrec International 703-527-3887

Pine Brook, NJ 07058

1-800-783-9424

2. Hazards Identification

OSHA Hazard Classification(s):

Acute Toxicity - Oral - Category 4

Acute Toxicity - Inhalation - Category 3

Skin Corrosion - Category 1A

Eye Damage - Category 1

Specific Target Organ Toxicity (repeated exposure) - Category 2

Flammable Liquids - Category 3

Signal Word: Danger

Hazard Statement(s): Harmful if swallowed. Toxic if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage. May cause damage to organs (respiratory system) through prolonged or repeated exposure. Flammable liquid and vapor.

Pictogram(s):



Precautionary Statement(s): Prevention: Wash body thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing dust, vapors. Use only outdoors or in a well-ventilated area. Do not breathe dusts or mists. Wear protective gloves, protective clothing, eye protection and face protection. Wear eye protection, face protection. Do not breathe dust, vapors. Keep away from heat sources and open flame. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating, lighting and equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Response: If swallowed: Call a doctor if you feel unwell. Rinse mouth. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a doctor. Specific treatment (see first aid section on this label). If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Take off all contaminated clothing and wash it before reuse. Immediately call a doctor. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing Call a doctor if you feel unwell. In case of fire: Use water, dry chemical, CO2 or foam to extinguish.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep cool.

Disposal: Dispose of contents/container in accordance with local regulations.

Descriptions of Hazards not otherwise classified: N/A

Percent of mixture with unknown acute toxicity: N/A

3. Composition and Information on Ingredients

Chemical Name	Common Name	CAS #	Concentration %
Formic Acid		64-18-6	95

4. First Aid Measures

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Eye Contact: If in eyes: Immediately Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention.

Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped. Get medical advice/attention if you feel unwell.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

Symptoms: Irritation of eyes, skin, throat; skin burns, blisters, dermatitis; lacrimation; rhinorrhea; cough, dyspnea; nausea; eye redness, pain, burns, blurred vision; pulmonary edema; metabolic acidosis; unconsciousness; INGES. ACUTE: Burning sensation, sore throat, abdominal pain, cramps, vomiting, diarrhea

Recommendations for immediate medical care/special treatment: Get medical advice/attention if you feel unwell.

5. Fire- Fighting Measures

Extinguishing Media: Dry chemical, carbon dioxide, alcohol foam, water. Use water spray to cool fire-exposed containers and disperse vapors.

Fire Hazards (Chemical): OSHA classified Flammable Liquid

Special Protective Equipment: Fire fighters should use self-contained breathing apparatus and protective clothing.

Precautions for Firefighters: Carbon monoxide and unidentified organic compounds may be formed during combustion. Vapors can travel distances to ignition source and flash back. Cool fire exposed containers with water. Fine mist or spray may be flammable at temperatures below the flash point. When heated above the flash point this material emits flammable vapors which, when mixed with air, can burn or be explosive.

6. Accidental Release Measures

Emergency Procedures: Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.

Protective Equipment: See section 8

Environmental Precautions: Prevent release to the environment by using barriers.

Containment and Clean-Up Procedures: Use barriers to prevent spreading. Collect spill in container. Call waste authorities.

7. Handling and Storage

Handling: Do not breathe vapors. Do not eat, drink or smoke when using this product. Keep away from heat, sparks, open flames, hot surfaces. Keep container tightly closed. Ground/Bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep cool. Store away from heat, open flame and sources of ignition.

8. Exposure Controls/Personal Protection

OSHA Permissible Exposure Limits (PELs):

Reagent	CAS #	OSHA PEL TWA
Formic Acid	64-18-6	5 ppm, 9 mg/m3

ACGIH Threshold Limit Values (TLVs):

Reagent	CAS #	ACGIH PEL TLV	ACGIH STEL
Formic Acid	64-18-6	5 ppm, 9.4 mg/m3	10 ppm, 19 mg/m3

Engineering Controls: Use in a well ventilated area to prevent exposure. Maintain eyewash fountain and quick-drench facilities in work areas.

Personal Protective Measures: Wear gloves, lab coat, eye protection and impervious footwear. Contact lenses should not be worn when working with this material.

Special PPE Requirements: If ventilation hood not available wear respirator.

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9. Physical and Chemical Properties Section

Appearance: Colorless, Liquid

Molecular Weight: 46.03

Molecular Formula: CH₂O₂

pH: N/A

Boiling Point and Boiling Range: 224°F

Melting Point/Freezing Point: N/A

Flash Point: 122°F

Specific Gravity/Relative Density: 1.220

Odor: N/A

Odor Threshold: N/A

Color: Colorless

Flammability (solid/gas): N/A

Vapor Density: N/A

Upper/Lower flammability or explosive limits: UEL: 57% (90% solution) LEL: 18% (90% solution)

Vapor Pressure: N/A

Evaporation Rate: N/A

Partition Coefficient: n-octanol/water: N/A

Viscosity: N/A

Auto-ignition temperature: N/A

Solubility: N/A

Decomposition Temperature: N/A

10. Stability and Reactivity

Reactivity:

Chemical Stability: Stable

Conditions of Stability/Instability: Exposure to heat, open flame and sources of ignition. Exothermic reaction occurs when combined with water.

Stabilizers needed: None

Safety issue indicated by appearance change: N/A

Other: N/A

Hazardous Reactions: N/A

Hazardous Polymerization: Does not occur

Conditions to avoid: Exposure to heat, open flame and sources of ignition. Mixing with small amounts of water.

Classes of Incompatible Materials: Oxidizers, Strong Acids, Strong Bases

Hazardous Decomposition Products: Thermal-oxidation degradation can produce oxides of carbon. Toxic gases and vapors (I.e. Carbon monoxide) may be released in a fire.

11. Toxicological Information

Likely Routes of Exposure

Eyes: Corrosive liquid is will cause severe damage to the eyes. High vapor concentrations may also be irritating.

Skin: Corrosive liquid will cause irritation with itching and local redness. Blisters may occur.

Inhalation: Corrosive liquid will cause irritation and inflammation to mucous membranes. Dizziness may occur.

Ingestion: Corrosive liquid is toxic. May cause headaches, dizziness, nausea and general weakness. Corrosive liquids will cause internal chemical burns in mouth, esophagus and stomach.

Signs or Symptoms of Exposure: Irritation of eyes, skin, throat; skin burns, blisters, dermatitis; lacrimation; rhinorrhea; cough, dyspnea; nausea; eye redness, pain, burns, blurred vision; pulmonary edema; metabolic acidosis; unconsciousness; **INGESTION ACUTE:** Burning sensation, sore throat, abdominal pain, cramps, vomiting, diarrhea

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Effects from short term exposure (delayed, immediate, chronic): Irritation to the eyes, nose, throat; headache, dizziness, nausea.

Acute Toxicity (Numerical Measures): Formic Acid: LD50(oral,mouse)=700 mg/kg; LC50(inhalation,mouse)=6200 mg/m³/15MLC50(inhalation,rat)=7400 mg/m³/4H

Carcinogenicity (NTP, IARC, OSHA): Not listed as a carcinogen.

12. Ecological Information

Ecotoxicity: Toxicity to fish: LC50-Leuciscus idus(Golden orfe)-46-100mg/l-96h Toxicity to daphnia and other aquatic invertebrates:EC50-Daphnia magna(Water flea)-34.2mg/l-48h Toxicity to bacteria-Pseudomonas putida-46.7mg/l-17h

Persistence and degradability: Biodegradability:Result:>90%-Readily biodegradable.

Bioaccumulation Potential (octanol-water partition coefficient, BCF): Bioaccumulation is unlikely Biochemical Oxygen Demand (BOD)=86mg/g Chemical Oxygen Demand (COD) 348mg/g

Mobility in the soil: N/A

Adverse Environmental Effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

13. Disposal Considerations

Recommended Disposal Containers: Check with your local waste authorities*

Recommended Disposal Methods: Do not dispose of in drains, check with your local waste authorities.*

Physical/Chemical Properties affecting Disposal: See section 2 and section 9 applicable information.*

Special Precautions for Landfill and Incineration Activities: Check with your local waste authorities.*

Waste Stream: Consult your local or regional authorities.*

14. Transport Information

UN Number: UN1779

UN Proper Shipping Name: Formic Acid

Transport Hazard Class(es): 8 (3)

Packing Group Number: II

Environmental Hazards (IMDG code):

Marine Pollutant: No

Transport in Bulk (IBC Code): N/A

Special Transport Precautions: N/A

15. Regulatory Information

OSHA:

DOT:

EPA:

CPSC:

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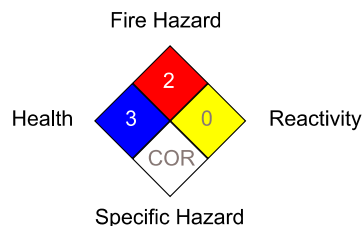
16. Other Information

Revision Date: 12/29/2015

NFPA

Health	3
Fire Hazard	2
Reactivity	0
Specific Hazard	COR

National Fire Protection Association (USA) NFPA



HMIS

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	

Hazardous Material Information System HMIS

Health	3
Flammability	2
Physical Hazard	0
Personal Protection	

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