



Safety Data Sheet

Formic Acid LC/MS grade ultrapure

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Formic Acid LC/MS grade ultrapure

Synonyms/Generic Names: Methanoic acid, carbonous acid, formylic acid, oxocarboxic acid

Product Number: CP-L9636

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: ChemPure Brand Chemicals
39103 Warren Road
Westland, Michigan 48185

For More Information Call: 734-729-1805 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Flammable liquid, Target organ effect, Harmful by ingestion, Corrosive

Target Organs: Kidney, Liver, Central nervous system, Blood

Signal Words: Danger

Pictograms:



GHS Classification:

| | |
|----------------------------|-------------|
| Flammable liquids | Category 3 |
| Acute toxicity, Inhalation | Category 3 |
| Acute toxicity, Oral | Category 4 |
| Skin corrosion | Category 1A |
| Serious eye damage | Category 1 |
| Acute aquatic toxicity | Category 3 |

GHS Label Elements, including precautionary statements:

Hazard Statements:

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|------|--|
| H226 | Flammable liquid and vapor. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H331 | Toxic if inhaled. |
| H402 | Harmful to aquatic life. |

Precautionary Statements:

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|----------------|--|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground/Bond container and receiving equipment. |
| P241 | Use explosion-proof electrical/ventilating/lighting/equipment. |
| P242 | Use only non-sparking tools. |
| P243 | Take precautionary measures against static discharge. |
| P260 | Do not breathe dust/fume/gas/mist/vapors/spray. |
| P264 | Wash hands 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. |
| 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/shower. |
| 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/doctor/physician. |
| P363 | Wash contaminated clothing before reuse. |
| P370+P378 | In case of fire: Use appropriate media to extinguish. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local regulations. |

Potential Health Effects

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|-------------------|---|
| Eyes | Causes eye burns. |
| Inhalation | May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. |
| Skin | May be harmful if absorbed through skin. Causes skin burns. |
| Ingestion | May be harmful if swallowed. |

NFPA Ratings

| | |
|------------------------|---------------|
| Health | 3 |
| Flammability | 2 |
| Reactivity | 0 |
| Specific hazard | Not Available |

HMS Ratings

| | |
|-------------------|---|
| Health | 3 |
| Fire | 2 |
| Reactivity | 0 |

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | Weight % | CAS # | EINECS# / ELINCS# | Formula | Molecular Weight |
|------------------|-----------------|--------------|--------------------------|--------------------------------|-------------------------|
| Formic Acid | >96 | 64-18-6 | 200-580-7 | CH ₂ O ₂ | 46.03 g/mol |
| Water | Balance | 7732-18-5 | 231-791-2 | H ₂ O | 18.00 g/mol |

4. FIRST-AID MEASURES

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| Eyes | Rinse with plenty of water at least 15 minutes and seek medical attention immediately. |
| Inhalation | Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately. |
| Skin | Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately. |
| Ingestion | Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately. |

5. FIRE-FIGHTING MEASURES

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| Suitable (and unsuitable) extinguishing media | Product is flammable. Use appropriate media for adjacent fire. Cool containers with water. |
| Special protective equipment and precautions for firefighters | Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. |
| Specific hazards arising from the chemical | Emits toxic fumes (oxides of carbon) under fire conditions. (See also Stability and Reactivity section). |

6. ACCIDENTAL RELEASE MEASURES

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| Personal precautions, protective equipment and emergency procedures | See section 8 for recommendations on the use of personal protective equipment. |
| Environmental precautions | Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements. |
| Methods and materials for containment and cleaning up | Neutralize spill with sodium bicarbonate or lime. Absorb spill with vermiculite or other noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations. |

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

| Component | Exposure Limits | Basis | Entity |
|-------------|--------------------------------|-------|--------|
| Formic Acid | 5 ppm 9.4 mg/m ³ | TLV | ACGIH |
| | 10 ppm 19 mg/m ³ | STEL | ACGIH |
| | 5 ppm 9 mg/m ³ | PEL | OSHA |
| | 5 ppm 9 mg/m ³ | REL | NIOSH |

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

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| Eyes | Wear chemical safety glasses or goggles, and face shield. |
| Inhalation | Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator. |
| Skin | Wear nitrile or rubber gloves, and full body covering. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| Other | Not Available |

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

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| Appearance (physical state, color, etc.) | Clear, colorless liquid |
| Odor | Acidic |
| Odor threshold | Not Available |
| pH | 2.38 at 0.10 M, 2.22 at 0.20 M |
| Melting point/freezing point | 8.4°C (47.1°F) |
| Initial boiling point and boiling range | 100.8 °C |
| Flash point | 50°C (122°F): Closed Cup |
| Evaporation rate | Not Available |
| Flammability (solid, gas) | Not Available |
| Upper/lower flammability or explosive limit | Not Available |
| Vapor pressure | 42 hPa at 20°C; 170 hPa at 50°C |
| Vapor density | Not Available |
| Specific gravity | 1.220 g/mL |
| Solubility (ies) | Completely soluble in water |
| Partition coefficient: n-octanol/water | Not Available |
| Auto-ignition temperature | Not Available |
| Decomposition temperature | Not Available |

10. STABILITY AND REACTIVITY

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| Chemical Stability | Stable |
| Possibility of Hazardous Reactions | Will not occur. |
| Conditions to Avoid | Heat, flames and sparks. |
| Incompatible Materials | Strong oxidizing agents, Strong bases, Powdered metals. |
| Hazardous Decomposition Products | Carbon oxides. |

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Formic Acid

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| Skin | Not Available |
| Eyes | Not Available |
| Respiratory | LC50 Inhalation – rat – 4 hours – 7.4 mg/l LC50 Inhalation – rat – 0.25 hours – 15000 mg/m ³ |
| Ingestion | LD50 Oral – rat – 1100 mg/kg |

Carcinogenicity

| | |
|-------------|--|
| IARC | No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
|-------------|--|

| | |
|--------------|---|
| ACGIH | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. |
| NTP | No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| OSHA | No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |

Signs & Symptoms of Exposure

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| Eyes | Burns, watering eyes. |
| Inhalation | Burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache. |
| Skin | Burns, itching, redness, inflammation and/or swelling of exposed tissues. |
| Ingestion | Burns of the mouth, gullet and gastrointestinal tract, choking, nausea, vomiting and severe pain. |

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|---------------------------------------|---------------|
| Chronic Toxicity | Not Available |
| Teratogenicity | Not Available |
| Mutagenicity | Not Available |
| Embryotoxicity | Not Available |
| Specific Target Organ Toxicity | Not Available |
| Reproductive Toxicity | Not Available |
| Respiratory/Skin Sensitization | Not Available |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Formic Acid

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|-----------------------------|---|
| Aquatic Vertebrate | LC50 - <i>Leuciscus idus</i> (Golden orfe) - 46 - 100 mg/l - 96 h |
| Aquatic Invertebrate | EC50 - <i>Daphnia magna</i> (Water flea) – 34.2 mg/l - 48 h |
| Terrestrial | <i>Pseudomonas putida</i> – 46.7 mg/l - 17 h |

| | |
|--------------------------------------|-----------------------|
| Persistence and Degradability | Biodegradable |
| Bioaccumulative Potential | Readily biodegradable |
| Mobility in Soil | Not Available |
| PBT and vPvB Assessment | Not Available |
| Other Adverse Effects | Not Available |

13. DISPOSAL CONSIDERATIONS

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|----------------------------------|---|
| Waste Product or Residues | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue. |
| Product Containers | Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container. |

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

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| US DOT | UN1779, Formic acid, 8, (3), pg II |
| TDG | UN1779, FORMIC ACID, 8, (3), pg II |
| IMDG | UN1779, FORMIC ACID, 8, (3), pg II |
| Marine Pollutant | No |
| IATA/ICAO | UN1779, Formic acid, 8, (3), pg II |

15. REGULATORY INFORMATION

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|---------------------------|---|
| TSCA Inventory Status | All ingredients are listed on the TSCA Active inventory. |
| DSCL (EEC) | All ingredients are listed on the DSCL inventory. |
| California Proposition 65 | Not Listed |
| SARA 302 | Not Listed |
| SARA 304 | Not Listed |
| SARA 311 | Fire Hazard, Acute Health Hazard, Chronic Health Hazard |
| SARA 312 | Fire Hazard, Acute Health Hazard, Chronic Health Hazard |
| SARA 313 | Listed: Formic Acid |
| WHMIS Canada | Class B-3: Flammable and combustible liquid- Combustible liquid Class E: Corrosive liquid. |

16. OTHER INFORMATION

| Revision | Date |
|----------|------------|
| Original | 08/17/2016 |
| Revised | 12/12/2021 |
| | |

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