



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Formic Acid, 99% for Synthesis

Product Number RABF0950

Other Identifying Product Numbers RABF0950-1A, RABF0950-4A, RABF0950-500A

1.2. Recommended Use and Restrictions on Use

For General Use

1.3. Details of the Supplier of the Safety Data Sheet

Company Ricca Chemical Company

Address 412 West Fork Drive

Arlington, TX 76012 USA

Telephone 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA)

800-424-9300

CHEMTREC (International)

1+ 703-527-3887

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SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

Hazard Class	Category	Hazard Statements	Precautionary Statements
Acute Toxicity - Oral	Category 4	H302	P264,P270,P301+P312,P330,P501
Acute Toxicity - Inhalation (Vapors)	Category 3	H331	P261,P271,P304+P340,P311, P321,P403+P233,P405,P501
Corrosive to the Respiratory Tract	Corrosive		
Flammable Liquids	Category 4	H227	P210,P280,P370+P378,P403,P501
Skin Corrosion / Irritation	Category 1	H314	P260,P264,P280,P301+P330+P331, P303+P361+P353,P363,P304+P340, P310,P321,P305+P351+P338,P405, P501
Serious Eye Damage / Eye Irritation	Category 1	H318	P280,P305+P351+P338,P310

2.2. GHS Label Elements

Pictograms:



Signal Word: Danger

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

Hazard Number	Hazard Statement
H227	Combustible liquid
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
	Corrosive to the respiratory tract

Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

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Prevention

Precautionary Number	Precautionary Statement
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face 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 and eye protection.

Response

Precautionary Number	Precautionary Statement
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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 or doctor.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P370+P378	In case of fire: Use dry chemical, foam, or carbon dioxide to extinguish.

Storage

Precautionary Number	Precautionary Statement
P403	Store in a well-ventilated place.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

2.4. Ingredients of Unknown Acute Toxicity

96 percent of this mixture consists of ingredient(s) of unknown acute dermal toxicity.

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SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
formic acid	Formic Acid; Methanoic acid	64-18-6	96.00
water	Water	7732-18-5	4.00

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation, redness, pain, and tearing.

Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

Inhalation: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. May cause serious damage to the skin. Effects may include redness, pain, skin burns.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Toxic if inhaled EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause serious damage to the skin. Effects may include redness, pain, skin burns.

4.3. Immediate Medical Attention or Special Treatment Needed

Immediately call a poison center or doctor. Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

In case of fire: Use dry chemical, foam, or carbon dioxide to extinguish. Water spray, dry chemical, alcohol foam, carbon dioxide

5.2. Specific Hazards Arising from the Substance or Mixture in a Fire

Combustible liquid Combustible liquid. Combustion may produce irritants and toxic gases.

5.3. Special Protective Equipment and Precautions for Firefighters

Wear special protective clothing and positive pressure self-contained breathing apparatus. Butyl rubber or Saranex barrier recommended.

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SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Use water spray to cool and disperse vapors and protect personnel. Control runoff and isolate discharged material for proper disposal. Neutralize spill and washings with soda ash or lime.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store in a well-ventilated place. Store in a well-ventilated place. Keep container tightly closed. Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

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U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

Chemical Name	CAS Number	Exposure Limit
Formic Acid	64-18-6	5 ppm TWA; 9 mg/m3 TWA

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

No limits found.

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

No limits found.

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

No limits found.

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Formic Acid	64-18-6	5 ppm TWA

8.2. Engineering Controls

Use only outdoors or in a well-ventilated area. Work in fume hood.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: If the exposure limit is exceeded, a full facepiece respirator equipped with organic vapor cartridge should be worn.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	Liquid
Color:	May be solid, , solidified/supercooled melt due to specific melting range.
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	8.4°C
Boiling Point/Range:	100.8°C
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	72 °C (calculated)
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	2.3
Kinematic Viscosity:	1.784 cP at 20°
Solubility:	Miscible
Vapor Pressure:	33.5 mm Hg at 20°
Evaporation Rate:	Data not available.
Relative Density:	1.22
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	Data not available.

NOTE: Flash point was calculated according to the method of Gmehling and Rasmussen (Ind. Eng. Chem. Fundament, 21, 186, (1982)), as allowed by GHS Rev 7, section 2.6.4.2.3.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Sulfuric Acid, strong Caustics, Furfuryl Alcohol, Hydrogen Peroxide, strong oxidizers and bases.

10.4. Hazardous Decomposition Products

Oxides of Carbon may form when heated to decomposition.

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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Oral acute toxicity estimate (ATE): 760 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Formic Acid	64-18-6	Oral LD50 Rat 730 mg/kg (Source: Canada_WHMIS)

Acute Toxicity - Dermal Exposure:

No information found.

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, vapor): 8.1771 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Formic Acid	64-18-6	Inhalation LC50 Rat 7.85 mg/L 4 h (vapor, Source: ECHA_API)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
		No data found.

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
		No data found.

U.S. OSHA specifically regulated carcinogens

Chemical Name	CAS Number	Classification
		No data found.

11.3 Additional Toxicology Information:

Harmful if swallowed. Causes severe skin burns and eye damage. Toxic if inhaled. Corrosive to the respiratory tract.

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SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Formic Acid	64-18-6	Freshwater Algae	Acute	EC50 96 h <i>Desmodesmus subspicatus</i> 25 mg/L (IUCLID); EC50 72 h <i>Desmodesmus subspicatus</i> 26.9 mg/L (IUCLID)
Formic Acid	64-18-6	Water Flea	Acute	EC50 48 h <i>Daphnia magna</i> 120 mg/L (IUCLID); EC50 48 h <i>Daphnia magna</i> 138 - 165.6 mg/L [Static] (EPA)
Formic Acid	64-18-6	Water Flea	Chronic	NOEC 21 d <i>Daphnia magna</i> $\geq$ 100 mg/L [semi-static] (reproduction, ECHA_API)

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

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SECTION 14: Transportation Information

14.1 Transportation by Land - Department of Transportation (DOT, United States of America)

Sizes: 1 L, 4 L, 500 mL

UN Number: UN1779

Proper Shipping Name: Formic Acid

Hazard Class: 8 (3)

Packing Group: II

Hazard Label(s):



14.2 Transportation by Air - International Air Transport Association (IATA)

Sizes: 1 L, 4 L, 500 mL

UN Number: UN1779

Proper Shipping Name: Formic Acid

Hazard Class: 8 (3)

Packing Group: II

Hazard Label(s):



14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L, 4 L, 500 mL

UN Number: UN1779

Proper Shipping Name: FORMIC ACID

Hazard Class: 8 (3)

Packing Group: II

Hazard Label(s):



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SECTION 15: Regulatory Information

15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
No data found.		

15.02. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Chemical Name	CAS Number	RQ
No data found.		

15.03. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Chemical Name	CAS Number	Regulatory Information
Formic Acid	64-18-6	5000 lb final RQ; 2270 kg final RQ

15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Formic Acid	64-18-6	Emission Reporting	1.0 % de minimis concentration

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Formic Acid	64-18-6	Present

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Formic Acid	64-18-6	Environmental hazard

15.07. New Jersey Worker and Community Right-to-Know Components

Chemical Name	CAS Number	Regulatory Information
Formic Acid	64-18-6	sn 0948

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15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
		No data found.

15.09. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Chemical Name	CAS Number	List	Status
Formic Acid	64-18-6	DSL	Present
Formic Acid	64-18-6	NDSL	"Present" As Carboxylic acids, C1-5 [68937-68-8]
Water	7732-18-5	DSL	Present

15.10. United States of America Toxic Substances Control Act (TSCA) List

Chemical Name	CAS Number	Status
Formic Acid	64-18-6	Present (ACTIVE)
Water	7732-18-5	Present [XU] (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Chemical Name	CAS Number	List	Number
Formic Acid	64-18-6	EINECS	200-579-1
Water	7732-18-5	EINECS	231-791-2

15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Formic Acid	64-18-6	Present [20252]
Water	7732-18-5	Present [32224]

15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Formic Acid	64-18-6	Annex 1	Present [KE-17233]
Water	7732-18-5	Annex 1	Present [KE-35400]

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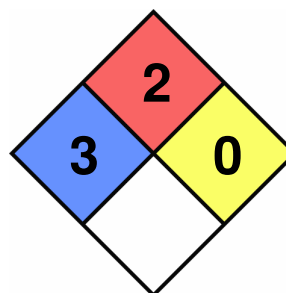
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Formic Acid	64-18-6	(2)-670
Water	7732-18-5	- (listed on Japanese Pharmacopoeia 8th Edition)

SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health: 3
Flammability: 2
Reactivity: 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
 2026-05-04

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.