



# SAFETY DATA SHEET

Formic Acid 88%

This SDS is valid for all grades that start with catalog number  
283

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## 1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

**Product Identifier:** High Purity Chemicals  
**Synonyms:** Hydrogen carboxylic acid; Methanoic acid; Aminic acid; Formylic acid  
**Other means of identification:** CAS No. 64-18-6  
EINECS No. 200-579-1

**Recommended use of the chemical and restrictions on use:**

### Supplier Details:

**Greenfield Global USA, Inc.**  
58 Vale Road, Brookfield,  
CT 06804, USA.  
Tel: 203.740.3471  
Fax: 203.740.3481  
CCN17213

**Greenfield Global USA, Inc.**  
1101 Isaac Shelby Drive, Shelbyville,  
KY 40065, USA.  
Tel: 502.232.7600  
Fax: 502.633.6100  
CCN17213

**Emergency Contact:** CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

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## 2. HAZARDS IDENTIFICATION

### OSHA Hazards:

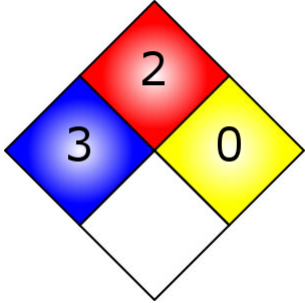
Combustible liquid, target organ effect, corrosive, Harmful by ingestion

### Target Organs:

Blood, Central nervous system, Kidney, Liver



**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**  
**NFPA** **+1.703.527.3887 (INT)**



**GHS label elements, including precautionary statements**



**Signal Word:**  
DANGER!

**Hazard statement(s)**  
H226  
H314

Flammable liquid and vapor  
Causes severe skin burns and eye damage.

**Precautionary statement(s)**  
P261  
P305 + P351 + P338

Avoid breathing dust/fumes/gas/mist/vapors.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

P310  
P280  
Immediately call a POISON CENTER or doctor/ physician.  
Wear protective gloves and eye and face protection.

**GHS Classification(s)**  
Eye damage (Category 1)  
Flammable Liquids (Category 3)  
Skin corrosion (Category 1B)

**Other hazards which do not result in classification:**

**Potential Health Effects:**

Organ	Description
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**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**

Eyes	Causes eye burns. Causes severe eye burns.	<b>+1.703.527.3887 (INT)</b>
Ingestion	Harmful if swallowed.	
Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.	
Skin	Harmful if absorbed through skin. Causes skin burns.	

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

<b>Chemical identity:</b>	Formic Acid
<b>Common name / Synonym:</b>	Hydrogen carboxylic acid; Methanoic acid; Aminic acid; Formylic acid
<b>CAS number:</b>	64-18-6
<b>EINECS number:</b>	200-579-1
<b>ICSC number:</b>	0485
<b>RTECS #:</b>	LQ4900000
<b>UN #:</b>	UN1779
<b>EC #:</b>	607-001-00-0

% Weight	Material	CAS
88	Formic Acid	64-18-6

### 4. FIRST AID MEASURES

#### General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### Skin

Get medical aid. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing/shoes.

#### Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

#### Eyes

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Keep rinsing while in transport to hospital.

#### Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.



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## **5. FIRE FIGHTING MEASURES**

**+1.703.527.3887 (INT)**

### **Suitable (and unsuitable) extinguishing media:**

SMALL FIRE: Use dry chemicals, CO<sub>2</sub>, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam. Cool all affected containers with flooding quantities of water.

### **Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):**

Carbon oxides expected to be the primary hazardous combustion product.

### **Special protective equipment and precautions for firefighters:**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

### **Flammable Properties**

#### **Classification**

OSHA/NFPA Class IIIA Flammable Liquid.

#### **Flash point**

50 °C (122 °F) - closed cup

#### **Autoignition temperature**

434 °C (813°F)

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## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures:**

Wear respiratory protection. Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

### **Environmental precautions:**

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

### **Methods and materials for containment and cleaning up:**

Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed.

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## **7. HANDLING AND STORAGE**

### **Precautions for safe handling:**

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

### **Conditions for safe storage, including any incompatibilities:**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters, e.g., occupational exposure limit values or biological limit values:

### Occupational Exposure Limits

Component	Source	Type	Value	Note
Formic Acid	US (OSHA)	TWA	5 ppm, 9 mg/m <sup>3</sup>	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants
Formic Acid	US (ACGIH)	STEL	10 ppm	ACGIH Threshold Limit Value

### Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

### Individual protection measures, such as personal protective equipment:

#### Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

#### Skin and body protection:

Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

#### Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance ( <i>physical state, color, etc.</i> )	Liquid. Colorless, clear.
Initial boiling point and boiling range	101 °C (213 °F)
Flash point	50 °C (122 °F)

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**

<b>Upper / Lower flammability or explosive limits</b>	18% (V) / 57% (V) <b>+1.703.527.3887 (INT)</b>
<b>Vapor pressure</b>	29.3 hPa (22 mmHg) at 20 °C (68 °F)
<b>Solubility(ies)</b>	completely miscible
<b>Auto-ignition temperature</b>	434 °C (813 °F)
<b>Formula (FORMIC ACID)</b>	CH2O2
<b>Molecular Weight (FORMIC ACID)</b>	46.0 g/mol

## 10. STABILITY AND REACTIVITY

<b>Possibility of hazardous reactions</b>	No data available
<b>Conditions to avoid (e.g., static discharge, shock or vibration)</b>	Heat, flames, and sparks.
<b>Incompatible materials</b>	Strong oxidizing agents, Strong bases, Powdered metals
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions. - Carbon oxides

## 11. TOXICOLOGICAL INFORMATION

- Formic Acid 64-18-6

### Product Summary:

No data available for the mutagenic, teratogenic, or reproductive effects of the product.

### Acute Toxicity:

LC50 (Inhalation)	Rat	7.4 mg/L	4 hours
LD50 (Oral)	Rat	1,100 mg/kg	

### Irritation:

#### Eyes

Rabbit - severe eye irritation/damage - 6 hours

#### Skin

Rabbit - severe skin irritation

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component 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 component 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 component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.



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+1.703.527.3887 (INT)**

**Other Hazards**

Organ	Description
Eyes	Causes eye burns.
Ingestion	Harmful if ingested.
Inhalation	May be harmful if inhaled. Material is extremely damaging to the upper respiratory tract.
Skin	Harmful if absorbed through skin. Causes skin burns.

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## 12. ECOLOGICAL INFORMATION

- Formic Acid 64-18-6

**Ecotoxicity (aquatic and terrestrial, where available):**

**Acute Fish Toxicity (FORMIC ACID)**

LC50 / 96 hours Golden Orfe - 46-100 mg/L

**Toxicity to Daphnia (FORMIC ACID)**

EC50 / 48 hours Water flea - 34 mg/L

**Persistence and degradability:**

Readily biodegradable.

**Bioaccumulative potential:**

Biaccumulation is unlikely

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## 13. DISPOSAL CONSIDERATIONS

**Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

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## 14. TRANSPORT INFORMATION

**Description of waste residues and information on their safe handling and methods of disposal:**

UN number	UN1779
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**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**

<b>UN proper shipping name</b>	Formic Acid
<b>Transport hazard class(es)</b>	8 (3)
<b>Packing group (if applicable)</b>	II

**Reportable Quantity**

5,000 lbs

**IMDG**

UN-Number: UN1779 Class: 8 (3) Packing Group: II

EMS-No: F-E, S-C

Proper shipping name: FORMIC ACID

Marine pollutant: No

**IATA**

UN-Number: UN1779 Class: 8 (3) Packing Group: II

Proper shipping name: Formic Acid

**15. REGULATORY INFORMATION**

**Safety, health and environmental regulations specific for the product in question:**

**OSHA Hazards**

Combustible liquid, target organ effect, corrosive, Harmful by ingestion

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313: FORMIC ACID  
CAS-No. 64-18-6 Revision Date 2007-07-01

**SARA 311/312 Hazards**

Acute Health Hazard

Chronic Health Hazard





**PHARMCO**  
by Greenfield Global

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)**  
Fire Hazard **+1.703.527.3887 (INT)**

**CERCLA**

Formic Acid CAS-No. 64-18-6, RQ: 5,000 lbs

**Massachusetts Right To Know Components**

Formic acid CAS-No. 64-18-6 Revision Date 2007-07-01

**Pennsylvania Right To Know Components**

Formic acid CAS-No. 64-18-6 Revision Date 2007-07-01

Water CAS-No. 7732-18-5

**New Jersey Right To Know Components**

Formic acid CAS-No. 64-18-6 Revision Date 2007-07-01

Water CAS-No. 7732-18-5

**California Prop 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION:  
INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS**

**Disclaimer**

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