1. PRODUCT AND COMPANY IDENTIFICATION

Product name	Formic Acid
Synonyms	
Grade	ACS, HPLC, Pesticide, Anapremium, Dehydrous, LCMS, UPLC
Company	Anaqua Chemicals Supply
	1510 Eldridge Parkway, Suite 110-268 Houston, TX 77077, USA
Telephone	(281) 668-0032
Fax	(281) 668-0033

2. COMPOSITION/ INFORMATION ON INGREDIENTS

Formula	CH_2O_2
CAS-No.	64-18-6
Index-No.	607-001-00-0
Ec-No.	200-579-1
Concentration	> 95 %

3. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquid	Category 3
Skin corrosion	Category 1B

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Flammable. Causes burns.

4. FIRST AID MEASURES

Inhalation	If breathed in, move to fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion	Rinse mouth with water. Consult a physician immediately.
Skin Contact	Immediately wash off with plenty of water for at least 15 minutes. Consult a physician.
Eye Contact	Rinse through with plenty of water for at least 15 minutes. Consult a physician.
Note to Physician	Treat symptomatically

Most important symptoms and effects, both acute and delayed

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting (Formic acid)

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
Specific hazards during fire fighting	Carbon oxides
Special protective equipment for fire-fighters	Wear self contained breathing apparatus for fighting if necessary. Use water spray to cool unopened containers

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
Methods for cleaning up	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations

7. HANDLING AND STORAGE

Handling	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent electrostatic charge build up
Storage	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Occupational exposure controls

Engineering Measures	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective Equipment

Respiratory protection	Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
Hand protection	Wear appropriate protective gloves.
Eye protection	Tightly fitting safety glasses.
Skin and body protection	Protective clothes should be selected specifically for the work place according to concentration and quantity of the chemical handled.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands and face before breaks and at the end of working day.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	Liquid
Color	Colorless
pH	2.2 at 2.2 g/l at 20 ℃
Oxidizing properties	No data available
Melting point	No data available
Boiling point	100 ℃
Flash point	48 ℃
Ignition temperature	No data available
Lower explosion limit	18 % (V)
Upper explosion limit	57 % (V)
Vapor pressure	No data available
Density	No data available
Water solubility	Completely miscible
Partition coefficient: n-octanol/ water	log Pow: -0.54
Molecular weight	-

10. STABILITY AND REACTIVITY

Storage stability	Stable under recommended storage conditions
Conditions to avoid	Heat, flames and sparks.
Materials to avoid	Strong oxidizing agents, Strong bases, Powdered metals
Hazardous decomposition products	No information available

11. TOXICOLOGICAL INFORMATION

Acute toxicity	LD50 Oral - rat – 1,100 mg/kg LC50 Inhalation - rat - 4 h – 7.4 mg/l LC50 Inhalation - rat – 0.25 h – 15,000 mg/m^3
Skin irritation	Rabbit - Severe skin irritation - Draize Test
Eye irritation	Rabbit - Severe eye irritation
Sensitization	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
Carcinogenicity	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Potential health effects	**Inhalation** Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. **Ingestion** Harmful if swallowed. Causes burns. **Skin** May be harmful if absorbed through skin. Causes skin burns.

	Eyes Causes eye burns.
Symptoms of Exposure	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting
Additional Information	RTECS: LQ4900000

12. ECOLOGICAL INFORMATION

Persistence and degradability	Biodegradability Result: > 90 % - Readily biodegradable
Ecotoxicity	
Toxicity to fish	LC50 - Leuciscus idus (Golden orfe) - 46 - 100 mg/l - 96 h
Toxicity to daphnia and aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 34,2 mg/l - 48 h
Toxicity to bacteria	Pseudomonas putida - 46,7 mg/l - 17 h
Bioaccumulative potential	Bioaccumulation is unlikely.
Other adverse effects	Harmful to aquatic life. Biochemical Oxygen Demand (BOD): 86 mg/g Chemical Oxygen Demand (COD): 348 mg/g

13. DISPOSAL CONSIDERATIONS

Product	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
Packaging	Dispose of as unused product.

14. TRANSPORT INFORMATION

IATA

UN-Number: 1779 Class: 8 (3) Packing group: II

Proper shipping name: Formic acid

IMDG

UN-Number: 1779 Class: 8 (3) Packing group: II

Proper shipping name: Formic acid

EMS-No. F-E, S-D

DOT (US)

UN-Number: 1779 Class: 8 (3) Packing group: II

Proper shipping name: Formic acid

Marine pollution: No

15. REGULATORY INFORMATION

Hazard statements

H226: Flammable liquid and vapour.

H314: Causes severe skin burns and eye damage.

Precautionary statements

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

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.

GHS-Labeling

Pictogram

Signal word *Danger*

Labeling according to EC Directive

Symbol(s): C-Corrosive

R-phrase(s): 10-34

Flammable.Causes burns.

S-phrase(s): 26-36/37/39-45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately

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16. OTHER INFORMATION

 The information, data, and recommendations in this material safety data sheet relate only to the specific material designated herein and do not relate to use in combination with any other material or in any process. The information, data, and recommendations set forth herein are believed by us to be accurate. We make no warranties, either expressed or implied, with respect thereto and assume no liability in connection with any use of such information, data, and recommendations.