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ESTD.1976 MULTI CHEM YOUR CHEMICAL PARTNER

SAFETY DATA SHEET

FORMIC ACID

SECTION 1: Identification of the substance/mixture and of the company/undertaking Trade name:

1.1 Product identifier:	
CAS Number:	64-18-6
EC number:	200-579-1
1.2 SYNONYMS:	• Methanoic acid • Hydrogencarboxylic acid • Ants' acid • Acide formique (French) • Acido formico (Italian) • Methylcarboxylic acid

SECTION 2: Hazards identification:

2.1 Classification of the substance or mixture:	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
2.2 Label elements:	Labelling according to Regulation (EC) No 1272/2008 Flammable liquids (Category 3) Acute toxicity, Oral (Category 4) Acute toxicity, Inhalation (Category 3) Skin corrosion (Category 1A) Serious eye damage (Category 1) Acute aquatic toxicity (Category 3)
Hazard Pictograms:	
Signal Word:	Danger
Hazard statements:	**H226:** Flammable liquid and vapour. **H302:** Harmful if swallowed. **H314:** Causes severe skin burns and eye damage. **H318:** Causes serious eye damage. **H331:** Toxic if inhaled.

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	H402: Harmful to aquatic life.
Precautionary Statements:	**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. **P261:** Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. **P264:** Wash skin thoroughly after handling. **P270:** Do not eat, drink or smoke when using this product. **P271:** Use only outdoors or in a well-ventilated area. **P273:** Avoid release to the environment. **P280:** Wear protective gloves/ protective clothing/ eye protection/ face protection. **P301 + P312 + P330:** IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. **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 + P310:** IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

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	P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. **P363:** Wash contaminated clothing before reuse. **P370 + P378:** In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. **P403 + P233:** Store in a well-ventilated place. Keep container tightly closed. **P403 + P235:** Store in a well-ventilated place. Keep cool. **P405:** Store locked up. **P501:** Dispose of contents/ container to an approved waste disposal plant.
2.3 Other hazards:	
Inhalation:	can cause respiratory irritation, coughing, and difficulty breathing, potentially leading to more severe lung damage with prolonged exposure.
Ingestion:	can cause severe irritation or burns to the mouth, throat, and stomach, leading to nausea, vomiting, abdominal pain, and potentially life-threatening damage to internal organs.
Skin Contact:	can cause severe irritation, burns, and tissue damage, potentially leading to ulceration or scarring with prolonged exposure.
Eye contact:	can cause severe irritation, burns, and permanent eye damage, potentially leading to blindness if not promptly treated.

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Chronic Exposure:	can lead to respiratory issues, skin sensitization, and long-term damage to the eyes, lungs, or other tissues, potentially causing permanent scarring or lung dysfunction.
Aggravation of pre-existing conditions:	may occur in individuals with respiratory disorders, such as asthma or bronchitis, as well as those with skin conditions or hypersensitivity, leading to increased irritation or exacerbation of symptoms.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation:	Substances
CAS No:	Description: 64-18-6 FORMIC ACID
Identification number(s):	EC number: 200-579-1

SECTION 4: First aid measures

4.1 Description of first aid measures	
General information:	
After inhalation:	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
After skin contact:	Remove contaminated clothing. Wash with soap and water. Consult a physician.
After eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. consult a physician.

After swallowing:	Rinse mouth with water. Immediately after ingestion. Never give anything by mouth to an unconscious person. Do not induce vomiting. Consult a physician.
4.2 Most important symptoms and effects, both acute and delayed:	The most important symptoms include acute irritation or burns to the skin, eyes, and respiratory system, with delayed effects such as tissue damage, scarring, and potential respiratory or lung complications.
4.3 Indication of any immediate medical attention and special treatment needed:	Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:	Carbon dioxide. Water spray. Alcohol-resistant foam.
5.2 Special hazards arising from the substance or mixture:	may release carbon monoxide and carbon dioxide, when heated to decomposition.
5.3 Advice for firefighters:	Wear fully protective suit, safety glasses and respiratory device. Cool tanks/drums with water spray/remove them into safety.
5.4 further information:	no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:	Use personal protective equipment. 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.

	Avoid dust accumulation. Seek medical attention.
6.2 Environmental precautions:	Do not enter this chemical into drains.
6.3 Methods and material for containment and cleaning up:	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
7.2 Conditions for safe storage, including any incompatibilities:	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area.

Requirements to be met by storerooms and receptacles:	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.
7.3 Specific end uses:	no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters	
Additional information about design of technical facilities:	A system of local and general exhaust is recommended.
8.2 Exposure controls	
Appropriate engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Personal protective equipment:	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
General protective and hygienic measures:	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	Respiratory protection: Required.
Protection of hands:	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. Wash and dry hands.
	Eye protection: Required
Protection of Body:	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties General Information	
Appearance: Form:	Liquid
Colour:	Colourless
Odour:	Pungent
pH-value:	2
Melting point/Melting range:	-8.4°C
Boiling point/Boiling range:	100.8°C
Flammability (solid, gaseous):	Flammable
Ignition temperature:	455°C
Decomposition temperature:	No data available
Self-igniting:	None
Flash point:	58°C
Danger of explosion:	None
Explosion limits: Lower:	18%
Explosion limits: Upper:	36%
Vapour pressure:	4.18 kPa at 20 °C
Density at 20 °C:	1.22 g/cm³
Relative density:	1.22
Vapour density:	1.6
Evaporation rate:	None
Solubility in / Miscibility with-·water at 20 °C:	Highly soluble
Partition coefficient:(n-octanol/water)	-0.54
Viscosity:	1.6 mPa·s at 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity	can undergo exothermic reactions, releasing heat under decomposition.
10.2 Chemical stability	This chemical is stable under storage conditions.
10.3 Possibility of hazardous reactions	Reacts with strong oxidizing agents, metals, and strong bases, which may lead to hazardous reactions.

10.4 Conditions to avoid	Heat, flame, strong bases, oxidizing agents, or metals.
10.5 Incompatible materials	Strong oxidizing agents, Strong alkalis or bases, metals, reducing agents.
10.6 Hazardous decomposition products	carbon monoxide, carbon dioxide.

SECTION 11: Toxicological information

11.1 Information on toxicological effects	
Acute Toxicity:	**LD50** (Oral, Rat): 1350 mg/kg **LD50** (Dermal, Rabbit): no data available **LC50** (Inhalation Rat): no data available
Skin corrosion/Irritation:	Corrosive to skin
Serious eye damage/irritation:	Can cause severe irritation
Respiratory damage/irritation:	Can cause respiratory irritation
Ingestion:	can lead to severe gastrointestinal burns
Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available
Specific target organ toxicity - single exposure:	No data available
Specific target organ toxicity - repeated exposure:	No data available
Aspiration hazard:	No data available
Signs and Symptoms of Exposure:	Refer section 2.3
11.2 Additional toxicological information	
Biodegradability:	Readily Biodegradable

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SECTION 12: Ecological information

12.1 Toxicity **Aquatic toxicity:**	LC50(fish): 46 mg/l (96hr) EC50(daphnia): 34,2 mg/l (48hr) EC50(algae): no data available
12.2 Persistence and degradability:	Readily Biodegradable
12.3 Bioaccumulative potential:	low bioaccumulative
12.4 Mobility in soil:	high mobility
12.5 Other adverse effects:	No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Uncleaned packaging **Recommendation:**	dispose of in accordance with local hazardous waste regulations
Recommended cleansing agents:	Water, Sodium bicarbonate, Sodium carbonate, Diluted sodium hydroxide.

SECTION 14: Transport information

14.1 UN-Number · ADR, ADN, IMDG, IATA:	1779
14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:	FORMIC ACID
14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :	8
14.4 Packing group · ADR, IMDG, IATA:	2
14.5 Environmental hazards:	Not applicable
14.6 Special precautions for user:	Handle responsibly.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture **Directive 2012/18/EU**	Directive 2012/18/EU, under that this substance is classified in listed substance as flammable and corrosive liquid.

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Named dangerous substances:	This substance is listed in the annex 1 to the directive.
15.2 Chemical safety assessment:	Chemical assessment has been carried out under REACH regulation.

SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.