



LABORATORY CHEMICALS AND CONSUMABLES
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MATERIAL SAFETY DATA SHEET

FORMIC ACID

1. Chemical Product and Company information.

Product name: Formic Acid

Contact Information:

Radchem cc
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Brackendowns
Alberton 1454
Telephone : **011 867 3726 / 2864**

2. Hazard Identification

DANGER! CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. INHALATION MAY CAUSE LUNG DAMAGE. VAPOR IS IRRITATING TO EYES AND RESPIRATORY TRACT. COMBUSTIBLE LIQUID AND VAPOUR.

3. Composition / information on ingredients

CAS #: 64-18-6

Synonym: Methanoic acid; hydrogen carboxylic acid; formylic acid

Chemical Name: Formic Acid

Chemical Formula: HCOOH

4. First Aid Measures

Eye Contact: Corrosive! Vapours are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Skin Contact: Corrosive. Symptoms of redness, pain, and severe burn can occur. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Serious Skin Contact: Prolonged or repeated exposure to low concentrations may cause skin irritation and burns. Prolonged or repeated exposure may cause liver and kidney damage.



Inhalation: Inhalation of vapours can cause severe irritation of nose, throat, and upper respiratory tract. Inhalation of higher concentrations may cause central nervous system effects and lung damage. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation: Not available

Ingestion: Causes serious burns and corrosion of the mouth, throat, and oesophagus, with immediate pain and difficult swallowing. Other symptoms of abdominal pain, nausea, diarrhoea and vomiting can occur, leading to shortness of breath and death. Severe poisonings may cause shock, kidney damage. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Serious Ingestion: Not available.

5. Fire-fighting measures

Flammability of the Product: Flammable

Fire Hazards in Presence of Various Substances: Combustible Liquid and Vapour! Fire data listed is for formic acid. Flash Point and explosive limits are for 90% aqueous solutions of formic acid.

Explosion Hazards in Presence of Various Substances: Above flash point, vapour-air mixtures are explosive within flammable limits noted above. Sensitive to static discharge.

Fire Fighting Media and Instructions: Dry chemical, carbon dioxide, water spray, or alcohol resistant foam.

Special Remarks on Fire Hazards: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

Special Remarks on Explosion Hazards: Not available

6. Accidental release measures

Small Spill: Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Neutralize with alkaline material (soda ash, lime), then absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapours, to protect personnel attempting to stop leak, and to flush spills away from exposures.

Large Spill:

7. Handling and storage

Precautions: Protect against physical damage. Store separately from reactive or combustible materials, and out of direct sunlight. Strongly corrosive. Should be handled in 316 stainless steel, glass, ceramic, or similar corrosion resistant materials. Containers of this material may be hazardous when empty since they retain product residues (vapours, liquid); observe all warnings and precautions listed for the product.

Storage: Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition.

8. Exposure controls/personal protection

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures



below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details. Use explosion-proof equipment.

Personal Protection: If the exposure limit is exceeded and engineering controls are not feasible, wear a supplied air, full-face piece respirator, air lined hood, or full-face piece self-contained breathing apparatus. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134). Formic acid has questionable warning properties and a low IDLH. Respirator recommended to 6 times the TLV value as a maximum.

Personal Protection in Case of a Large Spill: Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure. 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.

9. Physical and chemical properties

Physical state and appearance: Clear, liquid

Odour: Characteristic, pungent odour

Taste: Not available

Colour: Colourless

Boiling Point: 101C

Melting Point: ca. 8C

Critical Temperature: Not available

Specific Gravity: Not available

Vapour Density: 1.6 @ 19C (Air=1)

Volatility: Not available

Odour Threshold: Not available

Ionicity (in Water): Not available.

Dispersion Properties: Not available

Solubility: Infinitely soluble

10. Stability and reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, flame, other sources of ignition

Incompatibility with various substances: Sulphuric acid, strong caustics, furfuryl alcohol, hydrogen peroxide, strong oxidizers and bases. Reacts explosively with oxidizing agents..

Corrosivity: Not available

Special Remarks on Reactivity: Not available

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur.



11. Toxicological information

Routes of Entry: Not available

Toxicity to Animals: Not available

Chronic Effects on Humans: Not available

Other Toxic Effects on Humans: Not available

Special Remarks on Toxicity to Animals: Not available

Special Remarks on Chronic Effects on Humans: Not available

Special Remarks on other Toxic Effects on Humans: Not available

12. Ecological information

Ecotoxicity: Not available

BOD5 and COD: Not available

Products of Biodegradation: When released into the soil, this material is expected to leach into groundwater. When released into the soil, this material may biodegrade to a moderate extent. When released into water, this material is expected to readily biodegrade. When released into the air, this material is expected to be readily degraded by reaction with photo chemically produced hydroxyl radicals.

Toxicity of the Products of Biodegradation: This material is not expected to be toxic to aquatic life

Special Remarks on the Products of Biodegradation: Not available

13. Disposal considerations

Waste Disposal: Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport information

DOT Classification: Class: 8, 3 UN1779 Packing Group: II

Identification: Not applicable

Special Provisions for Transport: Not available

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Radchem CC. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Radchem CC has been advised of the possibility of such damages.

