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TECHNO PHARMCHEM
An ISO 9001 : 2008 Certified Company
Registered Off. : 101-A, Deep Enclave, Pocket "D", Ashok Vihar, Phase-III, Delhi-110 052 (India)
Corporate Off. : 152, Vardhman City Centre, Near Shakti Nagar Underbridge, Delhi-110052 (India)
Works : Plot No.1022, Modern Industrial Estate, Bahadurgarh-124507, Haryana (India)
Telephone : 0091 - 11 - 23646422 E-mail : tecpharm@gmail.com
Website : www.technopharmchem.com

FORMIC ACID

1. Product Identification
Synonyms: Methanoic acid; hydrogen carboxylic acid; formylic acid
CAS No.: 64-18-6
Molecular Weight: 46.03
Chemical Formula: HCOOH
Product Codes: 90087, 90088, 90089

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Formic Acid	64-18-6	85 - 90%
Water	7732-18-5	10 - 15%

3. Hazards Identification
Potential Health Effects

Inhalation: Inhalation of vapors can cause severe irritation of nose, throat, and upper respiratory tract. Inhalation of higher concentrations may cause central nervous system effects and lung damage.
Ingestion: Causes serious burns and corrosion of the mouth, throat, and esophagus, with immediate pain and difficult swallowing.
Skin Contact: Corrosive. Symptoms of redness, pain, and severe burn can occur.
Eye Contact: Corrosive! Vapors are irritating and may cause damage to the eyes. Contact may cause severe burns and permanent eye damage.
Chronic Exposure: Prolonged or repeated exposure to low concentrations may cause skin irritation and burns. Prolonged or repeated exposure may cause liver and kidney damage.

4. First Aid Measures
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion: If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact: 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.
Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures
Fire: Not considered to be a fire hazard.
Explosion: Not considered to be an explosion hazard.
Fire Extinguishing Media: Water, dry chemical, foam or carbon dioxide.
Special Information: 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.

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6. Accidental Release Measures
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 vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures.

7. Handling and Storage
Keep in a tightly closed container. Store in a cool, dry, ventilated area away from sources of heat or ignition. 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 (vapors, liquid); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection
Airborne Exposure Limits:
-OSHA Permissible Exposure Limit (PEL): 5 ppm (TWA)
-ACGIH Threshold Limit Value (TLV): 5 ppm (TWA), 10 ppm (STEL)
-NIOSH IDLH Level: 30 ppm
Ventilation System: 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.
Personal Respirators (NIOSH Approved): If the exposure limit is exceeded, wear a supplied air, full-face piece respirator, airlined hood, or full-face piece self-contained breathing apparatus.
Skin Protection: Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure.
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.

9. Physical and Chemical Properties
Appearance: Clear, colorless liquid.
Odor: Characteristic, pungent odor.
Solubility: Infinitely soluble.
Density: 1.2
pH: No information found.
% Volatiles by volume @ 21C (70F): 100
Boiling Point: 101C (214F)
Melting Point: ca. 8C (ca. 46F)
Vapor Density (Air=1): 1.6 @ 19C (66F)
Vapor Pressure (mm Hg): 40 @ 24C (75F)
Evaporation Rate (BuAc=1): 2.1

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10. Stability and Reactivity
Stability: Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products: Carbon dioxide and carbon monoxide may form when heated to decomposition. Dehydrated by sulfuric acid to produce carbon monoxide.
Hazardous Polymerization: Will not occur.
Incompatibilities: Sulfuric acid, strong caustics, furfuryl alcohol, hydrogen peroxide, strong oxidizers and bases. Reacts explosively with oxidizing agents.
Conditions to Avoid: Heat, flame, other sources of ignition.

11. Toxicological Information
Oral rat LD50: 1100 mg/kg; inhalation rat LC50: 15 gm/m3/15M; investigated as a tumorigen, mutagen.
--------\Cancer Lists\----------
---NTP Carcinogen---

Ingredient	Known	Anticipated	IARC Category
Formic Acid (64-18-6)	No	No	None
Water (7732-18-5)	No	No	None

12. Ecological Information
Environmental Fate: When released into the soil, this material is expected to leach into ground water. 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.
Environmental Toxicity: This material is not expected to be toxic to aquatic life.

13. Disposal Considerations
Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information
Proper Shipping Name: FORMIC ACID
Hazard Class: 8
UN/NA: UN1779
Packing Group: II

15. Regulatory Information
Safety, health and environmental regulations/legislation specific for the substance or mixture : Ensure all national/local regulations are observed.
Chemical Safety Assessment : It has not been carried out.

16. Other Information
Product Use : Laboratory Reagent