

SECTION 1: Identification

Product Name	Formic Acid, 90% Viscosity Grade
Other Identifiers	Methanoic acid; Formylic acid; Aminic acid; 84410-25
Recommended Uses	General Laboratory Reagent/Chemical.
Uses Advised Against	Not intended for drug, food or household use.
Address	SPEX CertiPrep, LLC 203 Norcross Ave. Metuchen, NJ 08840 USA
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CHEMTREC (USA) 800-424-9300 CHEMTREC (International) 1 + 730-527-3887	

SECTION 2: Hazard(s) Identification

- Flammable liquids (Category 3)
- Skin corrosion/irritation (Category 1)
- Serious eye damage/eye irritation (Category 1)
- Specific target organ toxicity, single exposure (Category 3)

Hazards not otherwise classified or covered by GHS

None identified.

Signal Word

DANGER

Hazard Statements

Flammable liquid and vapour. Causes severe skin burns and serious eye damage. May cause respiratory irritation.

Precautionary Statements

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof equipment. Use only non-sparking tools. Take action to prevent static discharges. Do not breathe mist, vapors or spray. Wash areas of contact/exposure thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves and clothing and eye protection. In case of fire: Use dry chemical, foam or carbon dioxide (CO2) for extinction. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes. Wash contaminated clothing before reuse. Get emergency medical help immediately. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. Get medical help. In all cases of contact: Get emergency medical help immediately. Get medical help if you feel unwell. Store in a well-ventilated place. Keep cool. Store locked up. Dispose of contents/container in accordance with local, state, federal and international regulations.



SECTION 3: Composition / Information on Ingredients

Component Name	Component Number CAS	Component Number EC	Component Weight %
Formic Acid	64-18-6	200-579-1	90
Water	7732-18-5	231-791-2	10

SECTION 4: First-Aid Measures

General Advice	Show this SDS to attending physician if medical treatment is needed.
Skin Contact	Immediately wash affected area with soap and water while removing contaminated clothing . Seek medical attention if there is any evidence of skin damage or persistent irritation.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. Seek immediate medical attention.
Inhalation	Remove person to fresh air and keep comfortable for breathing. If breathing is difficult or labored , seek medical attention.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or physician.
Symptoms/effects	The most important known symptoms/effects are described in Section 2 of this Safety Data Sheet.
Treatment	Treat symptomatically.

SECTION 5: Fire-Fighting Measures

Extinguishing Media	Substance is not flammable, use agent most appropriate to extinguish surrounding fire (water, carbon dioxide, dry chemical, sand/earth, foam).
Specific Hazards	Thermal decomposition may produce toxic or irritating fumes.
Actions for Firefighters	Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 6: Accidental Release Measures

Precautions and Procedures	Ensure adequate ventilation. Use personal protective equipment as required. Evacuate unprotected personnel to safe areas. Keep people away from and upwind of spill/leak.
Environmental Precautions	As with any chemical, avoid release to the environment for the responsible stewardship of our planet.
Containment and Clean Up	Contain and absorb with inert absorbent material. Wear respiratory protection, gloves, eye protection and protective clothing. Sweep up or vacuum up spillage and collect in suitable lidded container for disposal.

Section 7: Handling and Storage

Handling	Follow good hygiene procedures when handling chemical materials. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use personal items when handling this substance. Wear chemical resistant gloves, protective clothing and eye protection when handling this substance, as well as any other PPE recommended in any section of this SDS. Ground or bond containers. Use only non-sparking tools and explosion-proof equipment. Ensure adequate ventilation and absence of ignition sources.
Storage	Keep containers tightly closed in a cool and well-ventilated place. Avoid storage near heat, ignition sources or open flame. Protect from physical damage. Store separately from incompatible materials. Store locked up.

Section 8: Exposure Controls / Personal Protection

Engineering Controls	As part of safe chemical handling, emergency eye wash fountains and safety showers should be available in handling areas. Provide sufficient ventilation measures to keep the airborne concentration below the applicable workplace exposure limits.
Exposure Limits	Formic acid PEL-TWA 9 mg/m ³ US-OSHA
Exposure Limits	Formic acid REL-TWA 5 ppm US-NIOSH
Exposure Limits	Formic acid TLV-TWA 5 ppm US-ACGIH
Eye Protection	Wear safety glasses with side shields or safety goggles. Wear face shield if there is risk of splashes.
Skin Protection	Wear chemical resistant gloves and protective clothing.
Respiratory Protection	Where exposure limits are exceeded and cannot be adequately controlled by other engineering means (such as a chemical fume hood), wear respiratory protection.

Section 9: Physical and Chemical Properties

Physical State	Liquid
Appearance/Color	Colorless
Odor	Acrid, pungent, penetrating
Odor Threshold	As low as 0.6 ppm
Melting/Freezing Point	8°C
Boiling Point/Range	106°C
Flammability	Flammable
Flammable/Explosive Limits	18 - 57%
Flash Point	50°C
Auto-Ignition Temperature	434°C
Decomposition Temperature	Data not available
pH	2.0 - 2.2
Viscosity	1.607 mPa.s at 25°C

Solubility (in water)	Miscible
Partition Coefficient (n-octanol/water)	-0.54
Relative Density	1.22
Vapor Pressure	42 hPa (20°C)
Vapor Density	1.6
Evaporation Rate	2.1 (Butyl acetate = 1)
Particle Characteristics	Not applicable.

Section 10: Stability and Reactivity

Reactivity	Contact with metals can release hydrogen gas (flammable). May react explosively with oxidizing agents.
Chemical Stability	Stable under normal conditions of handling and storage.
Hazardous Reactions	Generates heat and potentially hazardous fumes when mixed with water.
Conditions to Avoid	Avoid contact with incompatible materials. Avoid breathing mist or vapors. Keep away from heat, sparks and open flame.
Incompatible Materials	Oxidizing agents, aluminum, cyanides, furfuryl alcohol.
Hazardous Decomposition	Thermal decomposition can produce carbon oxides.

Section 11: Toxicological Information

Acute Toxicity - Oral	LD50 (dog) 4000 mg/kg
Acute Toxicity - Dermal	The toxicological data is limited or unavailable.
Acute Toxicity - Inhalation	LC50 (rat) 7400 mg/m ³ /4H
Skin Corrosion/Irritation	Causes severe skin burns.
Eye Damage/Irritation	This material can cause serious eye damage.
Respiratory Sensitization	Not expected to cause respiratory sensitization.
Skin Sensitization	Not expected to cause skin sensitization.
Germ Cell Mutagenicity	Based on available data, this substance does not meet the criteria set forth for classification as causing germ cell mutagenicity.
Carcinogenicity	This material has not been identified as a carcinogen by IARC or NTP.
Reproductive Toxicity	Based on available data, this substance does not meet the criteria set forth for classification as a reproductive toxin.
STOT Single Exposure	May cause respiratory irritation.
STOT Repeated Exposure	None known.
Aspiration Hazard	This substance is not considered to be an aspiration hazard.
Other Information	No additional information available.

Section 12: Ecological Information

Toxicity Values	EC50 (Daphnia magna) 151.2 mg/L/48H
Persistence/Biodegradability	Data is not available for this substance that does not meet the criteria of ecotoxin.
Bioaccumulation Potential	BCF (estimated) 3.2.
Mobility in Soil	Expected to have a very high mobility based upon an estimated Koc of 1.
Other Adverse Effects	None known.

Section 13: Disposal Considerations

Discharge, treatment, or disposal may be subject to national, state, regional or local laws. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Since emptied containers retain product residue, follow label warnings even after container is emptied. Dispose in accordance with national, state, regional and local regulations.

Section 14: Transport Information

UN Number	UN1779
Proper Shipping Name, Hazard Class	FORMIC ACID, 8 (3)
Packing Group	II
Marine Pollutant	Not classified as a marine pollutant.

Section 15: Regulatory Information

USA TSCA	On or in compliance with the inventory.
USA SARA 302/304	Formic acid, TPQ 4540 kg (10,000 lbs) RQ 2270 kg (5000 lbs)
USA SARA 311/312	Formic acid
USA SARA 313 (TRI)	Formic acid
Canada DSL/NDSL	On or in compliance with DSL.
California Proposition 65	This product contains no substances on the list.

Section 16: Other Information

Acronyms	ACGIH	American Conference of Governmental Industrial Hygienists (USA)
	ATE	Acute Toxicity Estimate (calculated toxicity value)
	BCF	Bioconcentration Factor
	CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (USA)
	DOT	Department of Transportation (USA)
	DSL	Domestic Substances List (Canada)
	EHS	Extremely Hazardous Substance
	EPA	Environmental Protection Agency (United States)
	GHS	Globally Harmonized System
	IARC	International Agency for Research on Cancer
	IDLH	Immediately Dangerous to Life and Health
	NTP	National Toxicology Program (USA)
	OSHA	Occupational Safety and Health Administration (USA)
	PEL	Permissible Exposure Limit
	PNOR	Particulates Not Otherwise Classified
	PPE	Personal Protective Equipment
	ppb	Parts per billion
	ppm	Parts per million
	RQ	Reportable Quantity
	SARA	Superfund Amendments and Reauthorization Act (USA)
	TLV	Threshold Limit Value
	TPQ	Threshold Planning Quantity
	TRI	Toxic Release Inventory (USA)
	TSCA	Toxic Substances Control Act (USA)
	TWA	Time Weighted Average
	UN	United Nations

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This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS: product safety department

Contact: SPEX CertiPrep, LLC. 1-732-549-7144