



SAFETY DATA SHEET

PRODUCT NAME: FORMIC ACID 84%

Issue Date: May 23

IDENTIFICATION

Product Name: Formic Acid 84%
Other Names: Formic acid; Methanoic acid; Hydrogen carboxylic acid.
Product Code: ZFORMA
Supplier: HamChem Hamilton Chemicals Ltd, 75 Ruffell Rd, Hamilton
Phone: 079744971 Web: www.hamchem.nz Email: info@hamchem.nz

- In emergency dial 111, and then ask for Fire, Ambulance or Police as necessary.
- In case of poisoning phone National Poisons Centre – 0800 764 766

HAZARD IDENTIFICATION



GHS Classifications

Flammable Liquid – Category 4
Corrosive to Metals – Category 1
Acute Toxicity (Oral) – Category 4
Acute Toxicity (Inhalation) – Category 3
Skin Corrosion – Category 1B
Serious Eye Damage – Category 1

Signal Word: Danger

Hazard Statements

H227 – Combustible liquid
H290 – May be corrosive to metals
H302 – Harmful if swallowed
H311 – Toxic if inhaled
H314 – Causes severe skin burns and eye damage
H318 – Causes serious eye damage

Prevention

P210 – Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 – Wear protective gloves/clothing and eye/face protection.
P234 – Keep only in original packaging
P264 – Wash hands thoroughly after handling
P270 – Do not eat, drink or smoke when using this product
P261 – Avoid breathing dust/fume/gas/mist/vapours/spray
P271 – Use only outdoors or in a well-ventilated area

Response

P390 – Absorb spillage to prevent material damage
P301+P330+P331 – IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 – IF INHALED: Remove person to fresh air and keep comfortable for breathing
P310 – Immediately call a POISON CENTRE or Doctor

Recommendations, suggestions or statements made in the bulletins are intended for the assistance of our customers. They are based upon our experience and judgement but must not be regarded as amounting to a legal warranty or as involving any liability on our part and must be read in conjunction with and subject to our Conditions of Sale which apply to goods supplied by us.

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P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P363 – Wash contaminated clothing before reuse
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 CENTRE or Doctor

Storage

P403 – Store in a well-ventilated place
P403+P233 – Store in a well-ventilated place. Keep container tightly closed
P405 – Store locked up

Disposal

P501 – Dispose of contents/container to an approved waste facility in accordance with local regulations

COMPOSITION & INFORMATION ON INGREDIENTS

Chemical Entity	CAS No.	Proportion (%)
Formic Acid	64-18-6	84%
Water	7732-18-5	> 16%

FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (New Zealand 0800 764 766).

Inhalation: Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing laboured and patient cyanotic (blue), ensure airways are clear and have a qualified person give oxygen through a facemask. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. Seek immediate medical advice.

Skin Contact: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. If swelling, redness, blistering or irritation occurs seek medical assistance. For gross contamination, immediately drench with water and remove clothing. Continue to flush skin and hair with plenty of water (and soap if material is insoluble). For skin burns, cover with a clean, dry dressing until medical help is available. If blistering occurs, do NOT break blisters. If swelling, redness, blistering, or irritation occurs seek medical assistance.

Eye contact: Immediately irrigate with copious quantities of water for 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre.

Ingestion: Rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water to drink. Never give anything by the mouth to an unconscious patient. If vomiting occurs give further water. Immediately call Poisons Centre or Doctor.

PPE for First Aiders: Wear safety shoes, overalls, gloves, apron, face shield, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Notes to physician: Treat symptomatically. Can cause corneal burns.

FIRE FIGHTING MEASURES

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

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Specific hazards: Combustible material.

Firefighting further advice: On burning or decomposing may emit toxic fumes. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion or decomposition.

Hazchem Code: 2X

ACCIDENTAL RELEASE MEASURES

Small Spills: Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

Large Spills: Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods - Initial Emergency Response Guide No: 36

HANDLING & STORAGE

Handling: Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols.

Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store locked up. Store in corrosive resistant container with a resistant inner liner. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

EXPOSURE CONTROLS & PERSONAL PROTECTION

National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m ³	ppm	mg/m ³	
Formic acid	5	9.4	10	19	

As published by WorkSafe New Zealand – WES Values, April 2022.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept too as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Biological Limit Values: As per the WorkSafe New Zealand the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator.

Personal Protection Equipment: SAFETY SHOES, OVERALLS, GLOVES, APRON, FACE SHIELD, RESPIRATOR.

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Personal protective equipment (PPE) must be suitable for the nature of the work and any hazard associated with the work as identified by the risk assessment conducted. Wear safety shoes, overalls, gloves, apron, face shield, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from nitrile rubber should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

PHYSICAL & CHEMICAL PROPERTIES

Form:	Clear Liquid
Colour:	Colourless
Odour:	Pungent, penetrating odour
Solubility:	Miscible in water
Specific Gravity:	1.2
Relative Vapour Density (air=1):	1.6
Vapour Pressure (20 °C):	4.5@20 deg.C
Flash Point (°C):	> 65 C
Flammability Limits (%):	12 - 57
Autoignition Temperature (°C):	480
Melting Point/Range (°C):	8.4
Boiling Point/Range (°C):	100.8
pH:	2.2 as solution 1%
Viscosity:	n/a
Total VOC (g/Litre):	n/a
Molecular Weight:	46.03

STABILITY & REACTIVITY

Chemical stability: This material is thermally stable when stored and used as directed.

Conditions to avoid: Elevated temperatures and sources of ignition.

Incompatible materials: Oxidising agents.

Hazardous decomposition products: Oxides of carbon and nitrogen, smoke and other toxic fumes.

Hazardous reactions: No known hazardous reactions.

TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Toxic if inhaled. Material may be an irritant to mucous membranes and respiratory tract.

Skin contact: Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.

Ingestion: Harmful if swallowed. Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.

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Eye contact: A severe eye irritant. Corrosive to eyes: contact can cause corneal burns. Contamination of eyes can result in permanent injury.

Acute toxicity

Inhalation: This material has been classified as a 6.1C - Substances that are acutely toxic. Acute toxicity estimate (based on ingredients): $2.0 < LC50 \leq 10.0$ mg/L for vapours or $0.5 < LC50 \leq 1.0$ mg/L for dust and mist

Skin contact: This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients) : $>5,000$ mg/Kg bw

Ingestion: This material has been classified as a 6.1D - Substances that are acutely toxic. Acute toxicity estimate (based on ingredients): 300 - 2,000 mg/Kg bw

Corrosion/Irritancy: Eye: this material has been classified as a 8.3A - Substances that are corrosive to ocular tissue. Skin: this material has been classified as a 8.2B - Substances that are corrosive to dermal tissue.

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as non-hazardous.

Chronic Toxicity

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as non-hazardous.

Reproductive toxicity (including via lactation):
This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as non-hazardous.

ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Long-term aquatic hazard: This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or $BCF < 500$ and/or $\log Kow < 4$.

Ecotoxicity in the soil environment: This material has been classified as non-hazardous.

Ecotoxicity to terrestrial invertebrates: This material has been classified as non-hazardous.

Ecotoxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility: No information available.

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DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Exposure Controls and Personal Protection" of this SDS.
If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

TRANSPORT INFORMATION

UN No: 3412
Dangerous Goods Class: 8
Packing Group: II
Hazchem Code: 2X
Emergency Response Guide No: 36
Proper Shipping Name: FORMIC ACID

REGULATORY INFORMATION

HSNO Classifications: 3.1D, 8.1A, 6.1D (O), 6.1C (I), 8.2B, 8.3A

EPA Approval: HSR002511 – Additives, Process Chemicals & Raw Materials (Combustible, Acutely Toxic, Corrosive) Group Standard 2020

Restrictions: Formic Acid is Restricted to Workplace due to the Acute Toxicity – Category 3 (Inhalation) classification as per the Hazardous Substances (Hazardous Property Controls) Notice 2017

OTHER INFORMATION

End of SDS.