Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: **FORMIC ACID 75%**

Other name(s): Methanoic acid 75%; Hydrogen carboxylic acid 75%.

Recommended Use of the Chemical and Restrictions on Use Can be used in pesticide, leather, dye, medicine, rubber industry.

Supplier: Ixom Operations Pty Ltd
ABN: 51 600 546 512
Street Address: Level 8, 1 Nicholson Street
East Melbourne Victoria 3002
Australia

Telephone Number: +61 3 9906 3000
Emergency Telephone: **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Corrosive to Metals - Category 1
Acute Oral Toxicity - Category 4
Skin Corrosion - Sub-category 1B
Eye Damage - Category 1
Acute Inhalation Toxicity - Category 3
Specific target organ toxicity (single exposure) - Category 3
Specific target organ toxicity (repeated exposure) - Category 1

SIGNAL WORD: DANGER

Hazard Statement(s):
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H331 Toxic if inhaled.
H335 May cause respiratory irritation.
H372 Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Prevention:
P234 Keep only in original container.
P260 Do not breathe mist, vapours, spray.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves / protective clothing / eye protection / face protection.

Response:
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P330 Rinse mouth.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P363 Wash contaminated clothing before re-use.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311 Call a POISON CENTER or doctor/physician.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310 Immediately call a POISON CENTER or doctor/physician.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/attention if you feel unwell.
P390 Absorb spillage to prevent material damage.

Storage:
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:
P501 Dispose of contents and container in accordance with local, regional, national, international regulations.

Poisons Schedule (SUSMP): S5 Caution.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS Number	Proportion	Hazard Codes
Formic acid	64-18-6	75.5%	H226 H290 H302 H314 H331 H370
Water	7732-18-5	24.5%	-

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:
Remove victim from area of 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. For all but the most minor symptoms arrange for patient to be seen by a doctor as soon as possible, either on site or at the nearest hospital.

Skin Contact:
If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor.

Eye Contact:
If in eyes, hold eyelids apart and flush the eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 15 minutes.

Ingestion:
Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:
Treat symptomatically. Can cause corneal burns.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem or Emergency Action Code: 2X

Specific hazards arising from the chemical:
Combustible liquid. May form flammable vapour mixtures with air. Corrosive substance.

Special protective equipment and precautions for fire-fighters:
On burning will emit toxic fumes, including those of carbon monoxide . Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or products of combustion. Keep containers cool with water spray.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:
Clear area of all unprotected personnel. Shut off all possible sources of ignition. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:
Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Neutralise residues with lime or soda ash. Collect and seal in properly labelled containers or drums for disposal. Wash area down with excess water. For large amounts, pump off product.

7. HANDLING AND STORAGE

Classified as a C1 (COMBUSTIBLE LIQUID) for the purpose of storage and handling, in accordance with the requirements of AS 1940. Refer to State Regulations for storage and transport requirements.

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

Precautions for safe handling:
Avoid skin and eye contact and breathing in vapour, mists and aerosols. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities:
Store in a cool, dry, well ventilated place. Store away from foodstuffs. Store away from sources of heat or ignition. Store away from incompatible materials described in Section 10. Danger of bursting when sealed gas tight. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Formic acid: 8hr TWA = 9.4 mg/m^3 (5 ppm), 15 min STEL = 19 mg/m^3 (10 ppm)

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

STEL (Short Term Exposure Limit) - the airborne concentration of a particular substance calculated as a time-weighted average over 15 minutes, which should not be exceeded at any time during a normal eight hour work day. According to current knowledge this concentration should neither impair the health of, nor cause undue discomfort to, nearly all workers.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace 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.

Appropriate engineering controls:
Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. Vapour heavier than air - prevent concentration in hollows or sumps. DO NOT enter confined spaces where vapour may have collected. Keep containers closed when not in use.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as Personal Protective Equipment (PPE):
The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.

Wear overalls, chemical goggles, face shield, elbow-length impervious gloves, splash apron or equivalent chemical impervious outer garment, and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.
If determined by a risk assessment an inhalation risk exists, wear an air supplied respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Colourless
Odour:	Pungent
Solubility:	Miscible in water.
Specific Gravity:	ca. 1.1
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20 °C):	Not available
Flash Point (°C):	>95
Flammability Limits (%):	Not available
Autoignition Temperature (°C):	Not available
Boiling Point/Range (°C):	ca. 105
pH:	Not available

10. STABILITY AND REACTIVITY

Reactivity: Corrosive to most metals liberating flammable hydrogen gas.

Chemical stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions: Danger of bursting when sealed gas tight. Reacts with strong bases , strong oxidising agents .

Conditions to avoid: Avoid contact with foodstuffs.

Incompatible materials: Incompatible with many plastics , oxidising agents , strong alkalis , aluminium , catalysts , iron , steel .

Hazardous decomposition products: Carbon monoxide.

11. 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:

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

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

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

Inhalation: Material is irritant to the mucous membranes of the respiratory tract (airways).

Acute toxicity: No LD50 data available for the product. For the constituent Formic acid :
Oral LD50 (rat): 730 mg/kg.
Inhalation LC50 (rat): 15 mg/L 15min

Chronic effects: Available evidence from animal studies indicate that repeated or prolonged exposure to a component of this material could result in effects on the respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity Avoid contaminating waterways.

Persistence/degradability: Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. This material is biodegradable.

DOC Removal: >70%
48hr LC50 (Daphnia magna): 32.19 mg/L.
96hr LC50 (fish): >46 - <100 mg/L (Leuciscus idus)

13. DISPOSAL CONSIDERATIONS

Disposal methods:
Refer to Waste Management Authority. Dispose of contents and container in accordance with local, regional, national, international regulations.

14. TRANSPORT INFORMATION

Road and Rail Transport
Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

UN No:	3412
Transport Hazard Class:	8 Corrosive
Packing Group:	II
Proper Shipping Name or Technical Name:	FORMIC ACID
Hazchem or Emergency Action Code:	2X

Marine Transport
Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No:	3412
Transport Hazard Class:	8 Corrosive
Packing Group:	II
Proper Shipping Name or Technical Name:	FORMIC ACID
IMDG EMS Fire:	F-A
IMDG EMS Spill:	S-B

Air Transport
Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 3412

Transport Hazard Class: 8 Corrosive
Packing Group: II
Proper Shipping Name or Technical Name: FORMIC ACID

15. REGULATORY INFORMATION

Classification:
This material is hazardous according to Safe Work Australia; HAZARDOUS CHEMICAL.

Classification of the chemical:
Corrosive to Metals - Category 1
Acute Oral Toxicity - Category 4
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H335 May cause respiratory irritation.
H372 Causes damage to organs through prolonged or repeated exposure.

Poisons Schedule (SUSMP): S5 Caution.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Supplier Safety Data Sheet; 07/ 2015.

This safety data sheet has been prepared by Ixom Operations Pty Ltd Toxicology & SDS Services.

Reason(s) for Issue:
First Issue Primary SDS

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ixom Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Ixom representative or Ixom Operations Pty Ltd at the contact details on page 1.

Ixom Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.