

Material Safety Data Sheet

FORMIC ACID 90%

Infosafe No. AJ1XE **Issue Date** October 2005 **Status** ISSUED by APSSC

Classified as hazardous according to criteria of NOHSC

COMPANY DETAILS

Company Name APS, A Division of Nuplex Industries (Aust) Pty Ltd (ABN 25 000 045 572)
Address 8 Abbott Road SEVEN HILLS
 NSW 2147

Emergency Tel. 1800 022 037 (24H)
Tel/Fax Tel: (02) 9839 4000 Fax: (02) 9674 6225
Other Information New Zealand: Asia Pacific Specialty Chemicals (NZ) Limited
 119 Carbine Road
 Mt Wellington, Auckland 6
 Emergency Tel: 0800 154 666 (24H)
 Telephone: (09) 276 4019
 Fax: (09) 276 7231

IDENTIFICATION

Product Code A1063
Product Name FORMIC ACID 90%
Proper Shipping Name FORMIC ACID

Other Names	Name	Product Code
	FORMIC ACID 90%	A233

UN Number 1779
DG Class 8
Packing Group II
Hazchem Code 2X
Poisons Schedule S5
 S5 Other: S4

Product Use Decalcifier, reducer in dyeing wool fast colours, dehairing and plumping hides, tanning, electroplating, used in the rubber industry and in chemical reagent.

Physical Data

Appearance	Colourless, fuming liquid.
Melting Point	8.4°C
	-6.5°C (90% solution)
Boiling Point	101°C
	106.5°C (90% solution)
Vapour Pressure	35 mmHg (20°C)
Specific Gravity	1.220 (20°C)
Flash Point	69°C
Flamm. Limit LEL	18% (90% solution)
Flamm. Limit UEL	57% (90% solution)
Solubility in Water	Miscible in all proportions.

Other Properties

Corrosiveness	Corrosive to most metals.
Autoignition Temp.	539°C
	434°C (90% solution)
Vapour Density	1.6
Odour	
Threshold pH Value	20 ppm
	Not available.
Solubility in Organic Solvents	Miscible with alcohol, ether, glycerol.
Odour	Pungent, penetrating odour.
Stability	Stable under normal conditions.
Materials to Avoid	Oxidisers, bases, reducing agents, exposure to moisture air or water, metals, aluminium, finely divided metals, permanganates, sulfuric acid, hydrogen peroxides, caustics (eg. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), nitro compounds (organic, eg. nitrobenzene, nitroglycerine, picric acid, trinitrotoluene).
Molecular Weight	46.02
Other Information	CONVERSION FACTOR 1 ppm = 1.88 mg/m ³

Ingredients

Ingredients	Name	CAS	Proportion
	Formic Acid	64-18-6	60-100 %
	Ingredients determined not to be hazardous		(Balance to 100%)

HEALTH HAZARD INFORMATION

Health Effects

Acute - Swallowed	Ingestion of this product may cause nausea, vomiting, abdominal pain and chemical burns to the mouth, throat and stomach.
Acute - Eye	Eye contact will cause stinging, blurring, tearing, severe pain and possible

Acute - Skin	permanent corneal damage. Skin contact will cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction.
Acute - Inhaled	Inhalation of mists or vapours will result in respiratory irritation and possible harmful corrosive effects including lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.
Hazards Identification	
Chronic	Prolonged or repeated exposure may result in irritation, with the possibility of dermatitis.

First Aid

Swallowed	Do NOT induce vomiting. Wash out mouth with water and give plenty of water to drink. Seek immediate medical attention.
Eye	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.
Skin	Wash affected area thoroughly with soap and water. Remove contaminated clothing and wash before reuse or discard. Seek immediate medical attention.
Inhaled	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. Seek immediate medical attention.
First Aid Facilities	Eye wash station, safety shower and normal washroom facilities.
Other Information	For advice, contact a Poisons Information Centre (Phone eg Australia 131 126; New Zealand 0800 764 766) or a doctor (at once).

Advice to Doctor

Advice to Doctor	Treat symptomatically.
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Other Health Hazard Information

PRECAUTIONS FOR USE

Exposure Limits	Australian National Occupational Health And Safety Commission (NOHSC) Exposure Standards:			
	Substance	TWA		STEL
		ppm	mg/m ³	ppm mg/m ³
	Formic acid	5	9.4	10 19
	New Zealand Occupational Safety and Health Service (OSH) Workplace Exposure Standards:			
	Substance	TWA		STEL
		ppm	mg/m ³	ppm mg/m ³
	Formic acid	5	9.4	10 19
Eng. Controls	Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required. Refer to AS1940 - The storage and handling of flammable and combustible liquids and AS2430 - Explosive gas atmospheres for further information concerning ventilation requirements.			
Biological Limit Values	No biological limit allocated.			

Personal Protection

Respirator Type (AS 1716)	If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.
Eye Protection	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.
Glove Type	Wear gloves of impervious material. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.
Clothing	Wear appropriate clothing including chemical resistant apron where clothing is likely to be contaminated. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.

Flammability

SAFE HANDLING INFORMATION

Storage and Transport

Storage Precautions	Store in a cool, dry well-ventilated area away from heat, sources of ignition, oxidising agents, foodstuffs, and clothing and out of direct sunlight. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues. For information on the design of the storeroom, reference should be made to Australian Standard AS 3780-1994: The storage and handling of corrosive substances.
Transport	<p>Australia:</p> <p>This material is classified as a Class 8 (Corrosive) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:</p> <ul style="list-style-type: none">- Class 1, Explosive- Class 4.3, Dangerous When Wet Substance- Class 5.1, Oxidising Agent- Class 5.2, Organic Peroxide- Class 6, Toxic and Infectious Substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids- Class 7, Radioactive Substance <p>and are incompatible with food and food packaging in any quantity.</p> <p>New Zealand:</p> <p>This material is classified as a Class 8 - Corrosive Substance according to NZS 5433:1999 Transport of Dangerous Goods on Land. Must not be loaded in the same freight container or on the same vehicle with:</p> <ul style="list-style-type: none">- Class 1, Explosives

- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides
- Class 7, Radioactive materials unless specifically exempted

And are incompatible with food and food packaging in any quantity.

Note 1; Cyanides (Class 6.1) must not be loaded in the same freight container or on the same vehicle with acids (Class 8).

Note 2; Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II acids and alkalis should be considered as strong.

Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

- Class 4.3, Dangerous when wet substances

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Class 4.3, Dangerous when wet substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides

And are incompatible with food and food packaging in any quantity.

Handling

Use in a well ventilated area. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Avoid breathing in spray or mists or vapours. Do not use near welding or other ignition sources and avoid sparks. Do not smoke. When dealing with this product, repeated or prolonged skin exposure without protection should be prevented in order to lessen the possibility of skin disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. Washing hands prior to eating, drinking, smoking or using toilet facilities.

Proper Shipping

Name	FORMIC ACID
EPG Number	8A1
IERG Number	36
Packaging Method	3.8.8RT1,RT7,RT8

Spills and Disposal

Accidental Release Measures

Wear appropriate personal protective equipment and clothing to minimise exposure. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. If possible contain the spill. Place inert absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Dispose of waste according to federal, Environmental Protection Authority and state regulations. If the spillage enters the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.

Disposal

Considerations Dispose of waste according to federal, EPA and state regulations.

Fire/Explosion Hazard

Hazardous Combustion Products

Under fire conditions this product may emit toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

Hazardous Decomposition or Byproducts

Thermal decomposition may result in the release of toxic and/or irritating fumes including carbon monoxide and carbon dioxide.

Fire Fighting Precautions

Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.

Extinguishing**Media** Use carbon dioxide, dry chemical, and foam or water mist.**Hazardous****Reaction** Hazardous polymerisation will not occur.**Hazchem Code** 2X**Conditions to****Avoid** Heat, direct sunlight, open flames or other sources of ignition.

OTHER INFORMATION

Toxicology LD50/Oral/rat: 1210 mg/kg
LD50/Eye/rabbit: 122 mg/kg severe**Environment****Protection** Do not allow material to enter drains or waterways.**Risk****Statement**

R35 Causes severe burns.

Safety**Statement**

S23 Do not breathe gas/fumes/vapour/spray

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 In case of accident or if you feel unwell seek medical advice immediately

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

Regulatory**Information**

Australia:

Classified as hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC).

Poison Schedule: Schedule 5

New Zealand:

Scheduled as Harmful substance S4 according to the Toxic Substances Regulations 1983.

Hazard**Category**

Corrosive

Ecotoxicity

No data is available for this material.

Persistence /**Degradability**

No data is available for this material.

Mobility

No data is available for this material.

SDS History

MSDS reviewed: 2005.

CONTACT POINT

Contact

Australia: Business Hours: Mr Paul Verren

Telephone: (02) 9839 4024

Emergency Tel: 1800 022 037

New Zealand: Business Hours: Mr Lloyd Williams

Telephone: (09) 276 4019

Emergency Tel: 0800 154 666

IMPORTANT ADVICE: This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact Nuplex Industries (Aust) Pty Ltd. Our responsibility for products sold is subject to our standard terms and conditions, a copy of which is sent to our customers and is also available on request.

End of MSDS
