



# SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Catalogue No. : F 11329  
Product Name : FORMIC ACID

### Manufacturer/supplier identification

Company : NICE Chemicals (P) Ltd., Cochin, India  
Tel - 0484 2800212, 2802755

Contact for information : Tel. No.- 0484 2802536 Fax : 0484 2802483  
Emergency Telephone No. : 0484 2801583 Telefax No. : 0484 2802483

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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Methanoic Acid Solution

Hazardous ingredients :

Name according to EC Directives : Formic Acid

Hazard symbols : C R-phrases : 35  
EC-Index No.: 607-001-00-0 Causes severe burns.  
CAS No. : 64-18-6 Content z 89 %

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3. HAZARDS INDEX : Causes severe burns.

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4. FIRST AID MEASURES : First-aid personnel : Ensure self protection!

After inhalation : fresh air. Summon doctor.

After skin contact : wash off with plenty of water. Dab with polyethylene glycol 400. Immediately remove contaminated clothing.



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After eye contact : rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately summon eye specialist.

After swallowing : make victim drink plenty of water. (if necessary several litres), avoid vomiting ( risk of perforation), Immediately summon doctor.

Do not attempt to neutralize.

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**5. FIRE-FIGHTING MEASURES** : Suitable extinguishing media : Foam, powder, water

Fire extinguisher : carbon dioxide, powder, water.

Special risks: Combustible. Vapours heavier than air.

Formation of hazardous combustion gases or vapours possible in event of fire. Keep away from source of ignition. Formation of explosive mixtures possible with air. Hydrogen may form upon contact with metals (danger of explosion!).

The following may develop in event of fire :

Carbon Monoxide.

Special protective equipment for fire fighting : Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Other information : Contain escaping vapours with water.

Cool containers with water.

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## **6. ACCIDENTAL RELEASE MEASURES**

Person-related precautionary measures : Do not inhale

vapours/aerosols. Avoid substance contact.



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Procedures for cleaning / absorption : Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

Environmental-protection measures: Do not allow to enter sewerage system.

Additional notes : Render harmless; neutralize with excess Sodium Hydrogen Sulphite solution.

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**7. HANDLING AND STORAGE** : Handling : Substance may react with container during storage, resulting in a slight increase in nonvolatile matter. May be under pressure. Sensitive to light. Limited shelf life.

Storage - Tightly closed. Dry. In a well-ventilated place. Keep away from sources of ignition and heat. At +15° C to +25° C. May decompose forming gaseous products, especially when stored over long periods.

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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION** : Respiratory protection: required when vapours/aerosols

are generated. Filter B (acc. to DIN 3181) for inorganic gases and vapours.

Eye Protection : required

Hand Protection : required

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.



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Other protective equipment :

Acid-resistant protective clothing.

Industrial hygiene : Change contaminated clothing.

Apply of skin - protective barrier cream recommended.

Wash hands and face after working with substance.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: Liquid
Colour	: Colourless
Odour	: Pungent
pH value	: Strongly acid
Melting temperature	: -9° C
Boiling temperature	: 107° C
Ignition temperature	: 485° C
Flash Point	: 71° C
Explosion limit lower	: 10 Vol %
upper	: 45.5 Vol %
Relative vapour density	: Not available
Density (20° C)	: ~1.2 gm/cm <sup>3</sup>
Solubility in Water (20° C)	: Soluble
Log P(oct)	: -1.55

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### 10. STABILITY AND REACTIVITY

Conditions to be avoided : Heating.

Substances to be avoided : alkalis, aluminium, strong oxidizing agents, sulfuric acid, nonmetallic oxides, organic nitro compounds, metal catalysts, phosphorous oxides, hydrogen peroxide.

Hazardous decomposition products :

Carbon monoxide, hydrogen



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Further information :

light sensitive; heat sensitive (decomposition);  
Protect from direct sunlight.  
Explosible with air in a vapours/gaseous state.

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### 11. TOXICOLOGICAL INFORMATION

Acute toxicity: LD<sub>50</sub> (oral, rat): 1100 mg/kg

(calculated on the pure substance);

LC<sub>50</sub> (inhalation, rat) : 15 g/m/15 min (calculated on the pure substance);

The literature data available to us do not conform with the labelling prescribed by the EC. The EC has dossiers which have not been published

Subacute to chronic toxicity : An embryotoxic effect need not be feared when the threshold limit value is observed.

Further toxicological information :

After inhalation of vapours : Irritation symptoms in  
the respiratory tract, dyspnoea.

After skin contact : Skin lesions.

After eye contact : conjunctivitis,  
Lacrimal irritation due to vapours.

After swallowing : Burns in oesophagus and stomach,  
mucosal irritations, acidosis.

Damage of : kidneys.

Further data : Further hazardous properties cannot  
be excluded. The product should be handled with the  
care usual when dealing with chemicals.

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### 12. ECOLOGICAL INFORMATION

Biologic degradation : Readily eliminable (DOC reduction>70%)

Readily biodegradable (reduction : DOC>70 %; BOD>60%;  
BOD<sub>5</sub> to COD>50 %)

Behavior in environmental compartments :

Distribution : log P(oct) : -1.55;

No bioaccumulation is to be expected (log P(o/w)<1).

Evaluation number (FRG)(bacteria) : 2.4;

Evaluation number (FRG)(fish) : 3.4;

Evaluation number (FRG)(mammal) : 3.0;

Ecotoxic effects : Biological effects :

Toxic for aquatic organisms. Damage of fish and  
plancton. Harmful effect due to pH shift. When  
used properly, no impairments in the function of  
waste-water-treatment plants are to be expected.  
Neutralization possible in waste water treatment plants.

Fish toxicity : *L.idus* LC<sub>50</sub> : 120 mg/l

*Lepomis hymilis* LC<sub>50</sub> : 175 mg/l/24 h

(calculated on the pure substance);

Daphnia toxicirty :

Dphnia magna LC<sub>50</sub> : 34.2 mg/l (calculated on the pure  
substance);

Algeal toxicity : *Ps.putida* EC<sub>50</sub> : 46.7 mg/l (calculated  
on the pure substance)

Bacterial toxicity : *Ps.putida* EC<sub>50</sub> : 46.7 mg/l (calculated  
on the pure substance)

*E.sulcatum* EC<sub>5</sub> : 22 mg/l (Formaldehyde);



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Further ecologic data :

BOD<sub>50</sub> : 0.27 g/g (calculated on the pure substance);

ThOD : 0.35 g/g (calculated on the pure substance);

Do not allow to enter waters, waste water, or soil!

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**13. DISPOSAL METHOD** : Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like house-hold waste or recycled

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. Approved waste disposal companies which will advise you on how to dispose of special waste.

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### 14. TRANSPORT INFORMATION

Transport over land

ADR/RID and GGVS/GGVE : GGVS/GGVE class : 8 Number and letter : 32b

ADR/RID class : 8 Number and letter : 32b

Name of material : FORMIC ACID

Sea Transport IMDG : IMDG class : 8 UN No. : 1779 Packing group : II

Ems : 8 - 05 MFAG : 700

Correct Technical Name : FORMIC ACID

Air Transport ICAO-TI

and IATA-DGR : ICAO/IATA class : 8 UN No. : 1779

Packaging group : II

Correct Technical Name : FORMIC ACID

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### 15. REGULATORY INFORMATION

Labelling according to EC Directives

Symbol : C Corrosive

R-phrases : 35 Causes severe burns.

S-phrases : 23/26-36/37/39-45 Do not breathe vapour. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Water pollution class : 1 (slightly polluting substance)

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### 16. OTHER INFORMATION

Reason for alteration

General update.

Addition in the chapter ecology.

Addition in the chapter toxicology.

Specific control parameter.

The information contained herein is based on the present state of our knowledge.

It characterises the product with regard to the appropriate safety precautions.

It does not represent a guarantee of the properties of the product.

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