



## SAFETY DATA SHEET

Date of issue: 02/08/05

### 1. Identification of the substance/preparation and of the company/undertaking

#### *Identification of the product*

Catalogue No: 28430

ID No.: 1011500

Product name: **Formic acid 98-100% GPR**

Use of the substance/preparation: General chemical reagent

#### *Manufacturer/supplier identification*

Company: VWR International Ltd  
Hunter Boulevard, Magna Park, Lutterworth, Leicestershire, England, LE17 4XN  
Telephone : + 44 (0) 1455 558600      Telefax : + 44 (0) 1455 558586

Emergency telephone No.: + 44 (0) 1202 669700

### 2. Composition/information on ingredients

#### *Chemical characterization*

Organic acid

Product name: Formic acid 98-100%  
Synonyms: Methanoic acid, E236

CAS number: 64-18-6  
EC Index No.: 607-001-00-0  
Molecular formula:  $\text{CH}_2\text{O}_2$ , = 46.03 g/mol

EC-No.: 200-579-1

### 3. Hazards identification

Causes severe burns.

### 4. First aid measures

- Eye contact: Irrigate thoroughly with water for at least 10 minutes. OBTAIN MEDICAL ATTENTION.
- Inhalation: Remove from exposure, rest and keep warm. In severe cases, or if exposure has been great, OBTAIN MEDICAL ATTENTION.
- Skin contact: Drench the skin thoroughly with water. Remove contaminated clothing and wash before re-use. Unless contact has been slight, OBTAIN MEDICAL ATTENTION.
- Ingestion: Wash out mouth thoroughly with water and give plenty of water to drink. OBTAIN MEDICAL ATTENTION.

### 5. Fire-fighting measures

#### *Special risks:*

Combustible.

Combustion may generate: acrid fumes

***Suitable extinguishing media:***

Water spray, dry powder or vaporising liquids

**6. Accidental release measures**

Wear appropriate protective clothing. Inform others to keep at a safe distance. Ensure supply of fresh air in enclosed rooms.

Small amounts (<500ml): Spread soda ash liberally over the spillage. If local regulations permit, mop up cautiously with plenty of water and run to waste, diluting greatly with running water. Otherwise transfer to container and arrange removal by disposal company. Wash site of spillage thoroughly with water.

For large spillages liquids should be contained with sand or earth and both liquids and solids transferred to salvage containers. Any residues should be treated as for small spillages.

**7. Handling and storage**

***Handling:***

Work under fume extractor. Do not inhale substance. Avoid contact with skin and eyes. Wash hands and face thoroughly after working with material. Contaminated clothing should be removed and washed before re-use.

Use appropriate containment to avoid environmental contamination.

Unsuitable working materials: brass, nylon

***Storage:***

Store at room temperature (15 to 25°C recommended). Keep well closed and protected from direct sunlight and moisture. Store in vented containers to permit release of internal pressure.

**8. Exposure controls/personal protection**

***UK Exposure Limits:***

WEL - Formic acid:

Long term: 9.6 mg/m<sup>3</sup> (5 ppm) (ILV)

***Monitoring procedure:***

Using a suitable pump, draw a known quantity of workplace air through an absorption tube calibrated for the material concerned.

***Personal protective equipment:***

Engineering methods to control or prevent exposure are preferred. Methods could include process enclosure or mechanical ventilation.

As appropriate to the situation and the quantity handled.

- Ventilation: Fume cupboard
- Respirator: Self-contained breathing apparatus when vapours are generated.
- Gloves: Neoprene (polychloroprene) Gloves subject to permeation or any sign of degradation must be removed and replaced immediately.
- Eye Protection: Goggles or face-shield
- Other Precautions: Plastic apron, sleeves, boots - if handling large quantities

## 9. Physical and chemical properties

### *General information:*

Form:	liquid
Colour:	colourless
Odour:	pungent

### *Health, safety and environmental information:*

Melting temperature	8°C
Boiling temperature	100-101°C
Density(g/ml)	1.2
Vapour pressure	42 hPa (20°C)
Relative vapour density:	1.59
Solubility in water	Miscible in all proportions
Other solubility data:	Benzene, Ethanol, Toluene, Diethyl ether, Glycerol: Miscible in all proportions
pH value	2.2 (Solution in water, 10 g/l, 20°C)
Flash point	48°C
Explosion limits:	lower: 12 % v/v
	upper: 38 % v/v
Auto-ignition temperature	480°C
Log P(o/w):	-0.54
Additional data:	Dielectric constant: 58.5 (16°C)

## 10. Stability and reactivity

heat-sensitive, light-sensitive.

Substances to be avoided

bases, aluminium, strong oxidizing agents, sulphuric acid, nonmetallic oxides, organic nitro compounds, metal catalysts, phosphorus oxides, hydrogen peroxide.

The possibility of reaction with other substances cannot be excluded.

Hazardous decomposition products

carbon monoxide, hydrogen.

## 11. Toxicological information

- After inhalation: extreme irritation to the respiratory tract
- After skin contact: Burns.
- After eye contact: Burns. Risk of blindness!
- After ingestion: Burns in oesophagus and stomach. Damage to: kidneys

### *Further data*

LD50 1100 mg/kg oral, rat.

LC50 15 mg/l inhalation, rat.

Skin irritation test (rabbit): moderate irritant effect

Eye irritation test (rabbit): severe irritant effect

## 12. Ecological information

Adverse ecological effects cannot be excluded in the event of improper handling or disposal. Harmful effect due to pH shift.

***Further ecological data:***

Bioaccumulation potential: low (Log Pow <2).

Biological degradability: good.

Fish toxicity: LC50 (Carassius auratus): 46-100 mg/l/96hr

Daphnia toxicity: EC50 (Daphnia magna): 34 mg/l/48hr

Algal toxicity: EC50 (Scenedesmus subspicatus): 27 mg/l/72hr

***Remarks:***

Do not allow to enter drinking water supplies, waste water, or soil!

**13. Disposal considerations**

Chemical residues are generally classified as hazardous or special waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company. Rinse out empty containers thoroughly before returning for recycling.

When recovery and recycling is not possible, incineration in a high temperature incinerator is the recommended method of disposal.

**14. Transport information**

UN-No.: 1779

Class: 8

Packaging group: II

Proper shipping name: FORMIC ACID

**15. Regulatory information**

***Labelling according to EC directives***

Symbol(s): C Corrosive.

R-phrases: R35

Causes severe burns.

S-phrases: S23-26-45

Do not breathe gas. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

EC-No.: 200-579-1

***Local Regulations***

Within the UK, the use of this material must be assessed under the Control of Substances Hazardous to Health (COSHH) regulations.

**16. Other information**

Revision.

Supersedes edition of: 23/10/02

Reason for alteration: Changes in Section : 7,8,13

Date of issue:  
Date of print:

02/08/05  
19/10/05