

LC452-1 0.1% FORMIC ACID IN WATER

000000011406

Version 1.4

Revision Date 08/07/2014

Print Date 02/25/2016

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : 0.1% Formic Acid in Water

MSDS Number : 000000011406

Product Use Description : Laboratory Use

Manufacturer or supplier's details : Honeywell International Inc.  
115 Tabor Road  
Morris Plains, NJ 07950-2546

For more information call : 1-800-368-0050  
+1-231-726-3171  
(Monday-Friday, 9:00am-5:00pm)

In case of emergency call : **Medical: 1-800-498-5701 or +1-303-389-1414**  
: **Transportation (CHEMTREC): 1-800-424-9300 or +1-703-527-3887**  
:  
: (24 hours/day, 7 days/week)

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

Form : liquid

Color : colourless

Odor : slight pungent

**Classification of the substance or mixture**

Not a dangerous substance according to GHS.

Precautionary statements : **Prevention:**  
Use personal protective equipment as required.

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Hazards not otherwise classified : May cause eye and skin irritation.

**Carcinogenicity**

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP, IARC, or OSHA.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical nature : Mixture

Chemical Name	CAS-No.	Concentration
Water	7732-18-5	99.90 %
Formic acid	64-18-6	0.10 %

**SECTION 4. FIRST AID MEASURES**

- Inhalation : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.
- Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.
- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.
- Ingestion : Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician.

**Notes to physician**

Treatment : Treat symptomatically.

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**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Water spray  
Foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical  
Cool closed containers exposed to fire with water spray.
- Specific hazards during firefighting : In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)
- Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions : Wear personal protective equipment.  
Immediately evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Prevent product from entering drains.  
Discharge into the environment must be avoided.  
Do not flush into surface water or sanitary sewer system.
- Methods for cleaning up : Ventilate the area.  
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

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**SECTION 7. HANDLING AND STORAGE****Handling**

Handling : Wear personal protective equipment.  
Use only in well-ventilated areas.  
Keep container tightly closed.  
Do not smoke.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

**Storage**

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.  
Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
Keep away from heat and sources of ignition.  
Keep away from direct sunlight.  
Store away from incompatible substances.  
Container hazardous when empty.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures : Use with local exhaust ventilation.  
Prevent vapour buildup by providing adequate ventilation during and after use.

Eye protection : Do not wear contact lenses.  
Wear as appropriate:  
Safety glasses with side-shields  
Safety goggles  
If splashes are likely to occur, wear:  
Goggles or face shield, giving complete protection to eyes

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- Hand protection : Protective gloves  
Gloves must be inspected prior to use.  
Replace when worn.
- Skin and body protection : If splashes are likely to occur, wear:  
Acid-resistant protective clothing
- Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.  
For rescue and maintenance work in storage tanks use self-contained breathing apparatus.
- Hygiene measures : When using do not eat, drink or smoke.  
Wash hands before breaks and at the end of workday.  
Keep working clothes separately.  
Remove and wash contaminated clothing before re-use.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.

## Exposure Guidelines

Components	CAS-No.	Value	Control parameters	Update	Basis
Formic acid	64-18-6	TWA : time weighted average	(5 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values

Formic acid	64-18-6	STEL : Short term exposure limit	(10 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values
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Formic acid	64-18-6	REL : Recommended exposure limit (REL):	9 mg/m3 (5 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards
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## SAFETY DATA SHEET

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Formic acid	64-18-6	PEL : Permissible exposure limit	9 mg/m3 (5 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)
Formic acid	64-18-6	TWA : time weighted average	9 mg/m3 (5 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	: liquid
Color	: colourless
Odor	: slight pungent
pH	: 2.8
Melting point/freezing point	: Note: not determined
Boiling point/boiling range	: Note: not determined
Flash point	: > 169 °F (76 °C) Method: closed cup
Lower explosion limit	: Note: not applicable
Upper explosion limit	: Note: not applicable
Vapor pressure	: Note: not determined
Vapor density	: Note: not determined

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Density : 0.998 g/cm<sup>3</sup> at 20 °C  
0.997 g/cm<sup>3</sup> at 25 °C

Water solubility : Note: completely soluble

Ignition temperature : Note: not applicable

**SECTION 10. STABILITY AND REACTIVITY**

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Hazardous polymerisation does not occur.

Conditions to avoid : Protect from extreme heat and cold.  
Heat, flames and sparks.  
Keep away from direct sunlight.

Incompatible materials to avoid : Oxidizing agents  
Bases  
Sodium  
Phosphorus  
Strong acids

Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

**SECTION 11. TOXICOLOGICAL INFORMATION**

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## Acute oral toxicity

Formic acid

: LD50: 1,100 mg/kg  
Species: rat

## Acute inhalation toxicity

Formic acid

: LC50: 7.4 mg/l  
Exposure time: 4 h  
Species: rat

## Skin irritation

Formic acid

: Result: Causes severe burns.

## Eye irritation

Formic acid

: Result: Risk of serious damage to eyes.

## Further information

: Note: May cause eye and skin irritation.

## SECTION 12. ECOLOGICAL INFORMATION

## Toxicity to fish

Formic acid

: LC50: < 100 mg/l  
Exposure time: 96 h  
Species: Leuciscus idus (Golden orfe)

## Further information on ecology

## SECTION 13. DISPOSAL CONSIDERATIONS

## Disposal methods

: Observe all Federal, State, and Local Environmental regulations.

## SECTION 14. TRANSPORT INFORMATION



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**DOT** Not dangerous goods**TDG** Not dangerous goods**IATA** Not dangerous goods**IMDG** Not dangerous goods**SECTION 15. REGULATORY INFORMATION****Inventories**

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act : On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) : All components of this product are on the Canadian DSL.

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Toxic Chemical Control Law (TCCL) List : On the inventory, or in compliance with the inventory

Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act : On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances : On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

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**National regulatory information**

- SARA 302 Components** : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- SARA 313 Components** : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
- SARA 311/312 Hazards** : No SARA Hazards
- California Prop. 65** : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**WHMIS Classification** : Not Rated  
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

**SECTION 16. OTHER INFORMATION**

	<b>HMIS III</b>	<b>NFPA</b>
Health hazard	: 1	1
Flammability	: 0	0
Physical Hazard	: 0	
Instability	:	0

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

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**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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Prepared by Honeywell Performance Materials and Technologies Product Stewardship Group