

0.1% Formic Acid in Water (452)

Version 1

Revision Date 07/10/2008

Print Date 07/10/2008

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 0.1% Formic Acid in Water (452)
MSDS Number : 000000011406
Product Use Description : Laboratory Use

Company : Honeywell International Inc.
1953 South Harvey Street
Muskegon, MI 49442

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

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

SECTION 2. HAZARDS IDENTIFICATION**Emergency Overview**

Form : liquid, clear
Color : colourless
Odor : slight pungent
Hazard Summary : May cause skin irritation. May cause eye irritation. May cause respiratory tract irritation. May cause irritation of the gastrointestinal tract.

Potential Health Effects

Skin : May irritate skin.
Eyes : May irritate eyes.
Signs/symptoms can include redness, swelling, pain, and tearing.
Ingestion : May cause irritation of the gastrointestinal tract.
Inhalation : May cause respiratory tract irritation.
Chronic Exposure : Prolonged exposure causes local irritation of skin and mucous membranes, especially to the eyes.

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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

| Component | CAS-No. | Weight % |
|-------------|-----------|----------|
| 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.

SECTION 5. FIRE-FIGHTING MEASURES

- Flash point : >76 °C (169 °F)
closed cup
- Lower explosion limit : not applicable
- Upper explosion limit : not applicable
- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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- Water spray
 Foam
 Carbon dioxide (CO₂)
 Dry chemical
 Cool closed containers exposed to fire with water spray.
- Specific hazards during fire fighting : In case of fire hazardous decomposition products may be produced such as:
 Carbon monoxide
 Carbon dioxide (CO₂)
- Special protective equipment for fire-fighters : 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 vapors, mist or gas.
 Avoid contact with skin, eyes and clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.
 Discharge into the environment must be avoided.
 Do not flush into surface water or sanitary sewer system.
 Prevent product from entering drains.
- Methods for cleaning up : Ventilate the area.
 Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

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 vapors, mist or gas.
 Avoid contact with skin, eyes and clothing.
- Advice on protection against : Normal measures for preventive fire protection.

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fire and explosion

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 vapor 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
- 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 vapors, mist or gas.
Avoid contact with skin, eyes and clothing.

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Exposure Guidelines

| | | | | | |
|-------------|---------|-----------|---------|--------|----------------------|
| Formic acid | 64-18-6 | ACGIH | TWA | | 5 ppm |
| | | ACGIH | STEL | | 10 ppm |
| | | NIOSH | REL | 5 ppm | 9 mg/m ³ |
| | | OSHA Z1 | PEL | 5 ppm | 9 mg/m ³ |
| | | OSHA Z1A | TWA | 5 ppm | 9 mg/m ³ |
| | | US CA OEL | TWA PEL | 5 ppm | 9 mg/m ³ |
| | | US CA OEL | STEL | 10 ppm | 19 mg/m ³ |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|-----------------------------|---|
| Form | : liquid, clear |
| Color | : colourless |
| Odor | : slight pungent |
| pH | : 2.8 |
| Melting point/range | : not determined |
| Boiling point/boiling range | : not determined |
| Vapor pressure | : not determined |
| Relative vapour density | : not determined |
| Density | : estimated 1.0 g/cm ³ at 20 °C (68 °F) |
| Water solubility | : completely soluble |

SECTION 10. STABILITY AND REACTIVITY

| | |
|---------------------|--|
| Conditions to avoid | : Protect from extreme heat and cold. Heat, flames and sparks. Keep away from direct sunlight. |
| Materials to avoid | : Oxidizing agents Bases Sodium |

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Phosphorous
Strong acids

Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:
Carbon monoxide
Carbon dioxide (CO₂)

Hazardous reactions : Hazardous polymerisation does not occur.
Stable under normal conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity (Component) : Component: 64-18-6 Formic acid
LD50 rat
Dose: 1,100 mg/kg

Acute inhalation toxicity (Component) : Component: 64-18-6 Formic acid
LC50 rat
Dose: 7.4 mg/l
Exposure time: 4 h

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to fish (Component) : Component: 64-18-6 Formic acid
LC50
Species: Leuciscus idus (Golden orfe)
Dose: < 100 mg/l
Exposure time: 96 h

SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT Not dangerous goods

TDG Not dangerous goods

IATA Not dangerous goods

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IMDG Not dangerous goods**SECTION 15. REGULATORY INFORMATION****Inventories**

- EU. EINECS : On the inventory, or in compliance with the inventory
- 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). (Can. Gaz. Part II, Vol. 133) : All components of this product are on the Canadian DSL list.
- 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
- Switzerland. Consolidated Inventory : 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

National regulatory information**SARA 311/312 Hazards** : Acute Health Hazard

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California Prop. 65 : This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

WHMIS Classification : Not Rated

SECTION 16. OTHER INFORMATION

| | HMIS III | NFPA |
|-----------------|-----------------|-------------|
| Health Hazard | : 1 | 1 |
| Flammability | : 0 | 0 |
| Physical Hazard | : 0 | |
| Instability | : | 0 |