

0.1% Formic Acid in Water**452-4**

Version 2.1

Revision Date 07/26/2024

Print Date 12/19/2024

SECTION 1. IDENTIFICATION

Product name : 0.1% Formic Acid in Water

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 hazardous substance or mixture according to the Globally Harmonised System (GHS).

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

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

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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

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

Most important symptoms/effects, acute and delayed : No information available.

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Indication of immediate medical attention and special treatment needed, if necessary : Treat symptomatically.

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 (CO₂)
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 (CO₂)

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : 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 and materials for containment and 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

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regulations (see section 13).

SECTION 7. HANDLING AND STORAGE**Handling**

Precautions for safe 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

Conditions for safe storage, including any incompatibilities : 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	PEL : Permissible exposure limit	9 mg/m ³ (5 ppm)	02 2006	OSHA_TRANS:US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended
Formic acid	64-18-6	TWA : Time weighted average	(5 ppm)	2008	ACGIH:US. ACGIH Threshold Limit Values, as amended
Formic acid	64-18-6	TWA : Time weighted average	9 mg/m ³ (5 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended

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Formic acid	64-18-6	REL : Recomm ended exposure limit (REL):	9 mg/m3 (5 ppm)	2005	NIOSH/GUIDE:US. NIOSH: Pocket Guide to Chemical Hazards, as amended
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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: liquid
Color	: colourless
Odor	: slight pungent
Odor threshold	: Note: No data available
pH	: 2.8
Melting point/ range	: Note: not determined
Boiling point/boiling range	: Note: not determined
Flash point	: Note: Not applicable
Evaporation rate	: Note: No data available
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 ³ at 20 °C 0.997 g/cm ³ at 25 °C
Water solubility	:	Note: completely soluble
Partition coefficient: n-octanol/water	:	Note: No data available
Ignition temperature	:	Note: Not applicable
Viscosity, dynamic	:	Note: No data available
Viscosity, kinematic	:	Note: No data available
Molecular weight	:	46.03 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
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	:	Oxidizing agents Bases Sodium Phosphorus Strong acids
Hazardous decomposition products	:	In case of fire hazardous decomposition products may be produced such as:

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Carbon monoxide
Carbon dioxide (CO2)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : Note: Not classified

Acute dermal toxicity
Formic acid : Note: No data available

Skin irritation
Formic acid : Species: Rabbit
Result: Causes severe burns.
Classification: Corrosive
Method: OECD

Eye irritation
Formic acid : Species: Rabbit
Result: Risk of serious damage to eyes.
Method: OECD Test Guideline 405

Sensitisation
Formic acid : Buehler Test
Species: Guinea pig
Classification: non-sensitizing

Genotoxicity in vitro
Formic acid : Test Method: sister chromatid exchange assay
Cell type: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 479

: Test Method: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

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Method: OECD Test Guideline 471

: Test Method: In vitro gene mutation study in mammalian cells
Cell type: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Result: negative
Method: OECD Test Guideline 476

Genotoxicity in vivo
Formic acid

: Species: Drosophila melanogaster (vinegar fly)
Method: OECD Test Guideline 477
Result: negative

Further information

: Note: May cause eye and skin irritation.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity effects**

Toxicity to fish : Note: No data available

Toxicity to daphnia and other aquatic invertebrates : Note: No data available

Toxicity to algae : Note: No data available

Elimination information (persistence and degradability)

Bioaccumulation : Note: Does not bioaccumulate.

Mobility : Note: No data available

Biodegradability : Note: Readily biodegradable.

Further information on ecology

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SECTION 13. DISPOSAL CONSIDERATIONS

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

SECTION 14. TRANSPORT INFORMATION

DOT Not dangerous goods

TDG Not dangerous goods

IATA Not dangerous goods

IMDG Not dangerous goods

SECTION 15. REGULATORY INFORMATION**Inventories**

USA. List of Active Substances on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory, as amended : On TSCA Inventory

Australia. Inventory of Industrial Chemicals (AIC), as amended : On the inventory, or in compliance with the inventory

Canada. Domestic Substances List (DSL), as amended : 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. Existing Chemicals Inventory (KECI) : On the inventory, or in compliance with the inventory

Philippines. Inventory of : On the inventory, or in compliance with the inventory

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Chemicals and Chemical
Substances (PICCS)

China. Inventory of Existing
Chemical Substances
(IECSC) : 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

Taiwan Chemical
Substance Inventory (TCSI) : On the inventory, or in compliance with the inventory

National regulatory information

SARA 302 Components : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components : 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.

SECTION 16. OTHER INFORMATION

	HMIS III	NFPA
Health hazard	: 1	1

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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.

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 Energy and Sustainability Solutions Product Stewardship Group Product Stewardship Group