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.

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.

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	:	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).

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

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
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

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

Density	:	0.998 g/cm3 at 20 °C 0.997 g/cm3 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 (CO2)

SECTION 11. TOXICOLOGICAL INFORMATION

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

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

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

		HMIS III	NFPA
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.

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.

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