

**MICRONEX HARD WATER FORMULA 4-1GL**

Version 4.0

Revision Date 09/21/2017

Print Date 03/23/2020

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Material name : ZEP MICRONEX HARD WATER FORMULATION

EPA ID Number: 47371-129-1270

Material number : 000000000000068924

**Manufacturer or supplier's details**

Company : Zep, Inc.

Address : 350 Joe Frank Harris Parkway, SE  
Emerson, GA 30137

Telephone : 404-352-1680

**Emergency telephone numbers****For SDS Information** : Compliance Services 1-877-428-9937**For a Medical Emergency** : 877-541-2016 Toll Free - All Calls Recorded**For a Transportation  
Emergency** : CHEMTREC: 800-424-9300 - All Calls Recorded.  
In the District of Columbia 202-483-7616**Recommended use of the chemical and restrictions on use**

Recommended use : Biocides

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

Appearance	liquid, viscous
Colour	orange, clear
Odour	characteristic

**GHS Classification**

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 4

Acute toxicity (Dermal) : Category 4

Skin corrosion : Category 1

Serious eye damage : Category 1

Specific target organ toxicity -

repeated exposure

(Inhalation) : Category 2

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H227 Combustible liquid.

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H302 + H312 Harmful if swallowed or in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H373 May cause damage to organs through prolonged or repeated exposure if inhaled.

## Precautionary statements

: **Prevention:**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P273 Avoid release to the environment.

**Response:**

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.  
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.  
 P314 Get medical advice/ attention if you feel unwell.  
 P363 Wash contaminated clothing before reuse.  
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

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

Substance / Mixture : Mixture

**Hazardous components**

Chemical name	CAS-No.	Concentration [%]
didecyldimethylammonium chloride	7173-51-5	>= 10 - < 20
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1	>= 5 - < 10
1-Octanamine, N,N-dimethyl-, N-oxide	2605-78-9	>= 1 - < 5
ethanol	64-17-5	>= 1 - < 5
tetrasodium ethylenediaminetetraacetate	64-02-8	>= 1 - < 5

The exact percentages of disclosed substances are withheld as trade secrets.

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**SECTION 4. FIRST AID MEASURES**

- General advice : Do not leave the victim unattended.  
Get medical attention immediately.  
Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.
- If inhaled : Move to fresh air.  
If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.  
If breathing has stopped, apply artificial respiration.  
If breathing is difficult, give oxygen.
- In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.  
Take off contaminated clothing and shoes immediately.  
Wash contaminated clothing before re-use.  
If symptoms persist, call a physician.  
Wash off immediately with plenty of water for at least 15 minutes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.  
Continue rinsing eyes during transport to hospital.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.  
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- If swallowed : Keep respiratory tract clear.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
DO NOT induce vomiting unless directed to do so by a physician or poison control center.  
Take victim immediately to hospital.  
If conscious, drink plenty of water.
- Most important symptoms and effects, both acute and delayed : Effects are immediate and delayed.  
Effects are dependent on exposure (dose, concentration, contact time).  
Symptoms may include blistering, irritation, burns, and pain.  
Causes severe skin burns and eye damage.  
Review section 2 of SDS to see all potential hazards.
- Notes to physician : Treat symptomatically. Symptoms may be delayed.

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**SECTION 5. FIREFIGHTING MEASURES**

- Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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Unsuitable extinguishing media	: High volume water jet
Hazardous combustion products	: Carbon dioxide (CO <sub>2</sub> ) Carbon monoxide Nitrogen oxides (NO <sub>x</sub> ) Smoke
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Further information	: Standard procedure for chemical fires. Use a water spray to cool fully closed containers. Cool containers/tanks with water spray.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures	: Ensure adequate ventilation. Evacuate personnel to safe areas. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	: Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	: 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). Keep in suitable, closed containers for disposal.

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**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling	: For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Conditions for safe storage	: 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.
Materials to avoid	: Strong oxidizing agents
Storage temperature	: < 60 °C

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

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**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ethanol	64-17-5	TWA	1,000 ppm	ACGIH
		TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	OSHA Z-1
		TWA	1,000 ppm 1,900 mg/m <sup>3</sup>	OSHA P0
		STEL	1,000 ppm	ACGIH
		PEL	1,000 ppm 1,900 mg/m <sup>3</sup>	CAL PEL

**Engineering measures** : effective ventilation in all processing areas

**Personal protective equipment**

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Hand protection

Material

Remarks

: Protective gloves

: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection

: Safety goggles

Face-shield

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

Skin and body protection

: Protective suit

Hygiene measures

: General industrial hygiene practice.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid, viscous

Colour : orange, clear

Odour : characteristic

Odour Threshold : No data available

pH : 7.2 - 8.2

Melting point/freezing point : No data available

Boiling point : not determined

Flash point : 66 °C

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Method: closed cup

Evaporation rate	: 1
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: not determined
Relative vapour density	: No data available
Density	: 1.013 g/cm <sup>3</sup>
Solubility(ies)	
Water solubility	: soluble in cold water, soluble in hot water
Solubility in other solvents	: not determined
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: not determined
Thermal decomposition	: No data available
Viscosity	
Viscosity, kinematic	: 18.9 mm <sup>2</sup> /s (20 °C)

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Stable
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Stable under recommended storage conditions. No hazards to be specially mentioned.
Conditions to avoid	: Extremes of temperature and direct sunlight.
Incompatible materials	: Reducing agents Oxidizing agents
Hazardous decomposition products	: Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke). Nitrogen oxides (NO <sub>x</sub> ) Amines

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**SECTION 11. TOXICOLOGICAL INFORMATION****Potential Health Effects**

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Aggravated Medical Condition : None known.  
 Symptoms of Overexposure : Effects are immediate and delayed.  
 Effects are dependent on exposure (dose, concentration, contact time).  
 Symptoms may include blistering, irritation, burns, and pain.

**Carcinogenicity:**

**IARC** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**ACGIH** Confirmed animal carcinogen with unknown relevance to humans  
 ethanol 64-17-5

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** 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.

**Acute toxicity****Product:**

Acute oral toxicity : LD50 Rat: > 300 - 2,000 mg/kg  
 Method: Third Party Data - Actual or Inferred

Acute dermal toxicity : LD50 Rat: > 1,500 - 2,000 mg/kg  
 Method: Third Party Data - Actual or Inferred

**Components:****Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:**

Acute oral toxicity : LD50 Rat: 305 mg/kg  
 Method: Third Party Data - Actual or Inferred

Acute inhalation toxicity : LC50 Rat: 0.054 - 0.51 mg/l  
 Test atmosphere: dust/mist  
 Method: Third Party Data - Actual or Inferred

Acute dermal toxicity : LD50 Rat: 930 mg/kg  
 Method: Third Party Data - Actual or Inferred

**ethanol:**

Acute oral toxicity : LD50 Oral Rat: 7,060 mg/kg

Acute inhalation toxicity : LC50 Rat: 124.7 mg/l  
 Exposure time: 4 h  
 Test atmosphere: vapour

**Skin corrosion/irritation****Product:**

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Remarks: Extremely corrosive and destructive to tissue.

**Serious eye damage/eye irritation****Product:**

Remarks: May cause irreversible eye damage.

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

No data available

**Reproductive toxicity**

No data available

**STOT - single exposure**

No data available

**STOT - repeated exposure****Components:****tetrasodium ethylenediaminetetraacetate:**

Exposure routes: Inhalation

Assessment: May cause damage to organs through prolonged or repeated exposure.

**Aspiration toxicity**

No data available

**Further information****Product:**

Remarks: No data available

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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Product:**

Toxicity to fish

:

Remarks: Toxic to fish.

Toxicity to daphnia and  
other aquatic invertebrates

:

Remarks: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.



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Toxicity to fish (Chronic toxicity) : Remarks: Toxic effects on fish and plankton

**Persistence and degradability**

No data available

**Bioaccumulative potential****Product:**

Partition coefficient: n-octanol/water : Remarks: No data available

**Components:****ethanol :**

Partition coefficient: n-octanol/water : Remarks: No data available

**Mobility in soil**

No data available

**Other adverse effects**

No data available

**Product:**

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of in accordance with local regulations. The product should not be allowed to enter drains, water courses or the soil. Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Provincial Environmental control agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

Contaminated packaging : Empty containers should be taken to an approved waste

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handling site for recycling or disposal.  
Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

**SECTION 14. TRANSPORT INFORMATION**

Transportation Regulation: 49 CFR (USA):  
ORM-D, CONSUMER COMMODITY

Transportation Regulation: IMDG (Vessel):  
UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S., (QUATERNARY AMMONIUM  
COMPOUNDS), 8, III - Limited quantity

Transportation Regulation: IATA (Cargo Air):  
UN1903, Disinfectant, liquid, corrosive, n.o.s., (QUATERNARY AMMONIUM COMPOUNDS), 8, III -  
Limited quantity

Transportation Regulation: IATA (Passenger Air):  
UN1903, Disinfectant, liquid, corrosive, n.o.s., (QUATERNARY AMMONIUM COMPOUNDS), 8, III -  
Limited quantity

Transportation Regulation: TDG (Canada):  
UN1903, DISINFECTANT, LIQUID, CORROSIVE, N.O.S., (QUATERNARY AMMONIUM  
COMPOUNDS), 8, III - Limited quantity

The product as delivered to the customer conforms to packaging requirements for shipment by road under US Department of Transportation (DOT) regulations. Additional transportation classifications noted above are for reference only, and not a certification or warranty of the suitability of the packaging for shipment under these alternative transport regulations.

**SECTION 15. REGULATORY INFORMATION**

This product is regulated under the United States Federal Insecticide, Fungicide and Rodenticide Act (FIFRA).

**Pesticide Labeling Information Required Under U.S. FIFRA Regulations**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

**DANGER**

Corrosive - causes irreversible eye damage.

Causes skin burns.

Harmful if inhaled.

Harmful if swallowed.

Harmful if absorbed through skin.

Observe label precautions.

**TSCA list**

: No substances are subject to a Significant New Use Rule.

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No substances are subject to TSCA 12(b) export notification requirements.

**EPCRA - Emergency Planning and Community Right-to-Know Act**
**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
edetic acid	60-00-4	5000	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
 Acute toxicity (any route of exposure)  
 Skin corrosion or irritation  
 Serious eye damage or eye irritation  
 Specific target organ toxicity (single or repeated exposure)

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

**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.

**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.

**The components of this product are reported in the following inventories:**

**TSCA** : On TSCA Inventory  
**DSL** : This product contains one or more components that are listed on the Canadian NDSL. All other components are on the Canadian DSL.

For information on the country notification status for other regions please contact the manufacturer's regulatory group.

**Inventory Acronym and Validity Area Legend:**

TSCA (USA), DSL (Canada), NDSL (Canada)

**SECTION 16. OTHER INFORMATION**

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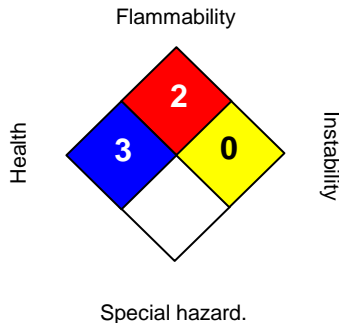
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**Further information**

**NFPA:**



**HMIS III:**

<b>HEALTH</b>	<b>3*</b>
<b>FLAMMABILITY</b>	<b>2</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

0 = not significant, 1 =Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

**OSHA - GHS Label Information:**

Hazard pictograms :



Signal word :

**Danger:**

Hazard statements :

Combustible liquid. Harmful if swallowed or in contact with skin. Causes severe skin burns and eye damage. May cause damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements :

**Prevention:** Keep away from heat/sparks/open flames/hot surfaces. No smoking. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection/ face protection. Avoid release to the environment.  
**Response:** IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Get medical advice/ attention if you feel unwell. Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
**Storage:** Store in a well-ventilated place. Keep cool.  
**Disposal:** Dispose of contents/ container to an approved waste disposal plant.

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We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. Users should make their own investigations to determine the suitability and applicability of the information for their particular purposes. This SDS has been prepared by the Compliance Services organization supporting this manufacturer, supplier or distributor.

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Zep Inc. markets products under well recognized and established brand names such as Zep®, Zep Commercial®, Zep Professional®, Enforcer®, National Chemical™, Selig™, Misty®, Next Dimension™, Petro®, i-Chem®, TimeMist®, TimeWick™, MicrobeMax®, Country Vet®, Konk®, Original Bike Spirits®, Blue Coral®, Black Magic®, Rain-X®, Niagara National™, FC Forward Chemicals®, Rexodan®, Mykal™, and a number of private labeled brands.