

Safety Data Sheet
acc. to OSHA HCS

Printing date 12/06/2018

Reviewed on 04/17/2020

1 Identification

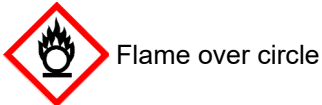
- **Product identifier** Peroxyacetic acid based antimicrobial
- **Trade name: SAN-I-OX (EPA Reg : 10324-214-12446)**
- **Article number:** LPA13
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
ZEE COMPANY, INC.
4146 South Creek Road
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



Org. Perox. F H242 Heating may cause a fire.



Ox. Liq. 1 H271 May cause fire or explosion; strong oxidizer.



Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Flam. Liq. 4 H227 Combustible liquid.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**



GHS02 GHS03 GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

hydrogen peroxide solution
peroxyacetic acid
acetic acid

· **Hazard statements**

Combustible liquid.
May cause fire or explosion; strong oxidizer.
Heating may cause a fire.
Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.

· **Precautionary statements**

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep/Store away from clothing/combustible materials.
Take any precaution to avoid mixing with combustibles.
Keep only in original container.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear fire/flame resistant/retardant clothing.
If swallowed: Call a poison center/doctor if you feel unwell.
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.
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.
If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
Specific treatment (see on this label).
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO₂, powder or water spray.
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Store in a well-ventilated place. Keep cool.
Store locked up.
Protect from sunlight.
Store at temperatures not exceeding 86°F. Keep cool.
Store away from other materials.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 2

The substance possesses oxidizing properties.

- **HMIS-ratings (scale 0 - 4)**



Health = 2
Fire = 0
Reactivity = 2

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

7722-84-1	hydrogen peroxide solution	25-35%
64-19-7	acetic acid	2.5-10%
79-21-0	peroxyacetic acid	2.5-10%

4 First-aid measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Remove to fresh air. If symptoms persist consult a doctor.
In case of unconsciousness, immediately seek medical attention.
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
Immediately flush open eye with running water for a minimum of 15 minutes. Immediately get medical attention.
- **After swallowing:**
Immediately contact a doctor or Poison Control Center.
Immediately drink large quantities of milk, milk of magnesia, egg whites or gelatin solution. If these are not available, drink large quantities of water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

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Immediately call a doctor.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **Special hazards arising from the substance or mixture** No further relevant information available.

- **Advice for firefighters**

- **Protective equipment:** Mouth respiratory protective device.

- **Additional information**

Liberates oxygen during thermal decomposition, which can enhance combustion of flammable materials.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**

Do not allow to enter surface or ground water.

Do not allow to penetrate the ground/soil.

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

- **Methods and material for containment and cleaning up:**

Absorb with sand or other non-combustible material.

Dike with inert materials.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

7722-84-1	hydrogen peroxide solution	10 ppm
64-19-7	acetic acid	5 ppm
79-21-0	peroxyacetic acid	0.52 mg/m ³

- **PAC-2:**

7722-84-1	hydrogen peroxide solution	50 ppm
64-19-7	acetic acid	35 ppm
79-21-0	peroxyacetic acid	1.6 mg/m ³

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· PAC-3:		
7722-84-1	hydrogen peroxide solution	100 ppm
64-19-7	acetic acid	250 ppm
79-21-0	peroxyacetic acid	15 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store in a cool, dry, well ventilated area.
Keep this and all chemicals out of the reach of children.
Do not store in direct sunlight.
- **Information about storage in one common storage facility:**
Store away from flammable substances.
Store away from reducing agents.
- **Further information about storage conditions:**
For quality purposes, avoid temperatures in excess of 86 degrees F. Elevated temperatures will accelerate decomposition resulting in a loss of assay.
Shelf life: 6 months at ideal storage conditions
Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· Components with limit values that require monitoring at the workplace:

7722-84-1 hydrogen peroxide solution	
PEL	Long-term value: 1.4 mg/m ³ , 1 ppm
REL	Long-term value: 1.4 mg/m ³ , 1 ppm
TLV	Long-term value: 1.4 mg/m ³ , 1 ppm
64-19-7 acetic acid	
PEL	Long-term value: 25 mg/m ³ , 10 ppm
REL	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
TLV	Short-term value: 37 mg/m ³ , 15 ppm Long-term value: 25 mg/m ³ , 10 ppm
79-21-0 peroxyacetic acid	
TLV	Short-term value: 1.24* mg/m ³ , 0.4* ppm *inhalable fraction + vapor

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- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
Not necessary if room is well-ventilated.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Apron

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
 - **General Information**
 - **Appearance:**

Form:	Liquid
Color:	Colorless
 - **Odor:** Acrid
 - **Odor threshold:** Not determined.
- | | |
|------------------|------|
| pH-value: | <1.5 |
|------------------|------|
- **Change in condition**
 - **Melting point/Melting range:** Undetermined.

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Boiling point/Boiling range:	Undetermined.
· Flash point:	83 °C (181.4 °F)
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Not determined.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.14 g/cm ³ (9.5133 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	10.0 %
VOC content:	10.00 %
	114.0 g/l / 0.95 lb/gal
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:**
Thermal decomposition releases oxygen, and may pressurize storage vessel.
- **Possibility of hazardous reactions**
May produce violent reactions with bases and numerous organic substances including alcohols and amines.
- **Conditions to avoid**
Open Flames, elevated temperatures, any source of heat, combustibles such as paper and wood, and contamination. Temperatures above 86 degrees F will decrease shelf life of product and accelerate decomposition resulting in a loss of assay.
- **Incompatible materials:**
Alkali (Caustic)
Reducing Agents
- **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** Caustic effect on skin and mucous membranes.

- **on the eye:** Strong caustic effect.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

7722-84-1	hydrogen peroxide solution	3
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

Acetic acid (CAS 64-19-7)

Fish, LC50, 96 hour, Oncorhynchus mykiss: > 1000 mg/L

Crustacea, EC50, 48 hour, Daphnia: > 1000 mg/L

Hydrogen peroxide (CAS 7722-84-1)

Fish, LC50, 96 hour, Fathead minnow (Pimephales promelas): 16.4 mg/L

Crustacea, NOEC, 21 day, Daphnia: 0.63 mg/L

Peracetic acid (CAS 79-21-0)

Fish, LC50, 96 hour, Bluegill (Lepomis macrochirus): 1.1 mg/L

Crustacea, NOEC, 21 day, Daphnia: 0.08 mg/L

- **Persistence and degradability** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

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- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Dispose of in accordance with federal, state, and local regulations.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|--|---|
| · UN-Number | |
| · DOT, IMDG, IATA | UN3109 |
| · UN proper shipping name | Organic peroxide type F, liquid |
| · DOT, IMDG | ORGANIC PEROXIDE TYPE F, LIQUID |
| · IATA | |
| · Transport hazard class(es) | |
| · DOT | |
| |  |
| · Class | 5.2 (8) Organic peroxides |
| · Label | 5.2 (8) |
| · Class | 5.2 (8) Organic peroxides |
| · Packing group | |
| · DOT | II |
| · Environmental hazards: | |
| · Marine pollutant: | No |
| · Special precautions for user | Warning: Organic peroxides |
| · Stowage Category | D |
| · Stowage Code | SW1 Protected from sources of heat. |
| · Segregation Code | SG35 Stow "separated from" acids.
SG36 Stow "separated from" alkalis.
SG72 See 7.2.6.3.2. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |

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- **Transport/Additional information:**

- **DOT**

- **Quantity limitations**

On passenger aircraft/rail: 10 L

On cargo aircraft only: 25 L

- **IMDG**

- **Limited quantities (LQ)**

125 ml

- **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

- **UN "Model Regulation":**

UN 3109 ORGANIC PEROXIDE TYPE F, LIQUID, 5.2 (8), II

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Sara**

- **Section 355 (extremely hazardous substances):**

7722-84-1 | hydrogen peroxide solution

79-21-0 | peroxyacetic acid

- **Section 313 (Specific toxic chemical listings):**

79-21-0 | peroxyacetic acid

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

7722-84-1 | hydrogen peroxide solution

A3

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**



GHS02 GHS03 GHS05 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**

hydrogen peroxide solution
peroxyacetic acid
acetic acid

· **Hazard statements**

Combustible liquid.
May cause fire or explosion; strong oxidizer.
Heating may cause a fire.
Harmful if swallowed or if inhaled.
Causes severe skin burns and eye damage.

· **Precautionary statements**

Keep out of reach of children.
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep/Store away from clothing/combustible materials.
Take any precaution to avoid mixing with combustibles.
Keep only in original container.
Do not breathe dusts or mists.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Wear fire/flame resistant/retardant clothing.
If swallowed: Call a poison center/doctor if you feel unwell.
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.
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.
If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
Specific treatment (see on this label).
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO₂, powder or water spray.
In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
Store in a well-ventilated place. Keep cool.
Store locked up.
Protect from sunlight.
Store at temperatures not exceeding 86°F. Keep cool.
Store away from other materials.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:** Jim Faller
- **Date of preparation / last revision** 12/06/2018 / 14
- **Abbreviations and acronyms:**
 - IMDG: International Maritime Code for Dangerous Goods
 - DOT: US Department of Transportation
 - IATA: International Air Transport Association
 - ACGIH: American Conference of Governmental Industrial Hygienists EINECS:
 - European Inventory of Existing Commercial Chemical Substances ELINCS:
 - European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - NFPA: National Fire Protection Association (USA)
 - HMIS: Hazardous Materials Identification System (USA)
 - VOC: Volatile Organic Compounds (USA, EU)
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative
 - NIOSH: National Institute for Occupational Safety
 - OSHA: Occupational Safety & Health
 - TLV: Threshold Limit Value
 - PEL: Permissible Exposure Limit
 - REL: Recommended Exposure Limit
 - Flam. Liq. 4: Flammable liquids – Category 4
 - Ox. Liq. 1: Oxidizing liquids – Category 1
 - Org. Perox. F: Organic peroxides – Type E/F
 - Acute Tox. 4: Acute toxicity – Category 4
 - Skin Corr. 1A: Skin corrosion/irritation – Category 1A
 - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- *** Data compared to the previous version altered.**

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