

SAFETY DATA SHEET

Classified in accordance 29 CFR 1910.1200

1. Identification

Product identifier: Clarity®

Other means of identification

None.

Recommended restrictions

Recommended use: Aseptic packaging

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Company Name : Evonik Active Oxygens, LLC, a subsidiary of Evonik Corporation
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Suite 3200
Philadelphia, PA 19103

Telephone : +1 267-422-2400

E-mail : product-regulatory-services@evonik.com

Emergency telephone number:

24-Hour Health : +1 800 424 9300 (CHEMTREC - US & CANADA)
Emergency : 800 681 9531 (CHEMTREC MEXICO)
+1 703 527 3887 (CHEMTREC WORLD)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 4
Organic peroxides	Type F

Health Hazards

Acute toxicity (Oral)	Category 4
Acute toxicity (Dermal)	Category 4
Acute toxicity (Inhalation - dust and mist)	Category 4
Skin Corrosion/Irritation	Category 1A
Serious Eye Damage/Eye Irritation	Category 1
Specific Target Organ Toxicity - Single Exposure	Category 3 (Respiratory tract irritation.)

Label Elements

Hazard Symbol:


Signal Word:

Danger

Hazard Statement:

Combustible liquid.
 Heating may cause a fire.
 Harmful if swallowed, in contact with skin or if inhaled.
 Causes severe skin burns and eye damage.
 May cause respiratory irritation.

Precautionary Statements
Prevention:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing, strong acids, bases, heavy metal salts and other reducing substances, and combustible materials. Keep only in original packaging. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/ physician if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash contaminated clothing before reuse. Specific treatment (see supplemental first aid instructions on this label). 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. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. Collect spillage.

Storage:

Store in a well-ventilated place. Keep container tightly closed. Store locked up. Do not expose to temperatures exceeding 50 °C/122 °F. Store separately.

Disposal:

Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%) [*]
Acetic acid		64-19-7	33 - 38%
Peracetic acid		79-21-0	15 - 17%
Hydrogen peroxide		7722-84-1	9 - 11%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The exact concentration has been withheld as a trade secret.

4. First-aid measures

Description of necessary first-aid measures

General information:

Pay attention to self-protection. Move out of dangerous area. Do not leave the victim unattended. Keep patient warm and at rest. Place patients who are unconscious but breathing in the stabilized lateral position.

Inhalation:

Potential for exposure by inhalation if aerosols or mists are generated. Bring affected person outside and ensure that he/she is comfortable. Get medical attention if any discomfort continues. With labored breathing: Provide with oxygen. Consult a doctor immediately. If the casualty is not breathing: Perform mouth-to-mouth resuscitation, notify emergency physician immediately.

Skin Contact:

Immediately remove contaminated clothing. Wash off affected area immediately with plenty of water for at least 15 minutes. Get medical attention immediately.

Eye contact:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion:

Do NOT induce vomiting. Rinse mouth. Immediately give large quantities of water to drink. Do not administer activated charcoal. Get medical attention immediately.

Personal Protection for First-aid Responders:

First Aid responders should pay attention to self-protection and use the recommended protective clothing. Avoid inhalation, ingestion and contact with skin and eyes.

Most important symptoms and effects, both acute and delayed

Symptoms:

Causes serious eye damage. Eyes: Depending on the intensity of exposure irritating/corrosive liquids cause injuries, destruction and detachment of connective tissue and corneal epithelium, corneal opacity, edemas and ulceration to a variable degree. Danger! Possible loss of eyesight! Causes skin burns. Causes respiratory tract burns. An irritation of the mucous membranes may develop and lead to coughing after inhalation. There is a risk of pulmonary edema! Aspiration hazard due to foam formation. Release of oxygen with potential gas embolism. After accidental absorption in the body, the pathology and clinical findings are dependent on the kinetics of the noxious substance (quantity of absorbed substance, the absorption time, and the effectiveness of early elimination measures (first aid)/ excretion - metabolism). Health injuries may be delayed.

Hazards:

Causes skin burns. Causes serious eye damage. Causes respiratory tract burns.

Indication of immediate medical attention and special treatment needed

Treatment:

Treat symptomatically.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Water spray, foam, dry powder or carbon dioxide.

Unsuitable extinguishing media:

High volume water jet. Organic compounds.

Special hazards arising from the substance or mixture:

Fire or high temperatures may cause decomposition. Release of oxygen may support combustion. Risk of overpressure and burst due to decomposition in confined spaces and pipes. During fire, gases hazardous to health may be formed. Vapours are heavier than air and may spread along floors. In case of major fires: hazard of conflagration, explosions and shooting flames.

Special protective equipment and precautions for fire-fighters**Special fire-fighting procedures:**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Evacuate personnel to safe areas. Remove sources of ignition. Prior to approaching the source of fire confirm that the containers are undamaged and not in a state of beginning decay, e.g. by using a thermal imaging camera. In case of fire, remove the endangered containers and bring to a safe place, if this can be done safely. or In the case of fire, cool the containers that are at risk with water or dilute with water (flooding). Pay attention to flashback. In case of major fires: Due to the hazard of conflagration, explosions and shooting flames fire fighting must proceed from a safe distance and taking good cover. Expect spontaneous decomposition at all times. In case of major fires: Try to cool down containers below the decomposition temperature. In case of major fires: Under certain circumstances prefer controlled combustion to fire extinguishing. Ensure there are sufficient retaining facilities for water used to extinguish fire. Water used to extinguish fire should not enter drainage systems, soil or stretches of water. Sewer coverage. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters:

As in any fire, wear self-contained positive-pressure breathing apparatus, (MSHA/NIOSH approved or equivalent) and full protective gear.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

For personal protection see section 8.

Accidental release measures:

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Evacuate area and do not approach spilled product. Sewer coverage. Make safe or remove all sources of ignition.

For emergency responders:

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Use personal protective equipment. Evacuate personnel to safe areas. Make safe or remove all sources of ignition. Isolate defective containers immediately, if possible and safe to do. Shut off leak, if possible and safe to do. Do not use an organic material (e.g. wood) to stop a leak. Provide ventilation and confine spill. Do not allow runoff to sewer. Place defective containers in waste receptacle (waste packaging receptacle) made of plastic (not metal). Do not seal defective containers or waste receptacles airtight (danger of bursting due to product decomposition). Never return spilled product into its original container for re-use. (Risk of decomposition.).

Methods and material for containment and cleaning up:

In case of larger quantities: Sewer coverage. Collect product in suitable containers (e. g. made of plastic) using appropriate equipment (e. g. liquid pump). Keep away from flammable substances. Keep away from incompatible substances. Dispose of absorbed material in accordance with the regulations. Rinse away residue with plenty of water Ventilate room. With small amounts: Dam with sand or earth. Absorb with liquid-binding material (e.g. inert absorbent universalbinder) pick up. Do not use: textiles, saw dust, combustible substances. Dispose of absorbed material in accordance with the regulations. Rinse away residue with plenty of water Ventilate room.

Environmental Precautions:

Obey relevant local, state, provincial and federal laws and regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil. If the product contaminates rivers and lakes or drains inform respective authorities.

7. Handling and storage

Handling**Technical measures (e.g. Local and general ventilation):**

Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Ensure suitable suction/aeration at the work place and with operational machinery. Suitable measuring processes are: Hydrogen peroxide (H₂O₂) OSHA method ID 006 OSHA method VI-6 Acetic acid NIOSH method 1603 OSHA method ID 186

Safe handling advice:

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin, and clothing. Do not breathe in vapours, aerosols, sprays. Ensure there is good room ventilation. Use personal protective equipment. Observe ergonomic requirements when selecting personal safety equipment. Check the proper condition of personal safety equipment before use. Immediately rinse contaminated or saturated clothing with water. Immediately change moistened and saturated work clothes. Contaminated work clothing should not be allowed out of the workplace. No eating, drinking, smoking, or snuffing tobacco at work. Wash face and/or hands before break and end of work. Use barrier cream regularly. Ensure stringent workplace cleanliness. Avoid impurities and heat effect. Keep away from incompatible substances. Decant only the product quantities needed for current work. Do not empty

container by means of pressure. Avoid splashing. Close containers immediately after use and return them to their proper place of storage. Avoid residues of the product on the containers. Never return spilled product into its original container for re-use. (Risk of decomposition.). Carry out fire/open flame operations with written authorization only. Carefully flush clear and render inert before working on containers and lines. Use non-sparking tools. Provide for installation of emergency shower and eye bath. Set up safety and operation procedures. In order to determine further specifications applicable to the personal protection equipment, a hazard assessment according to the OSHA standards (29 CFR 1910.132) for personal protection equipment (PPE) is recommended before the product is used.

Contact avoidance measures:

see section 7, Precautions for safe handling.

Storage**Safe storage conditions:**

Store in cool, dry place. Avoid sun rays, heat, heat effect. Store in tightly closed original container in a well-ventilated place. Recommendation: Acid-proof floor. Only use containers which are specially permitted for: Peracetic acid. For detailed information on design specifications for the construction of tank- and dosing installations ask the producer for advice. Use adequate venting devices on all packages, containers and tanks and check correct operation periodically. Do not confine product in unvented vessels or between closed valves. Risk of overpressure and burst due to decomposition in confined spaces and pipes. Packages, containers and tanks should regularly be checked by visual observation for any sign of abnormality, e.g. corrosion, exert pressure (bulging), temperature increase etc. Transport and store container in upright position only. Store containers in such a manner that liquids released are collected in a catch vessel in case of leaks. Observe shelf-life of the product. Do not store together with: heavy metal compounds, amines and their mixtures, alkali compounds and solutions, reducing agents, metal salts and polymerizing substances (e.g. monomers like styrene, methyl methacrylate) (decomposition hazard). Do not store together with: inflammable substances (risk of fire). Do not store together with bases. Store separately from oxidants. Keep away from incompatible substances. Keep away from sources of ignition - No smoking. Take precautionary measures against static charges. Regularly verify the availability of water to deal with emergencies (for cooling, tank flooding, fire fighting) and check correct operation periodically.

Safe packaging materials:

Suitable materials: Stainless steel (1.4571) Plastics Polyethylene, polytetrafluoroethylene Polyvinyl chloride (PVC). Polypropylene glass ceramics.
Unsuitable materials: Steel Iron. Copper brass bronze aluminium zinc tin Lead Mild steel.

8. Exposure controls/personal protection**Control Parameters**
Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
Acetic acid	TWA	10 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	STEL	15 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	STEL	15 ppm	37 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	REL	10 ppm	25 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	PEL	10 ppm	25 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
	IDLH	50 ppm		US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	TWA	10 ppm	25 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	10 ppm	25 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
	ST ESL		250 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	AN ESL		25 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	ST ESL		100 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	AN ESL		10 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	Ceiling	40 ppm		US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
	STEL	15 ppm	37 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
	TWA PEL	10 ppm	25 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)
Peracetic acid - Inhalable fraction and vapor.	STEL	0.4 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
Hydrogen peroxide	TWA	1 ppm		US. ACGIH Threshold Limit Values, as amended (03 2016)
	REL	1 ppm	1.4 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
	PEL	1 ppm	1.4 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
	IDLH	75 ppm		US. NIOSH. Immediately Dangerous to Life or Health (IDLH) Values, as amended (10 2017)
	TWA	1 ppm	1.4 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
	TWA	1 ppm	1.4 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A, as amended (06 2008)
	ST ESL		14 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	ST ESL		10 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
	AN ESL		1.4 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)

	AN ESL	1 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality), as amended (11 2016)
Hydrogen peroxide - as H ₂ O ₂	TWA PEL	1 ppm 1.4 mg/m ³	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants, as amended (01 2015)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

Biological Limit Values

No biological exposure limits noted for the ingredient(s).

Appropriate Engineering Controls

Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Ensure suitable suction/aeration at the work place and with operational machinery. Suitable measuring processes are: Hydrogen peroxide (H₂O₂) OSHA method ID 006 OSHA method VI-6 Acetic acid NIOSH method 1603 OSHA method ID 186

Individual protection measures, such as personal protective equipment

Eye/face protection:

For monitoring tasks in factory and laboratory: Wear frame spectacles with side protection. Wear goggles when filling, decanting or eliminating faults, if splashing/spraying is likely. When handling larger amounts: Additionally wear protective shield.

Skin Protection

Hand Protection:

Additional Information: Wear chemical-resistant gloves. Contact glove manufacturer for specific information. Additional Information: The above mentioned hand protection is based on knowledge of the chemistry and anticipated uses of this product but it may not be appropriate for all workplaces. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes prior to use., Personal protective equipment that provides a barrier to prevent dermal exposure to this substance is required.

Skin and Body Protection:

Select materials and equipment for physical protection depending on the concentration and volume of hazardous substances and the workplace involved. Wear protective clothing, acid-proof. Suitable materials are: PVC, neoprene, nitrile rubber, natural rubber. Do not wear protective clothes containing cotton. Examples of protective clothing: For monitoring tasks in factory and laboratory: Wear the usual laboratory protective clothing, protective apron. When filling, decanting or eliminating faults, if splashing/spraying is likely: protective apron, chemical protective suit. When handling larger quantities: chemical protective suit, disposable protective suit. Foot protection: Wear safety boots, high, protection class S2 or S4 (DIN EN 20345) In order to determine further specifications applicable to the personal protection equipment, a hazard assessment according to the OSHA standards (29 CFR 1910.132) for personal protection equipment (PPE) is recommended before the product is used. Emergency eye wash fountains and safety showers should be available.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. for example: Full face mask with combination filter A2B2E2K1P2 (Draeger) Full face mask with combination filter OV/AG (3M) Full face mask with combination filter ABEK2P3 (3M) A self-contained breathing apparatus must be worn if the ambient oxygen content is < 17 % (v/v) or if the situation is uncertain. Self-contained breathing apparatus (EN 133) Observe limited wearing time of 30 minutes. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use. NIOSH's "Respirator Decision Logic" may be useful in determining the suitability of various types of respirators.

Hygiene measures:

see section 7.

9. Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	stinging, vinegar-like, Pungent
Odor Threshold:	No data available.
Freezing point:	-56 °F/-49 °C
Boiling Point:	228 °F/109 °C

Flammability:	Not classified as a flammability hazard not investigated Not expected during handling from practical experience.
Upper/lower limit on flammability or explosive limits	
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Flash Point:	176 °F/80 °C
Autoignition Temperature:	The substance or mixture is not classified as pyrophoric.
Decomposition Temperature:	No data available.
SADT:	> 55 °C ,
pH:	< 1 (20 °C) OECD 122 (undiluted) This information is derived from evaluation of or a test result for a similar compound (conclusion based on analogy).
Viscosity	
Dynamic viscosity:	No data available.
Kinematic viscosity:	No data available.
Flow Time:	No data available.
Solubility(ies)	
Solubility in Water:	Completely Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	-0.52
Vapor pressure:	59.9 hPa (68 °F/20 °C)
Relative density:	1.13 (68 °F/20 °C) No data available.
Density:	Approximate 1.12 g/ml (68 °F/20 °C)
Bulk density:	No data available.
Relative vapor density:	Heavier than air
Particle characteristics	
Particle Size:	Not applicable
Particle Size Distribution:	Not applicable
Specific surface area:	No data available.
Surface charge/Zeta potential:	No data available.
Shape:	Not applicable
Crystallinity:	Not applicable
Surface treatment:	Not applicable
Other information	
Explosive properties:	Not explosive
Oxidizing properties:	The substance or mixture is not classified as oxidizing. UN Test O.2 (oxidizing liquids) This information is derived from evaluation of or a test result for a similar compound (conclusion based on analogy).
Minimum ignition temperature:	581 °F/305 °C
Self-heating:	The substance or mixture is not classified as self heating.
Formation of Flammable Gases:	Substance or mixture, which in contact with water, does not emit flammable gas
Peroxides:	The substance or mixture is an organic peroxide classified as type F. This information is derived from evaluation of or a test result for a similar compound (conclusion based on analogy).
Evaporation Rate:	No data available.
Surface tension	No data available.
Molecular weight:	76.05 g/mol

Other physical and chemical parameters: Hazardous polymerisation does not occur.

10. Stability and reactivity

Reactivity:	Hazard of self-accelerating, exothermic decomposition under oxygen release due to temperature/heat exposure, contaminations or contact with incompatible materials.
Chemical Stability:	Stable under recommended storage conditions. Product is supplied in stabilised form. Commercial products are stabilised to reduce risk of decomposition due to contamination.
Possibility of hazardous reactions:	Hazardous polymerisation does not occur. Risk of overpressure and burst due to decomposition in confined spaces and pipes. Release of oxygen may support combustion.
Conditions to avoid:	sun rays, heat, heat effect
Incompatible Materials:	Impurities, decomposition catalysts, metals, non-ferrous metals, metal salts, reduction agents, alkaline solutions, amines, hydrocarbons, organic solvents, inflammable materials, polymerizing substances (monomers like styrene, methyl methacrylate, etc.).
Hazardous Decomposition Products:	Decomposition products in case of thermal decomposition: water vapor, oxygen, acetic acid.

11. Toxicological information

General information: Symptoms may be delayed.

Information on toxicological effects

Information on likely routes of exposure

Inhalation:	Relevant route of exposure. Information on effects are given below.
Skin Contact:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Eye contact:	If handled correctly, not a relevant route of exposure. Information on effects are given below.
Ingestion:	If handled correctly, not a relevant route of exposure. Information on effects are given below.

Acute toxicity (list all possible routes of exposure)

Oral Product:	ATEmix: 468.01 mg/kg
Dermal Product:	LD 50 (Rabbit, Female, Male): 1,957 mg/kg (US-EPA-method) peracetic acid 12 % LD 50 (Rabbit, Female, Male): 1,147 mg/kg (US-EPA-method) peracetic acid 5 %

Inhalation
Product:

Corrosive to the respiratory tract.;
ATEmix: 110 mg/l
ATEmix: 1.25 mg/l

Repeated dose toxicity
Product:

NOAEL (Rat(Female, Male), Oral): 1.17 mg/kg

Skin Corrosion/Irritation
Product:

Corrosive. Calculation method Skin corrosion/irritation - Category 1A

Serious Eye Damage/Eye Irritation
Product:

Corrosive.

Respiratory or Skin Sensitization
Product:

No results of animal experiments with the product available.
Magnussona i Kligman., OECD 406 (Guinea Pig): Not a skin sensitizer.
peracetic acid 10 %

Carcinogenicity
Product:

Based on available data, the classification criteria are not met.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogens present or none present in regulated quantities

ACGIH: US.ACGIH Threshold Limit Values:

No carcinogens present or none present in regulated quantities

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogens present or none present in regulated quantities

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

No carcinogens present or none present in regulated quantities

Germ Cell Mutagenicity

no evidence of mutagenic effects

In vitro**Product:**

Ames test (OECD 471): negative; peracetic acid 5 %;
In vitro mammalian cell gene mutation test (OECD 476): negative; peracetic acid 11 %;
Unscheduled DNA synthesis -test (UDS) (OECD 482): negative; peracetic acid 42 %;

In vivo**Product:**

In vivo micronucleus test (OECD 474) Oral (Mouse, Female, Male): negative; peracetic acid 5 %
Unscheduled DNA synthesis -test (UDS) (OECD 486) Oral (Rat, Male): negative; peracetic acid 5 %
In vivo micronucleus test (OECD 474) Oral (Mouse, Female, Male): negative; peracetic acid 11 %

Reproductive toxicity
Product:

No evidence of effects of reproductive / developmental toxicity.

Specific Target Organ Toxicity - Single Exposure

Product: Respiratory tract irritation.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: Based on available data, the classification criteria are not met.

Information on health hazards**Other hazards**

Product: No data available.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish**

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Components:

Acetic acid EC 50 (Sceletonema costatum, 72 h): > 1,000 mg/l (ISO 10253) growth rate Literature
Peracetic acid EC 50 (Algae (Pseudokirchneriella subcapitata), 72 h): 0.16 mg/l (US-EPA-method) (analog)

Toxicity to microorganisms

Product: No data available.

Chronic hazards to the aquatic environment:**Fish**

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Components:

Acetic acid NOEC (Sceletonema costatum, 72 h): 1,000 mg/l (ISO 10253) growth rate Literature
Peracetic acid NOEC (Algae (Pseudokirchneriella subcapitata), 72 h): 0.061 mg/l (US-EPA-method) (analog)
Hydrogen peroxide NOEC (Skeletonema costatum (marine diatom), 72 h): 0.63 mg/l

Toxicity to microorganisms

Product: No data available.

Persistence and Degradability**Biodegradation**

Product: 98 % (28 d, OECD 301 E) The product is easily biodegradable. At non-bacteriotoxic concentrations peracetic acid Under ambient conditions hydrolysis or decomposition occurs., aerobic (3 h, OECD 209) peracetic acid, aerobic, DT50 of 30 mg PAA/L = < 3 minutes

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential**Bioconcentration Factor (BCF)**

Product: low

Partition Coefficient n-octanol / water (log Kow)

Product: Log Kow: -0.52 25 °C

Mobility in soil:

Product No data available.

Results of PBT and vPvB assessment:

Product This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects:**Other hazards**

Product: No data available.

13. Disposal considerations**General information:**

Do not return unused product to original container (risk of decomposition). Review all local, state and federal regulations concerning health and pollution for appropriate disposal procedures. For disposal please observe the product properties.

Disposal methods:

Pack and store waste like the pure substance and apply the label according to the contents for disposal. Both hazardous substance and dangerous goods classification & labelling must match the contents to be disposed of. Waste must be disposed of in accordance with local, state, provincial and federal laws and regulations. Empty containers must be handled with care due to product residue.

Contaminated Packaging:

Unrinsed, fully emptied containers might catch fire due to decomposition of any residual amounts. Avoid accumulation in order to prevent or reduce fire hazard. Rinse empty containers before disposal; recommended cleaning agent: water. Offer rinsed packaging material to local recycling facilities. Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities.

14. Transport information**Domestic regulation****49 CFR**

UN/ID/NA number

: UN 3109

Proper shipping name

: Organic peroxide type F, liquid

(<=17% Peracetic Acid with <=26% Hydrogen Peroxide)

Class

: 5.2

Subsidiary risk	:	8
Packing group	:	Not assigned by regulation
Labels	:	5.2 (8)
ERG Code	:	145
Marine pollutant	:	no
Remarks	:	Keep separate from alkalis, powdered metals and flammable substances. Only for USA-Transports in Tank containers: Transport under approval CA2010040001.

International Regulations

IATA-DGR

UN/ID No.	:	UN 3109
Proper shipping name	:	Organic peroxide type F, liquid (<=17% Peracetic Acid with <=26% Hydrogen Peroxide)
Class	:	5.2
Subsidiary risk	:	8
Packing group	:	Not assigned by regulation
Labels	:	5.2 (8)
Packing instruction (cargo aircraft)	:	570
Packing instruction (passenger aircraft)	:	570
Remarks	:	Keep separate from alkalis, powdered metals and flammable substances. Must be protected from direct sunlight and stored away from all sources of heat in a well-ventilated area.

IMDG-Code

UN number or ID number	:	UN 3109
Proper shipping name	:	ORGANIC PEROXIDE TYPE F, LIQUID (<=17% Peracetic Acid with <=26% Hydrogen Peroxide)()
Class	:	5.2
Subsidiary risk	:	8
Packing group	:	Not assigned by regulation
Labels	:	5.2 (8)
EmS Code	:	F-J, S-R
Marine pollutant	:	yes
Remarks	:	Keep separate from alkalis, powdered metals and flammable substances. "Separated from" acids and alkalis., IMDG Code segregation group 16 - Peroxides, Protected from sources of heat., For shipments in Tank container: Shipped in accordance with the approval no. D/BAM/2.2/29/21/IMDG-Code of the competent authority of Germany, Only for USA-Transports in Tank containers: Transport under approval CA2010040001.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):**Chemical Identity**

ACETIC ACID

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**

Flammable (gases, aerosols, liquids, or solids), Organic peroxide, Acute toxicity (any route of exposure), Skin Corrosion or Irritation, Serious eye damage or eye irritation, Specific target organ toxicity (single or repeated exposure)

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances**Chemical Identity**

Peracetic acid;

Ethaneperoxyic acid

HYDROGEN PEROXIDE

(CONC.> 52%)

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting**Chemical Identity**

PERACETIC ACID

% by weight

1.0%

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**Chemical Identity**

PERACETIC ACID

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**Chemical Identity**

ACETIC ACID

US State Regulations**US. California Proposition 65**

No ingredient requiring a warning under CA Prop 65.

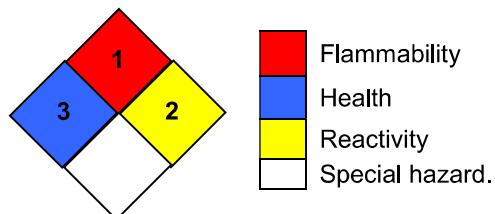
Inventory Status:

US TSCA Inventory:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory

16. Other information, including date of preparation or last revision
HMIS Hazard ID

Health		3
Flammability		1
Physical Hazards		2
PERSONAL PROTECTION		

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible; *Chronic health effect

NFPA Hazard ID


Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Issue Date: 09/06/2022

Version #: 1.2

Further Information: This chemical may be used as 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: ----- FIFRA--- Hazards to Humans and Domestic Animals:--- Danger---Corrosive CAUSES IRREVERSIBLE EYE DAMAGE AND SKIN BURNS Harmful if swallowed. ---Physical and Chemical Hazards --- Strong oxidizing agents.---Environmental Hazards --- THIS PESTICIDE IS TOXIC TO BIRDS, FISH, AND AQUATIC INVERTEBRATES

Revision Information Changes since the last version are highlighted in the margin. This version replaces all previous versions.

Disclaimer:

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