

PEROXYSAN X15**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

- Trade name PEROXYSAN X15
- Synonyms PAA
- Molecular formula CH₃-COOOH

1.2 Relevant identified uses of the substance or mixture and uses advised against**Uses of the Substance / Mixture**

- Cleaning agent
- Oxidizing Agents
- Manufacture of pulp, paper and paper products

1.3 Details of the supplier of the safety data sheet**Company**

Xgenex Labs, LLC
130 Corridor Road, Suite 1961
Ponte Vedra Beach, FL 32004
USA
Tel: +1-484-3567283
Fax: +1-347-9837174

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture**HCS 2012 (29 CFR 1910.1200)**

- | | |
|---|--|
| Flammable liquids, Category 4 | H227: Combustible liquid. |
| Organic peroxides, Type F | H242: Heating may cause a fire. |
| Corrosive to Metals, Category 1 | H290: May be corrosive to metals. |
| Acute toxicity, Category 4 | H302: Harmful if swallowed. |
| Acute toxicity, Category 4 | H332: Harmful if inhaled. |
| Acute toxicity, Category 4 | H312: Harmful in contact with skin. |
| Skin corrosion, Category 1A | H314: Causes severe skin burns and eye damage. |
| Serious eye damage, Category 1 | H318: Causes serious eye damage. |
| Specific target organ systemic toxicity - single exposure, Category 3 | H335: May cause respiratory irritation. (Respiratory system) |

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)
Pictogram

Signal Word

- Danger

Hazard Statements

- | | |
|--|---|
| <ul style="list-style-type: none"> - H227 - H242 - H290 - H302 + H312 + H332 - H314 - H335 | <ul style="list-style-type: none"> Combustible liquid. Heating may cause a fire. May be corrosive to metals. Harmful if swallowed, in contact with skin or if inhaled. Causes severe skin burns and eye damage. May cause respiratory irritation. |
|--|---|

Precautionary Statements
Prevention

- | | |
|--|---|
| <ul style="list-style-type: none"> - P210 - P220 - P234 - P261 - P264 - P270 - P271 - P280 | <ul style="list-style-type: none"> Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep/Store away from clothing/ combustible materials. Keep only in original container. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. Wash skin 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. |
|--|---|

Response

- | | |
|--|--|
| <ul style="list-style-type: none"> - P301 + P312 + P330 - P301 + P330 + P331 - P303 + P361 + P353 - P304 + P340 + P310 - P305 + P351 + P338 + P310 - P363 - P370 + P378 - P390 | <ul style="list-style-type: none"> 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. Wash contaminated clothing before reuse. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Absorb spillage to prevent material damage. |
|--|--|

Storage

- | | |
|--|--|
| <ul style="list-style-type: none"> - P403 + P233 - P405 - P406 - P410 - P411 + P235 - P420 | <ul style="list-style-type: none"> Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner. Protect from sunlight. Store at temperatures not exceeding .? °C/ .? °F. Keep cool. Store away from other materials. |
|--|--|

Disposal

- | | |
|--|---|
| <ul style="list-style-type: none"> - P501 | <ul style="list-style-type: none"> Dispose of contents/ container to an approved waste disposal plant. |
|--|---|

2.3 Other hazards which do not result in classification

- H242: Heating may cause a fire.
- H401: Toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.
- None known.

SECTION 3: Composition/information on ingredients
3.1 Substance

- Not applicable, this product is a mixture.

3.2 Mixture

- Synonyms PAA, Peroxyethanoic acid, Peracetic acid
- Formula CH₃-COOOH
- Chemical nature Mixture

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Hydrogen peroxide (H ₂ O ₂)	7722-84-1	>= 21 - < 24
Acetic acid	64-19-7	>= 15.8 - < 19.3
Ethaneperoxoic acid	79-21-0	>= 13.5 - < 15.5

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

Hydrogen peroxide (H ₂ O ₂)	7722-84-1	>= 20 - < 25
Acetic acid	64-19-7	>= 15 - < 20
Ethaneperoxoic acid	79-21-0	>= 15 - < 20

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures
4.1 Description of first-aid measures
In case of inhalation

- Move to fresh air.
- Oxygen or artificial respiration if needed.
- Victim to lie down in the recovery position, cover and keep him warm.
- Call a physician immediately.

In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- Keep warm and in a quiet place.
- Call a physician or poison control center immediately.

- Wash contaminated clothing before re-use.

In case of eye contact

- Call a physician or poison control center immediately.
- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Take victim immediately to hospital.

In case of ingestion

- Call a physician or poison control center immediately.
- Take victim immediately to hospital.
- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.
- Artificial respiration and/or oxygen may be necessary.

4.2 Most important symptoms and effects, both acute and delayed**In case of inhalation****Symptoms**

- Breathing difficulties
- Cough
- Chemical pneumonitis
- pulmonary edema

Effects

- Corrosive to respiratory system.

Repeated or prolonged exposure

- Nose bleeding
- Risk of chronic bronchitis

In case of skin contact**Symptoms**

- Redness
- Swelling of tissue

Effects

- Corrosive
- Causes severe burns.

In case of eye contact**Symptoms**

- Redness
- Lachrymation
- Swelling of tissue

Effects

- Corrosive
- Causes severe burns.
- May cause irreversible eye damage.
- May cause blindness.

In case of ingestion**Symptoms**

- Nausea
- Abdominal pain

- Bloody vomiting
- Diarrhea
- Suffocation
- Cough
- Severe shortness of breath

Effects

- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
- Risk of respiratory disorder

4.3 Indication of any immediate medical attention and special treatment needed**Notes to physician**

- Take victim immediately to hospital.
- Immediate medical attention is required.
- Consult with an ophthalmologist immediately in all cases.
- Burns must be treated by a physician.
- If swallowed
- Avoid gastric lavage (risk of perforation).
- Keep under medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

Flash point 154 - 178 °F (68 - 81 °C)
Flammable vapours may occur above the SADT

Autoignition temperature No data available

Flammability / Explosive limit No data available

5.1 Extinguishing media**Suitable extinguishing media**

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Water
- Water spray

Unsuitable extinguishing media

- None.

5.2 Special hazards arising from the substance or mixture**Specific hazards during fire fighting**

- Heating may cause a fire.
- Oxygen released in thermal decomposition may support combustion

Hazardous combustion products:

- Oxygen

5.3 Advice for firefighters**Special protective equipment for fire-fighters**

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
- Wear chemical resistant oversuit

- Cool containers/tanks with water spray.
- Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Evacuate personnel to safe areas.
- Keep people away from and upwind of spill/leak.

Advice for emergency responders

- Use personal protective equipment.
- Drying of this product on clothing or combustible materials may cause fire.
- Keep wetted with water.
- Prevent further leakage or spillage.
- Keep away from incompatible products

6.2 Environmental precautions

- Discharge into the environment must be avoided.
- Do not flush into surface water or sanitary sewer system.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.

6.3 Methods and materials for containment and cleaning up

- Dam up.
- Soak up with inert absorbent material.
- Do not let product enter drains.
- Keep in suitable, closed containers for disposal.
- Keep in properly labeled containers.

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Use only in well-ventilated areas.
- Before all operations, passivate the piping circuits and vessels according to the procedure recommended by the producer.
- Use only clean and dry utensils.
- Never return unused material to storage receptacle.
- May not get in touch with:
 - Organic materials
- Keep away from incompatible products
- Keep away from heat.

PEROXYSAN X15

Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Take off contaminated clothing and shoes immediately.
- Wash contaminated clothing before re-use.
- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Store in original container.
- Keep tightly closed in a dry, cool and well-ventilated place.
- Keep in properly labeled containers.
- Keep in a contained area
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Electrical equipment should be protected to the appropriate standard.
- Keep away from incompatible products
- Organic Peroxide Storage (Burning Rate) Type IV according to the BGV B4 test method

Packaging material

Suitable material

- Approved grades of HDPE.
- Stainless steel cleaned and passivated

7.3 Specific end use(s)

- no data available

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

Ingredients	Value type	Value	Basis
Hydrogen peroxide (H2O2)	TWA	1 ppm 1.4 mg/m3	National Institute for Occupational Safety and Health
Hydrogen peroxide (H2O2)	TWA	1 ppm	American Conference of Governmental Industrial Hygienists
Hydrogen peroxide (H2O2)	TWA	1 ppm 1.4 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
The value in mg/m3 is approximate.			
Hydrogen peroxide (H2O2)	PEL	1 ppm 1.4 mg/m3	

PEROXYSAN X15

Expressed as :H2O2			
Acetic acid	TWA	10 ppm 25 mg/m3	National Institute for Occupational Safety and Health
Acetic acid	ST	15 ppm 37 mg/m3	National Institute for Occupational Safety and Health
Acetic acid	TWA	10 ppm	American Conference of Governmental Industrial Hygienists
Acetic acid	STEL	15 ppm	American Conference of Governmental Industrial Hygienists
Acetic acid	TWA	10 ppm 25 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
The value in mg/m3 is approximate.			
Ethaneperoxyic acid	STEL	0.4 ppm	American Conference of Governmental Industrial Hygienists
Form of exposure : Inhalable fraction and vapor			

NIOSH IDLH (Immediately Dangerous to Life or Health Concentrations)

Ingredients	CAS-No.	Concentration
Hydrogen peroxide (H2O2)	7722-84-1	75 ppm
Acetic acid	64-19-7	50 ppm
Hydrogen peroxide (H2O2)	7722-84-1	75 ppm
Acetic acid	64-19-7	50 ppm

8.2 Exposure controls

Control measures

Engineering measures

- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection

- In case of insufficient ventilation, wear suitable respiratory equipment.
- Respirator with a vapor filter (EN 141)
- Recommended Filter type: ABEK-P2

Hand protection

- Impervious gloves
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Suitable material

- butyl-rubber
- Break through time: > 480 min
- Glove thickness: >= 0.4 mm

Eye protection

- Chemical resistant goggles must be worn.
- If splashes are likely to occur, wear:
- Tightly fitting safety goggles
- Face-shield

Skin and body protection

- Apron/boots of butyl rubber if risk of splashing.

Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Take off contaminated clothing and shoes immediately.
- Wash contaminated clothing before re-use.
- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

<u>Appearance</u>	<p><u>Form:</u> liquid</p> <p><u>Physical state:</u> liquid</p> <p><u>Color:</u> colorless</p>
<u>Odor</u>	pungent
<u>Odor Threshold</u>	No data available
<u>pH</u>	<p>< 1.5</p> <p><u>pKa:</u> 8.2 (77 °F (25 °C))</p>
<u>Melting point/freezing point</u>	<p><u>Freezing point:</u> ca. -44 °F (-42 °C)</p> <p>Method: Calculation method</p>
<u>Initial boiling point and boiling range</u>	<p>ca. <u>Boiling point/boiling range:</u> 221 °F (105 °C)</p> <p>Method: Calculation method</p>
<u>Flash point</u>	154 - 178 °F (68 - 81 °C) Flammable vapours may occur above the SADT
<u>Evaporation rate (Butylacetate = 1)</u>	No data available
<u>Flammability (liquids)</u>	Not applicable

PEROXYSAN X15

Flammability / Explosive limit

Explosiveness:
Not explosive

Ignition temperature:
518 - 806 °F (270 - 430 °C)

Autoignition temperature

No data available

Vapor pressure

ca. 24 mmHg (32 hPa) (77 °F (25 °C))
Method: Calculation method

Vapor density

No data available

Density**Relative density**

1.1

Solubility

Water solubility:
1,000 g/l (68 °F (20 °C))completely miscible

Solubility in other solvents:
organic polar solvents : soluble

Aromatic solvents : slightly soluble

Partition coefficient: n-octanol/water

log Pow: -1.25
Method: Calculation method

log Pow: -0.52
Method: measured value

Decomposition temperature

>= 131 °F (>= 55 °C)
Self-Accelerating decomposition temperature (SADT)

Viscosity

No data available

Explosive properties

Not explosive

Oxidizing properties

Oxidizer

9.2 Other information**Corrosion of Metals**

Corrosive to metals

Peroxides

The substance or mixture is an organic peroxide classified as type F.

SECTION 10: Stability and reactivity**10.1 Reactivity**

- Decomposes on heating.
- Heating may cause a fire.
- Potential for exothermic hazard

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- Contact with combustible material may cause fire.
- Contact with flammables may cause fire or explosions.
- Risk of explosion if heated under confinement.
- Fire or intense heat may cause violent rupture of packages.

10.4 Conditions to avoid

- Contamination
- To avoid thermal decomposition, do not overheat.

10.5 Incompatible materials

- Acids
- Bases
- Metals
- Heavy metal salts
- Powdered metal salts
- Reducing agents
- Organic materials
- Flammable materials

10.6 Hazardous decomposition products

- Oxygen

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	LD50 : 652 mg/kg - Rat Test substance: 11,7 % PAA mixture
Acute inhalation toxicity	LC50 - 4 h (dust/mist) 4 mg/l - Rat Test substance: 5 % PAA mixture Corrosive to the respiratory tract.
Acute dermal toxicity	LD50 Dermal 1,957 mg/kg - Rabbit Test substance: 11,7 % PAA mixture
Acute toxicity (other routes of administration)	No data available

PEROXYSAN X15

<u>Skin corrosion/irritation</u>	Rabbit Corrosive
<u>Serious eye damage/eye irritation</u>	Rabbit Causes serious eye damage.
<u>Respiratory or skin sensitization</u>	Guinea pig Did not cause sensitization on laboratory animals.
<u>Mutagenicity</u>	
Genotoxicity in vitro	In vitro tests have shown mutagenic effects.
Genotoxicity in vivo	Animal testing did not show any mutagenic effects.
<u>Carcinogenicity</u>	No data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:

NTP
IARC
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility	No toxicity to reproduction
Developmental Toxicity/Teratogenicity	Test substance, 15 % PAA mixture, No effect observed on development, Published data

STOT

STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	The substance or mixture is not classified as specific target organ toxicant, repeated exposure according to GHS criteria. Ingestion 13 weeks - Rat NOAEL: 0.75 mg/kg Test substance: Peracetic acid Oral 90-day - Mouse NOAEL: 100 ppm Test substance: Hydrogen peroxide Inhalation 90-day - Rat NOAEL: 7 ppm Test substance: Hydrogen peroxide

Experience with human exposure

Experience with human exposure : Inhalation

PEROXYSAN X15

No data available

Experience with human exposure : Ingestion

No data available

CMR effects

Carcinogenicity

Acetic acid

No evidence of carcinogenicity in animal studies.

Acetic acid

No evidence of carcinogenicity in animal studies.

Mutagenicity

Acetic acid

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Acetic acid

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Aspiration toxicity

Not applicable

Further information

No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

LC50 - 96 h : 1.1 mg/l - Lepomis macrochirus (Bluegill sunfish)
Test substance: Peracetic acid

Acute toxicity to daphnia and other aquatic invertebrates.

EC50 - 48 h : 0.73 mg/l - Daphnia magna (Water flea)
Test substance: Peracetic acid

Toxicity to aquatic plants

EC50 - 96 h : 0.16 mg/l - Pseudokirchneriella subcapitata (green algae)
Test substance: Peracetic acid

Toxicity to microorganisms

No data available

Chronic toxicity to fish

NOEC: 0.00094 mg/l - 33 d - Danio rerio (zebra fish)
Early-life Stage
Test substance: Peracetic acid

Chronic toxicity to daphnia and other aquatic invertebrates.

No data available

PEROXYSAN X15

Chronic Toxicity to aquatic plants No data available

M-Factor

Ethaneperoxoic acid Acute aquatic toxicity = 1
Chronic aquatic toxicity = 10
(according to the Globally Harmonized System (GHS))

Ethaneperoxoic acid Acute aquatic toxicity = 1
Chronic aquatic toxicity = 10
(according to the Globally Harmonized System (GHS))

12.2 Persistence and degradability

Abiotic degradation No data available

Physical- and photo-chemical elimination No data available

Biodegradation

Biodegradability aerobic
Biodegradable

Effects on waste water treatment plants
Inhibitor

Method: Abiotic degradation

Degradability assessment

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Hydrogen peroxide (H ₂ O ₂)	The product is considered to be rapidly degradable in the environment
Acetic acid	The product is considered to be rapidly degradable in the environment
Ethaneperoxoic acid	The product is considered to be rapidly degradable in the environment
Hydrogen peroxide (H ₂ O ₂)	The product is considered to be rapidly degradable in the environment
Acetic acid	The product is considered to be rapidly degradable in the environment
Ethaneperoxoic acid	The product is considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Hydrogen peroxide (H ₂ O ₂)	Not potentially bioaccumulable
Acetic acid	Not potentially bioaccumulable
Ethaneperoxoic acid	Not potentially bioaccumulable
Hydrogen peroxide (H ₂ O ₂)	Not potentially bioaccumulable
Acetic acid	Not potentially bioaccumulable
Ethaneperoxoic acid	Not potentially bioaccumulable

Bioconcentration factor (BCF) Does not bioaccumulate.

12.4 Mobility in soil

Adsorption potential (Koc)

Water
soluble
mobile

Soil/sediments
non-significant adsorption

Known distribution to environmental compartments

Hydrogen peroxide (H ₂ O ₂)	Ultimate destination of the product: Water
Ethaneperoxoic acid	Ultimate destination of the product: Water
Hydrogen peroxide (H ₂ O ₂)	Ultimate destination of the product: Water
Ethaneperoxoic acid	Ultimate destination of the product: Water

PEROXYSAN X15**12.5 Results of PBT and vPvB assessment**

Hydrogen peroxide (H ₂ O ₂)	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).
Acetic acid	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).
Ethaneperoxoic acid	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).
Hydrogen peroxide (H ₂ O ₂)	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).
Acetic acid	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).
Ethaneperoxoic acid	This substance is not considered to be persistent, bioaccumulating, and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects**Ecotoxicity assessment**

Acute aquatic toxicity	Information refers to the main ingredient.
Chronic aquatic toxicity	Information refers to the main ingredient. Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product Disposal**

- Contact manufacturer.
- Contact waste disposal services.
- In accordance with local and national regulations.

Waste Code

P00000016904

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- Environmental Protection Agency
- Hazardous Waste – YES

- RCRA Hazardous Waste (40 CFR 302)
- D001 - Ignitable waste – (I)

Advice on cleaning and disposal of packaging

- Empty containers.
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- Where possible recycling is preferred to disposal or incineration.
- In accordance with local and national regulations.

SECTION 14: Transport information

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification. The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

DOT

14.1 UN number	UN 3109
14.2 Proper shipping name	ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic acid, Type F, stabilized)
14.3 Transport hazard class	5.2
Subsidiary hazard class	8
Label(s)	5.2 (8)
14.4 Packing group	
Packing group	II
ERG No	145
14.5 Environmental hazards	YES
Marine pollutant	Marine Pollutant

TDG

14.1 UN number	UN 3109
14.2 Proper shipping name	ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic acid, Type F, stabilized)
14.3 Transport hazard class	5.2
Subsidiary hazard class	8
Label(s)	5.2 (8)
14.4 Packing group	
Packing group	II
ERG No	145
14.5 Environmental hazards	YES
Marine pollutant	Marine Pollutant

P00000016904
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PEROXYSAN X15**NOM**

14.1 UN number	UN 3109
14.2 Proper shipping name	ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic acid, Type F, stabilized)
14.3 Transport hazard class	5.2
Subsidiary hazard class	8
Label(s)	5.2 (8)
14.4 Packing group	
Packing group	
ERG No	145
14.5 Environmental hazards	YES
Marine pollutant	

IMDG

14.1 UN number	UN 3109
14.2 Proper shipping name	ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic acid, Type F, stabilized)
14.3 Transport hazard class	5.2
Subsidiary hazard class	8
Label(s)	5.2 (8)
14.4 Packing group	
Packing group	
14.5 Environmental hazards	YES
Marine pollutant	
14.6 Special precautions for user	
EmS	F-J , S-R

For personal protection see section 8.

PEROXYSAN X15**IATA**

14.1 UN number	UN 3109
14.2 Proper shipping name	ORGANIC PEROXIDE TYPE F, LIQUID (Peroxyacetic acid, Type F, stabilized)
14.3 Transport hazard class	5.2
Subsidiary hazard class:	8
Label(s):	5.2 (8)
14.4 Packing group	
Packing instruction (cargo aircraft)	570
Max net qty / pkg	25.00 L
Packing instruction (passenger aircraft)	570
Max net qty / pkg	10.00 L
14.5 Environmental hazards	YES
14.6 Special precautions for user	
For personal protection see section 8.	

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information
15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- Listed on Inventory
Mexico INSQ (INSQ)	- Listed on Inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a European Solvay legal entity, this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, pre-registered and/or registered. When purchased from a legal entity outside of Europe, please contact your local representative for additional information.

15.2 Federal Regulations
US. EPA EPCRA SARA Title III
SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)

Flammable (gases, aerosols, liquids, or solids)	Yes
Organic peroxides	Yes
Corrosive to Metals	Yes
Acute toxicity (any route of exposure)	Yes
Skin corrosion or irritation	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	Yes

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ingredients	CAS-No.	Concentration
Ethaneperoxy acid	79-21-0	10- 20%



PEROXYSAN X15

Ingredients	CAS-No.	Threshold planning quantity	Remarks
Hydrogen peroxide (H2O2)	7722-84-1	1000 lb	Form: >52-100%
Ethaneperoxy acid	79-21-0	500 lb	

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

Ingredients	CAS-No.	Reportable quantity
Ethaneperoxy acid	79-21-0	500 lb

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

Ingredients	CAS-No.	Reportable quantity
Ethaneperoxy acid	79-21-0	500 lb

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

Ingredients	CAS-No.	Reportable quantity
Acetic acid	64-19-7	5000 lb

Calculated RQ exceeds reasonably attainable upper limit.

15.3 State Regulations**US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SECTION 16: Other information**NFPA (National Fire Protection Association) - Classification**

Health	3 serious
Flammability	1 slight
Instability or Reactivity	2 moderate
Special Notices	OX Oxidizer

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

Health	3 serious
Flammability	1 slight
Reactivity	2 moderate
PPE	Determined by User; dependent on local conditions

Further information

- Environmental Protection Agency (EPA) requirements for a Risk Management Plan must be followed anytime at least 10000 lbs. of Peracetic acid are used or stored. Refer to 40 CFR 68.150 for specific details.
- Occupational Safety and Health Administration (OSHA) requirements for process safety management must be followed anytime at least 1000 lbs. of Peracetic Acid at concentrations of at least 60% Acetic Acid are used or stored. Refer to 29 CFR 1910.119 for specific details.
- Xgenex peracetic acid formulations as packaged have a partial pressure of peracetic acid less than 10 mm of mercury (mmHg) up to 60°C (140°F) and therefore need not be considered when determining threshold quantities for RMP. Refer to 40CFR68.115 (b) (1) for details.
- Wear an approved full-face air supplied respirator for excessive or unknown concentrations. Selected chemical cartridges for respirators, i.e. OV, OV/AG, GME have been tested successfully under lab conditions to remove hydrogen peroxide and peracetic acid vapors in concentrations exceeding the applicable exposure limits. Further information is available

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PEROXYSAN X15

from Xgenex.

- The National Transportation Safety Board (NTSB) and Federal Aviation Administration (FAA) have requested the following information be provided: Combustible materials exposed to hydrogen peroxide should be immediately submerged in or rinsed with large amounts of water to ensure that all hydrogen peroxide is removed. Residual hydrogen peroxide that is allowed to dry (upon evaporation hydrogen peroxide can concentrate) on organic materials such as paper, fabrics, cotton, leather, wood or other combustibles can cause the material to ignite and result in a fire.
- Product evaluated under the US GHS format.
- This sheet was updated (refer to the date at the top of this page). Subheadings and text which have been modified since the previous version are indicated with two vertical bars.
- Distribute new edition to clients

Date Prepared: 10/29/2018

Key or legend to abbreviations and acronyms used in the safety data sheet

- | | |
|---------|--|
| - PEL | Permissible exposure limit |
| - ST | STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday |
| - STEL | Short-term exposure limit |
| - TWA | 8-hour, time-weighted average |
| - ACGIH | American Conference of Governmental Industrial Hygienists |
| - OSHA | Occupational Safety and Health Administration |
| - NTP | National Toxicology Program |
| - IARC | International Agency for Research on Cancer |
| - NIOSH | National Institute for Occupational Safety and Health |

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. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.

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