

1. Identification of the Substance/Preparation and of the Company / Undertaking

MSDS compliant with regulations – (EC) No 1907/2006 (REACH), (EC) No 1272/2008 (CLP)

1.1: Identification of the substance/mixture and of the company/undertaking

Product Identifier.....	Tuttnauer B.V.
Reach Registration number.....	No information available
Product name.....	Plazmax- Sterilizing Agent
Product type.....	No information available
EC-No.	No information available
Formular.....	HO - OH

1.2: Relevant identified uses of the substance or mixture and uses advised against

Ecology-use.....	No information available
Main use category.....	Sterilizing Agent
Industrial category.....	sterilization system.

1.3: Company/undertaking identification

Supplier.....	Tuttnauer Europe B.V.
Company telephone number.....	+31 76 542 3510
Company fax number.....	+ 31 76 542 3540
Company contact person.....	Ad van Gastel

Emergency telephone number.....	Australia:1-300-954-583, Brazil: 0-800-591-6042,China:400-120-0751, India: 000-800-100-4086andMexico: 01800-099-0731 +1813-248-0585
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2. Hazards Identification

2.1. classification of the substance or mixture

Plazmax- Sterilizing Agent is classified as dangerous.

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Oxidizing liquids (Category 2), H272 Skin corrosion (Category 1B), H314 Specific target organ toxicity - single exposure (Category 4), Respiratory system, H335 Chronic aquatic toxicity (Category 3), H412, Acute Toxicity – Oral (Category 4), H302, Acute Toxicity – Inhalation (category 4) H332

Classification: Directive 1999/45/EC

2.2. Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram.....



Signal word.....

Danger

Hazard statement(s)

H272

May intensify fire; oxidizer

H302

Harmful if swallowed

H314

Causes severe skin burns and eye damage

H332

Harmful if inhaled

H335

May cause respiratory irritation

H412

Harmful to aquatic life with long lasting effects

Precautionary statement(s)

P210

Keep away from heat.

P260

Do not breathe mixt, spray, vapours.

P220

Keep/Store away from clothing/.../ combustible materials.

P264

Wash hands thoroughly after handling

P270

Do not eat, drink or smoke whenusing this product

P280

Wear eye protection, protective clothing, protective gloves.

P301+P330+P331

If swallowed: rinse mouth. Do not induce vomiting

P304+P340

If inhaled: Remove person to fresh ait and keep comfortable for breathing.

P305+P351+P338

If in eyes: Pinse cautiously with water for servral minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P370+ P878

In case of fire: Use dry chemicals, foam, carbon dioxide,water fog, for extinction.

P403+233

Store in a well ventilated place. Keep container tightly closed.

P405

Store lockes up

P501

Dispose of contents/container to comply with applicable local, national and interational regulation

2.3. Other hazards - none

Risk of decomposition by heat or by contact with incompatible materials.

3. Composition/Information on Ingredients

3.1 Mixtures

Synonyms	No information available
Formula	HO - OH
Molecular Weight	34 gr/mol

Dangerous Component		Classification	concentration
Hydrogen peroxide			
CAS No.	7722-84-1	Ox. Liq. 1: H271 Skin Corr. 1A: H314 Acute Tox. 4: H302 Acute Tox. 4: H332 STOT single expos. 3: H335 Aquatic Chronic 3: H412	50 %
EC-No.	231-765-0		
Annex I number	008-003-00-9		

For the full text of the H-Statements mentioned in this Section, see Section 16

4. First-Aid Measures

4.1 Description of first aid measures

General advice

Never give anything by mouth to an unconscious person. In all cases of doubt or when symptoms persist, seek medical attention

Eye Contact.....	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Skin Contact.....	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.
Inhalation.....	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion.....	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Hydrogen Peroxide irritates respiratory system and, if inhaled, may cause inflammation and pulmonary edema. The effects may not be immediate. Overexposure symptoms are coughing, giddiness and sore throat. In case of accidental ingestion, necrosis may result from mucous membrane burns (mouth, esophagus and stomach). Oxygen rapid release may

cause stomach swelling and hemorrhaging, which may product major, or even fatal, injury to organs if a large amount has been ingested.

In case of skin contact, may cause burns, erythema, blisters or even necrosis.

4.3 Indication of any immediate medical attention and special treatment needed

Hydrogen peroxide at these concentrations is a strong oxidant. Direct contact with the eye is likely to cause corneal damage especially if not washed immediately. Careful ophthalmologic evaluation is recommended and the possibility of local corticosteroid therapy should be considered. Because of the likelihood of corrosive effects on the gastrointestinal tract after ingestion, and the unlikelihood of systemic effects, attempts at evacuating the stomach via emesis induction or gastric lavage should be avoided. There is a remote possibility, however, that a nasogastric or orogastric tube may be required for the reduction of severe distension due to gas formation.

5. Fire-Fighting Measures

5.1 Extinguishing media

Use water spray. Water, Do not use any other substance

5.2 Special hazards arising from the substance or mixture

Hydrogen peroxide will not burn but decomposition will generate oxygen that increases the explosive limits, enhances the burning rate and may initiate fire in combustion materials. May react with soft metals to evolve flammable oxygen gas. Clothing and other combustible materials that have come into contact with hydrogen peroxide must be immediately and thoroughly washed with water. If hydrogen peroxide is allowed to dry in the materials, spontaneous combustion can occur and a fire may result.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.[]

6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-

brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

7. Handling And Storage

7.1. Handling

Handling.....	Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. For precautions see section 2.2.
Handling temperatures.....	No information available

7.2. storage

Storage.....	Keep containers in cool areas out of direct sunlight and away from combustibles. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment. Containers must be vented. Store in original container only. Store rooms or warehouses should be made of non-combustible materials with impermeable floors. In case of release, spillage should flow to safe area. Containers should be visually inspected on a regular basis to detect any abnormalities (swollen drums, increases in temperature, etc.). recommended storage temperature < 25°C
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7.3. special use(s) and requirements

Product transfer/packing requirement.....	No information available
Recommended materials.....	No information available
Unsuitable materials.....	No information available

8. Exposure Controls / Personal Protection

8.1 Control parameters

Exposure Limits.....	Hydrogen peroxide: ACGIH TLV and OSHA PEL = 1 ppm OSHA PEL (TWA) = 1.4 mg/m ³ UK HSE EH40 STEL = 2 ppm; IDLH = 75 ppm
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8.2 Exposure controls

Personal Protective Equipment:

Hand, Skin and Eye protection..... Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection..... Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure controls..... Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

8.3 Engineering Controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. Physical And Chemical Properties

9.1. general information

Appearance..... Clear, colorless liquid

Colour..... colorless

Odour..... Odourless

9.2. important health, safety and environmental information

Initial boiling point and boiling range.....	114 °C
Melting point.....	-40 °C
Freezing point.....	-52.2 °C
Flash point.....	Not flammable
Auto-ignition temperature.....	Not flammable
Upper/lower flammability or explosive limits.....	Not flammable
Relative density.....	1.195 g/cm ³ @ 20 °C
Solubility in water.....	Completely Soluble, 100 % @ 20 °C
partition coefficient (log pow)...	log Kow = -1.57 @ 20 °C
Kinematic viscosity.....	No data available
Surface tension.....	No data available
Specific Gravity.....	No data available
Oxidizing properties	Oxidizer
viscosity.....	1.048 cP @ 25°C
Relative Vapour Density	No data available
Vapor pressure.....	17.9 mm Hg @ 30 °C
Molecular weight.....	No data available
PH.....	2.5 ±1 @ 20°C
Decomposition	No data available
Temperature.....	> 85 °C
Evaporation rate.....	>1 (BuAc = 1)
Volatility %.....	100

10. Stability And Reactivity

10.1 Reactivity

Reactive and oxidizing agent.

10.2 Chemical stability

Stable under recommended storage conditions. Commercial solutions are stabilized to reduce the risk of decomposition by contamination.

10.3 Possibility of hazardous reactions

Contact with organic substances may cause fire or explosion. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

10.4 Conditions to Avoid

Unstable with heat and contamination; liberation of oxygen gas may result in dangerous pressures.

Light

10.5 Incompatibilities with Other Materials

Accelerators; Acids; Bases; Heavy metal salts; Reducing agents; combustible materials; contamination such as rust, dust, ash .Combustible materials. Copper alloys, galvanized iron.

Strong reducing agents. Heavy metals. Iron. Contact with metals, metallic ions, alkalis, reducing agents and organic matter (such as alcohols or terpenes) may produce self-accelerated thermal decomposition.

10.6 Hazardous Decomposition Products

Contamination may cause rapid decomposition, oxygen gas release and dangerous pressures.

10.7 Hazardous Polymerization

Will not occur

11. Toxicological Information

Acute toxicity – oral(Kerosene).....	Harmful if swallowed. Causes burns to the gastrointestinal tract. Oral LD50 (Male Rat) (35% solution) = 1193 mg/Kg. Oral LD50 (rat) (50% solution) > 225 mg/kg.
Acute toxicity – derma.....	Liquid causes skin irritation and may cause burns after prolonged exposure. Causes bleaching of skin and stinging sensation. Dermal LD50 (Rabbit) (35% solution) >2.0 g/kg. Dermal LD50 (rabbit) 70% solution) > 6.5 g/kg. Vapors and mists are extremely irritating.
Acute toxicity – inhalation(Kerosene).....	Vapors cause severe irritation to the nose, throat and lungs. May result in coughing and shortness of breath. LC50 (rat) 50% solution) > 0.17 mg/L (rat). LC50 (rat) (90% solution) > 2000 ppm.

11.1. Effects and symptoms

Symptoms/injuries after skin contact.....	Corrosive to skin. Erythema, may cause blisters or even necrosis.
Symptoms/injuries after inhalation.....	Hydrogen Peroxide irritates respiratory system and, if inhaled as spray, may cause inflammation and pulmonary edema. Overexposure symptoms are coughing, giddiness and sore throat.
Symptoms/injuries after eye contact.....	Corneal lesions and irreversible damage if contact with the eyes.
Carcinogenicity.....	IARC, NTP and OSHA do not list this product or its ingredients as carcinogens. ACGIH lists hydrogen peroxide as a 'Confirmed Animal Carcinogen with Unknown Relevance to Humans' A3.

11.2. other information

Hazchem code.....	N/A
Potential health effects.....	No data available

12. Ecological Information

12.1. Ecotoxicity	Hydrogen peroxide is naturally produced by sunlight (between 0.1 and 4 ppb in air and 0.001 to 0.1 mg/L in water). Harmful to aquatic life with long lasting effects.
12.2. Persistence and degradability	Hydrogen peroxide in the aquatic environment is subject to various reduction or oxidation processes and decomposes into water and oxygen. Hydrogen peroxide half-life in freshwater ranged from 8 hours to 20 days, in air from 10 - 20 hours, and in soils from minutes to hours depending upon microbiological activity and metal contamination.
12.3. Physical/Chemical	Decomposes into oxygen and water. No adverse effects..
12.4. Bio accumulative potential	No data available

13. Disposal Considerations

13.1. ecological aspects

Ecological general..... No information available

13.2. disposal instructions

Waste disposal..... Empty cartridges may be disposed in normal trash. Expired cartridges should be disposed of according to local policies for hazardous materials.

Product disposal..... Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Container/package disposal..... Final decisions on the appropriate waste management method must be in line with local, regional and national regulations.

Disposal precautions..... No information available

13.3. EU and local legislation

ISRAELI legislation - Licensing of Businesses Regulations (Disposal of Hazardous Wastes), 1990. EU - Directive 91/689/EEC on hazardous waste

14. Transport Information

DOT Classification..... UN2014, Hydrogen peroxide, aqueous solutions, 50%, stabilized, 5.1, (8), PGII

ADR..... UN2014, Hydrogen peroxide, aqueous solutions, 50%, stabilized, 5.1, (8), PGII

IMDG Code..... UN2014, Hydrogen peroxide, aqueous solutions, 50%, stabilized, 5.1, (8), PGII, No marine pollutant

ICAO..... UN2014, Hydrogen peroxide, aqueous solutions, 50%, stabilized, 5.1, (8), PGII (Hydrogen peroxide (>40%) is forbidden on Passenger and Cargo Aircraft.)

15. Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

All of the components in this mixture are listed.

15.2. Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by ScyTek Laboratories, Inc.

15.3. compliancy additional legislation

ISRAELI legislation - Hazardous Substances Law, 1993, Licensing of Businesses Regulations (Disposal of Hazardous Wastes), 1990, Hazardous Substances Regulations (Import and Export of Hazardous Wastes), 1994, Licensing of Businesses Regulations (Hazardous Industrial Plants), 1993, transport services law, 1997, Licensing of Businesses Regulations (oil storage), 1976.

16. Other Information

Text of H-code(s) mentioned in Section 3

H272	May intensify fire; oxidizer
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H332	Harmful if inhaled
H335	May cause respiratory irritation
H412	Harmful to aquatic life with long lasting effects

Reach references.....	Not registered
Revision date.....	2.5.2018
Revision information.....	New Addition
Other information.....	Not available

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