



Safety Data Sheet dated 17/1/2019, version 3

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Mixture identification:

Trade name: BIOZONO Ag+ DL

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

Identified use:

Product based on active oxygen and Ag + ions for the control of Legionella pneumophila and bacterial proliferation in sanitary water circuits, cooling towers and closed circuits.

Uses advised against:

Any other use different from the identified uses.

1.3. Details of the supplier of the safety data sheet

Company:

BARCHEMICALS SRL

VIA S.ALLENDE 14

CASTELNUOVO RANGONE (MO)

ITALY

PHONE. +39 059/536502

FAX. +39 059/536742

www.barchemicals.it

Competent person responsible for the safety data sheet:

barani.corrado@barchemicals.it

1.4. Emergency telephone number

Barani Dr.Corrado - MOBILE PHONE. +39 335/6109383

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria n°1272/2008 (CLP)



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



Danger, Eye Dam. 1, Causes serious eye damage.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H314 Causes severe skin burns and eye damage.

Precautionary statements:

P102 Keep out of reach of children.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves and eye/face protection.

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P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Special Provisions:

None

Contains

hydrogen peroxide solution ... %

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards











SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

Qty	Name	Ident. Number	Classification
>= 30% - < 40%	hydrogen peroxide solution... %	Index number: 008-003-00-9 CAS: 7722-84-1 EC: 231-765-0 REACH No.: 01-21194858 45-22	 2.13/1 Ox. Liq. 1 H271  3.1/4/Inhal Acute Tox. 4 H332  3.1/4/Oral Acute Tox. 4 H302  3.2/1A Skin Corr. 1A H314  3.8/3 STOT SE 3 H335  4.1/C3 Aquatic Chronic 3 H412
< 1%	silver nitrate	Index number: 047-001-00-2 CAS: 7761-88-8 EC: 231-853-9 REACH No.: 01-21195137 05-43	 2.14/2 Ox. Sol. 2 H272  3.2/1C Skin Corr. 1C H314  4.1/A1 Aquatic Acute 1 H400  4.1/C1 Aquatic Chronic 1 H410

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Wash with plenty of water and soap.

Remove contaminated clothing immediately and dispose off safely.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Rinse well your mouth

Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

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In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

In case of breathing difficult, bring the injured person into the open air and store it in a comfortable position for breathing. Consult a physician.

If breathing is irregular or stopped, administer artificial respiration.

4.2. Most important symptoms and effects, both acute and delayed

After contact with the eyes produces redness and pain.

In case of accidental ingestion, it can cause abdominal pain and vomiting.

If inhaled it can cause the following symptoms: cough, labored breathing, sore throat and difficulty breathing.

Contact with the skin produces redness, burning and pain.

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

In case of contact with eyes, rinse immediately for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

After contact with skin, wash immediately with plenty of soap and water.

If inhaled, move the victim to fresh air and keep warm and at rest.

If swallowed, do not induce vomiting.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water spray, heavy alcohol foam, dry chemical or carbon dioxide.

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Burning produces heavy smoke.

Do not inhale explosion and combustion gases.

5.3. Advice for firefighters

Immediately isolate the area by removing all persons from the area of the accident in the event of a fire. No action shall be taken involving any personal risk or without proper training.

Firefighters must wear protective equipment and self-contained breathing apparatus (SCBA) with a full-face mask on the working face at positive pressure. Fire extinguishers (including

helmets, protective boots and gloves) conforming to European Standard EN469 will provide basic protection for chemical accidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate the surrounding areas.

Remove persons to safety.

Prevent entry of foreign and unprotected personnel.

Do not touch or walk on spilled material.

Provide adequate ventilation.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Wear personal protection equipment.

See protective measures under point 7 and 8.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Retain contaminated washing water and dispose it.

6.3. Methods and material for containment and cleaning up

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In case of a liquid product, hold and absorb the spillage with inert absorbent material (eg, sand, earth, vermiculite, fossil flour). Store contaminated material in suitable containers and start waste disposal. After collection, rinse the area and the materials with water by retrieving the water used and, if necessary, dispose of it in authorized plants.

- 6.4. Reference to other sections
See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Do not eat, drink or smoke at the workplace. Foods and beverages should be consumed only in areas specifically identified after removing contaminated clothing and protective equipment and after washing your hands. Wash in any case hands after handling the substance / mixture.

Store at room temperature in airtight containers in a dry and well-ventilated place.

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

See section 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

hydrogen peroxide solution... % - CAS: 7722-84-1

ACGIH - TWA(8h): 1 ppm - Notes: A3 - Eye, URT, and skin irr

DNEL Exposure Limit Values

hydrogen peroxide solution... % - CAS: 7722-84-1

Worker Professional: 1.4 03 - Consumer: 0.21 03 - Exposure: Human Inhalation -

Frequency: Long Term, local effects - Endpoint: Irritation (respiratory tract)

Worker Professional: 3 03 - Consumer: 1.93 03 - Exposure: Human Inhalation -

Frequency: Short Term, local effects - Endpoint: Irritation (respiratory tract)

PNEC Exposure Limit Values

hydrogen peroxide solution... % - CAS: 7722-84-1

Target: Fresh Water - Value: 0.0126 mg/l

Target: Marine water - Value: 0.0126 mg/l

Target: Microorganisms in sewage treatments - Value: 4.66 mg/l

Target: Freshwater sediments - Value: 0.047 mg/kg

Target: Marine water sediments - Value: 0.047 mg/kg

8.2. Exposure controls

Eye/face protection:

Eye glasses with side protection. EN166

Protective visor against liquid splashes (EN166). Recommended when there is a risk of spraying, spraying or spraying of liquid.

Protection for skin:

Clothing resistant to corrosive products CLASS I, EN 340

Protection for hands:

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- Gloves resistant to chemicals. EN 374
- Respiratory protection:
Not necessary in normal use.
- Thermal Hazards:
Not applicable (the product is handled at room temperature)
- Environmental exposure controls:
Do not allow the product to be absorbed from the soil or from entering waterways or sewers.
Do not let product enter drains. Discharge into the environment must be avoided.
- Appropriate engineering controls:
Ensure adequate ventilation. Comply with the maximum concentration values in the workplace.
Predict the presence of showers and eye wash fountains at the workplace.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Appearance and colour:	Liquid Colorless	--	--
Odour:	Odorless	--	--
Odour threshold:	Not Available	--	--
pH:	2,0	--	--
Melting point / freezing point:	-33 °C	--	--
Initial boiling point and boiling range:	108 °C	--	--
Flash point:	Not applicable	--	--
Evaporation rate:	>1	--	--
Solid/gas flammability:	Not applicable	--	--
Upper/lower flammability or explosive limits:	Not applicable	--	--
Vapour pressure:	299 Pa	--	--
Vapour density:	Not Available	--	--
Relative density:	1.04	--	--
Solubility in water:	Complete	--	--
Solubility in oil:	Not Available	--	--
Partition coefficient (n-octanol/water):	Not Available	--	--
Auto-ignition temperature:	Not applicable	--	--
Decomposition temperature:	Not applicable	--	--
Viscosity:	1.10 mPas	--	--
Explosive properties:	Prodotto non Esplosivo	--	--
Oxidizing properties:	Not Available	--	--

9.2. Other information

Properties	Value	Method:	Notes:
Miscibility:	Not Available	--	--
Fat Solubility:	N.A.	--	--
Conductivity:	Not Available	--	--
Substance Groups	N.A.	--	--

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relevant properties			
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SECTION 10: Stability and reactivity

- 10.1. Reactivity
May be corrosive to metals.
- 10.2. Chemical stability
Stable under recommended storage and handling. Please refer to section 7 of the MSDS.
- 10.3. Possibility of hazardous reactions
In the presence of alkalis and metals.
In the presence of combustible materials.
Possible hazardous reaction with reducing agents.
- 10.4. Conditions to avoid
Keep away from heat sources.
- 10.5. Incompatible materials
Products containing chlorine.
concentrated alkali.
organic substances.
- 10.6. Hazardous decomposition products
Oxygen.

SECTION 11: Toxicological information

- 11.1. Information on toxicological effects
Toxicological information of the product:
BIOZONO Ag+ DL
 - a) acute toxicity
Not classified
Based on available data, the classification criteria are not met
 - b) skin corrosion/irritation
The product is classified: Skin Corr. 1A H314
 - c) serious eye damage/irritation
The product is classified: Eye Dam. 1 H318
 - d) respiratory or skin sensitisation
Not classified
Based on available data, the classification criteria are not met
 - e) germ cell mutagenicity
Not classified
Based on available data, the classification criteria are not met
 - f) carcinogenicity
Not classified
Based on available data, the classification criteria are not met
 - g) reproductive toxicity
Not classified
Based on available data, the classification criteria are not met
 - h) STOT-single exposure
Not classified
Based on available data, the classification criteria are not met
 - i) STOT-repeated exposure
Not classified
Based on available data, the classification criteria are not met
 - j) aspiration hazard
Not classified
Based on available data, the classification criteria are not met
- Toxicological information of the main substances found in the product:
hydrogen peroxide solution... % - CAS: 7722-84-1
- a) acute toxicity:

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- Test: LD50 - Route: Oral - Species: Rat = 800 mg/kg - Source: STUDY REPORT 1981 (ECHA) - Notes: OECD GUIDELINE 401 (ACUTE ORAL TOXICITY)
Test: LC50 - Route: Inhalation - Species: Rat > 0.17 mg/l - Duration: 4h - Notes: LINEE GUIDA 403 PER IL TEST DELL'OECD
Test: LD50 - Route: Skin - Species: Rabbit > 2000 mg/kg - Source: STUDY REPORT 1983 (ECHA) - Notes: US EPA GUIDELINES FOR ACUTE DERMAL TOXICITY
- b) skin corrosion/irritation:
Test: Skin Corrosive - Route: Skin - Species: Rabbit Yes - Source: STUDY REPORT 1990 (ECHA) - Notes: OECD GUIDELINE 404 (ACUTE DERMAL IRRITATION / CORROSION)
- c) serious eye damage/irritation:
Test: Eye Corrosive - Species: Rabbit Yes - Source: STUDY REPORT 1985 (ECHA) - Notes: OECD GUIDELINE 405 (ACUTE EYE IRRITATION / CORROSION)
- d) respiratory or skin sensitisation:
Test: Skin Sensitization - Species: .porc No - Source: STUDY REPORT 1953 (ECHA) - Notes: SKIN SENSITIZATION TEST
- h) STOT-single exposure:
Test: Respiratory Tract Irritant Yes - Source: ECHA

SECTION 12: Ecological information

12.1. Toxicity

No information is available on the mixture as a whole. This is the information on eco-toxicological effects of the individual components.

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Not classified for environmental hazards

Based on available data, the classification criteria are not met

hydrogen peroxide solution... % - CAS: 7722-84-1

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 16.4 mg/l - Duration h: 96 - Notes: ECHA

Endpoint: LC50 - Species: Daphnia = 2.4 mg/l - Duration h: 48 - Notes: ECHA

Endpoint: EC50 - Species: Algae = 1.38 mg/l - Duration h: 72 - Notes: ECHA

b) Aquatic chronic toxicity:

Endpoint: NOEC - Species: aquatic invertebrates = 0.63 mg/l - Duration h: 504 - Notes: ECHA

Endpoint: EC50 - Species: activated sludge = 466 mg/l - Duration h: 0.5 - Notes: ECHA

12.2. Persistence and degradability

N.A.

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

Additional disposal information:

Retrieve if possible. Send to authorized disposal plants or incineration under controlled conditions. Work according to local and national regulations. Recover if possible. Send to

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authorized disposal plants or for incineration under controlled conditions. Operate according to local and national regulations.

SECTION 14: Transport information



- 14.1. UN number
ADR-UN Number: 2014
IATA-UN Number: 2014
IMDG-UN Number: 2014
- 14.2. UN proper shipping name
ADR-Shipping Name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)(hydrogen peroxide solution ... %)
IATA-Shipping Name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)(hydrogen peroxide solution ... %)
IMDG-Shipping Name: HYDROGEN PEROXIDE, AQUEOUS SOLUTION with not less than 20% but not more than 60% hydrogen peroxide (stabilized as necessary)(hydrogen peroxide solution ... %)
- 14.3. Transport hazard class(es)
ADR-Class: 5.1
ADR - Hazard identification number: 58
IATA-Class: 5.1
IATA-Label: 5.1 + 8
IMDG-Class: 5.1
- 14.4. Packing group
ADR-Packing Group: II
IATA-Packing group: II
IMDG-Packing group: II
- 14.5. Environmental hazards
ADR-Environmental Pollutant: No
IMDG-Marine pollutant: No
- 14.6. Special precautions for user
ADR-Subsidiary risks: 8
ADR-S.P.: -
ADR-Transport category (Tunnel restriction code): 2 (E)
IATA-Passenger Aircraft: 550
IATA-Subsidiary risks: 8
IATA-Cargo Aircraft: 554
IATA-S.P.: -
IATA-ERG: 5C
IMDG-EmS: F-H , S-Q
IMDG-Subsidiary risks: 8
IMDG-Stowage and handling: Category D SW1
IMDG-Segregation: SG16 SG59 SG72
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
N.A.

SECTION 15: Regulatory information

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

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Dir. 98/24/EC (Risks related to chemical agents at work)
 Dir. 2000/39/EC (Occupational exposure limit values)
 Regulation (EC) n. 1907/2006 (REACH)
 Regulation (EC) n. 1272/2008 (CLP)
 Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
 Regulation (EU) 2015/830
 Regulation (EU) n. 286/2011 (ATP 2 CLP)
 Regulation (EU) n. 618/2012 (ATP 3 CLP)
 Regulation (EU) n. 487/2013 (ATP 4 CLP)
 Regulation (EU) n. 944/2013 (ATP 5 CLP)
 Regulation (EU) n. 605/2014 (ATP 6 CLP)
 Regulation (EU) n. 2015/1221 (ATP 7 CLP)
 Regulation (EU) n. 2016/918 (ATP 8 CLP)
 Regulation (EU) n. 2016/1179 (ATP 9 CLP)
 Regulation (EU) n. 2017/776 (ATP 10 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product:

Restriction 3

Restrictions related to the substances contained:

No restriction.

Where applicable, refer to the following regulatory provisions :

Directive 2012/18/EU (Seveso III)
 Regulation (EC) nr 648/2004 (detergents).
 Dir. 2004/42/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1
 None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.
 Substances for which a Chemical Safety Assessment has been carried out:
 None

SECTION 16: Other information

For professional use.

Full text of phrases referred to in Section 3:

H271 May cause fire or explosion; strong oxidiser.
 H332 Harmful if inhaled.
 H302 Harmful if swallowed.
 H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.
 H412 Harmful to aquatic life with long lasting effects.
 H272 May intensify fire; oxidiser.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.

Hazard class and hazard category	Code	Description
Ox. Liq. 1	2.13/1	Oxidising liquid, Category 1
Ox. Sol. 2	2.14/2	Oxidising solid, Category 2

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Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1C	3.2/1C	Skin corrosion, Category 1C
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Skin Corr. 1A, H314	On basis of test data (pH)
Eye Dam. 1, H318	On basis of test data (pH)

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,
 Commission of the European Communities
 SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van
 Nostrand Reinold

Liability exclusion clause: The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

For professional use.

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
EINECS:	European Inventory of Existing Commercial Chemical Substances.
GefStoffVO:	Ordinance on Hazardous Substances, Germany.
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals.
IATA:	International Air Transport Association.
IATA-DGR:	Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
ICAO:	International Civil Aviation Organization.
ICAO-TI:	Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG:	International Maritime Code for Dangerous Goods.
INCI:	International Nomenclature of Cosmetic Ingredients.
KSt:	Explosion coefficient.

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LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.