Safety Data Sheet dated 20/9/2017, version 1

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

1.1. Product identifier
Mixture identification:
Trade name: BIO-OXI
1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified use:
Oxidizing agent with active oxygen.
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.
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/ shower.

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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

Pentapotassium bis (peroxymonosulfate) bis (sulphate)
dipotassium peroxodisulphate; potassium persulphate: May produce an allergic reaction.

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
>= 15% - < 20%	Pentapotassium bis (peroxymonosulfate) bis (sulphate)	CAS: 70693-62-8 EC: 274-778-7 REACH No.: 01-2119485567-22	3.1/4/Oral Acute Tox. 4 H302 3.3/1 Eye Dam. 1 H318 4.1/C3 Aquatic Chronic 3 H412 3.2/1B Skin Corr. 1B H314
>= 0.25% - < 0.5%	dipotassium peroxodisulphate; potassium persulphate	Index number: 016-061-00-1 CAS: 7727-21-1 EC: 231-781-8 REACH No.: 01-2119495676-19	2.13/2 Ox. Liq. 2 H272 4.1/C3 Aquatic Chronic 3 H412 3.1/4/Oral Acute Tox. 4 H302 3.2/2 Skin Irrit. 2 H315 3.3/2 Eye Irrit. 2 H319 3.4.1/1-1A-1B Resp. Sens. 1,1A,1B H334 3.4.2/1 Skin Sens. 1 H317 3.8/3 STOT SE 3 H335

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.
Remove contaminated clothing immediatley and dispose off safely.
OBTAIN IMMEDIATE MEDICAL ATTENTION.

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 opthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:

Rinse well your mouth

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

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.
Contact with the skin produces redness, burning and pain.
In case of accidental ingestion, it can cause abdominal pain and vomiting.

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:
If swallowed, seek immediate medical attention. Do not induce vomiting to the danger of perforation. Keep the patient at rest.
If inhaled, move the victim to fresh air and keep warm and at rest.
In case of contact with eyes, rinse immediately for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water.
Carbon dioxide (CO_2).
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

Do not inhale explosion and combustion gases.
Burning produces heavy smoke.

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.
Prevent entry of foreign and unprotected personnel.
Do not touch or walk on spilled material.
Avoid breathing vapors or mists.
Wear personal protection equipment.
Provide adequate ventilation.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

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Stop the escape if there is no risk. Move the containers from the spill area. Get closer to the source of overwhelming emission. Prevent spills in sewage systems, waterways, basements or restricted areas. Wash and convey the spilled amounts in a waste treatment plant.
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.
Contamined 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

Keep container tightly closed in a cool, dry place.
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.
Keep away from food, drink and feed.
Incompatible materials:
See the next paragraph 10.
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

dipotassium peroxodisulphate; potassium persulphate - CAS: 7727-21-1

TLV TWA - 0,1 mg/m3

DNEL Exposure Limit Values

Pentapotassium bis (peroxymonosulfate) bis (sulphate) - CAS: 70693-62-8

Worker Professional: 0.28 03 - Consumer: 0.14 03 - Exposure: Human Inhalation - Frequency: Long Term, local effects
Worker Professional: 0.28 03 - Consumer: 0.14 03 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 80 mg/kg - Consumer: 80 mg/kg - Exposure: Human Dermal - Frequency: Short Term, systemic effects
Consumer: 10 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Worker Professional: 50 04 - Consumer: 25 03 - Exposure: Human Inhalation - Frequency: Short Term, systemic effects
Worker Professional: 0.449 04 - Consumer: 0.224 04 - Exposure: Human Dermal - Frequency: Short Term, local effects
Worker Professional: 50 03 - Consumer: 25 03 - Exposure: Human Inhalation - Frequency: Short Term, local effects
Worker Professional: 20 mg/kg - Consumer: 10 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects

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Consumer: 10 mg/kg - Exposure: Human Oral - Frequency: Short Term, systemic effects

PNEC Exposure Limit Values

Pentapotassium bis (peroxymonosulfate) bis (sulphate) - CAS: 70693-62-8

Target: Fresh Water - Value: 0.022 mg/l
Target: Marine water - Value: 0.002 mg/l
Target: Freshwater sediments - Value: 0.017 mg/kg
Target: Marine water sediments - Value: 0.000174 mg/kg
Target: Soil (agricultural) - Value: 0.885 mg/kg
Target: Continuous / discontinuous use - Value: 0.0109 mg/l
Target: Microorganisms in sewage treatments - Value: 108 mg/l

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:

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:	N.A.	--	--
pH:	1	--	at 20 °C
Melting point / freezing point:	N.A.	--	--
Initial boiling point and boiling range:	Not Available	--	--
Flash point:	Not Available	--	--
Evaporation rate:	Not Available	--	--
Solid/gas flammability:	N.A.	--	--
Upper/lower flammability or explosive limits:	N.A.	--	--
Vapour pressure:	Not Available	--	--
Vapour density:	Not Available	--	--
Relative density:	1.14 g/cm3	--	at 20 °C
Solubility in water:	Complete	--	--
Solubility in oil:	N.A.	--	--

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Partition coefficient (n-octanol/water):	Not Available	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
Viscosity:	Not Available	--	--
Explosive properties:	N.A.	--	--
Oxidizing properties:	N.A.	--	--

9.2. Other information

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

SECTION 10: Stability and reactivity

10.1. Reactivity
Stable under normal conditions.
10.2. Chemical stability
Stable under recommended storage and handling. Please refer to section 7 of the MSDS.
10.3. Possibility of hazardous reactions
No hazardous reactions when stored and handled properly.
10.4. Conditions to avoid
Keep away from heat sources.
Avoid direct sunlight.
10.5. Incompatible materials
organic substances.
Halogenated components.
Cyanides.
10.6. Hazardous decomposition products
Sulfur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicological information of the product:
N.A.
Toxicological information of the main substances found in the product:
Pentapotassium bis (peroxymonosulfate) bis (sulphate) - CAS: 70693-62-8
a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat = 500 mg/kg - Source: OECD TG 423
Test: LC50 - Route: Inhalation - Species: Rat > 5 mg/l - Duration: 4h - Source: OECD linea guida 406
Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg - Source: Direttiva 67/548/CEE, Allegato V, B.3
b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Yes - Source: Linee guida 404 test OECD - Notes: PROVOCA USTIONI
c) serious eye damage/irritation:
Test: Eye Corrosive - Species: Rabbit Yes - Notes: GRAVE IRRITAZIONE AGLI OCCHI
dipotassium peroxodisulphate; potassium persulphate - CAS: 7727-21-1
a) acute toxicity:

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Route: Oral - Species: Rat = 1130 mg/kg - Source: Linee guida 401 per il test OECD
Route: Inhalation - Species: Rat > 10.7 mg/l
Test: LD50 - Route: Skin - Species: Rabbit > 10000 mg/kg

b) skin corrosion/irritation:
Test: Skin Irritant - Route: Skin - Species: Rabbit Positive - Source: Linee guida 404 per il test dell'OECD

e) germ cell mutagenicity:
Negative

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as N.A.:

a) acute toxicity;
b) skin corrosion/irritation;
c) serious eye damage/irritation;
d) respiratory or skin sensitisation;
e) germ cell mutagenicity;
f) carcinogenicity;
g) reproductive toxicity;
h) STOT-single exposure;
i) STOT-repeated exposure;
j) aspiration hazard.

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.

Pentapotassium bis (peroxymonosulfate) bis (sulphate) - CAS: 70693-62-8

a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 1.09 mg/l - Duration h: 96 - Notes: Direttiva 67/548/CEE, Allegato V, C.1
Endpoint: EC50 - Species: Algae > 1 mg/l - Duration h: 72 - Notes: OECD TG 201
Endpoint: EC50 - Species: Daphnia = 3.5 mg/l - Duration h: 48 - Notes: OECD TG 202

b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Fish = 0.222 mg/l
Endpoint: NOEC - Species: aquatic invertebrates = 0.267 mg/l

dipotassium peroxodisulphate; potassium persulphate - CAS: 7727-21-1

a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish = 76.3 mg/l - Duration h: 96 - Notes: US EPA TG OPP 72-1

b) Aquatic chronic toxicity:
Endpoint: EC50 - Species: aquatic invertebrates = 120 mg/l - Duration h: 48 - Notes: US EPA TG OPP 72-2

e) Plant toxicity:
Endpoint: NOEC - Species: Algae = 39.2 mg/l - Duration h: 72 - Notes: OECD TG 201

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

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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 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:	3264
IATA-UN Number:	3264
IMDG-UN Number:	3264

14.2. UN proper shipping name

ADR-Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Pentapotassium bis (peroxymonosulfate) bis (sulphate))
IATA-Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Pentapotassium bis (peroxymonosulfate) bis (sulphate))
IMDG-Shipping Name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Pentapotassium bis (peroxymonosulfate) bis (sulphate))

14.3. Transport hazard class(es)

ADR-Class:	8
ADR - Hazard identification number:	88
IATA-Class:	8
IATA-Label:	8
IMDG-Class:	8

14.4. Packing group

ADR-Packing Group:	II
IATA-Packing group:	II
IMDG-Packing group:	II

14.5. Environmental hazards

ADR-Enviromental Pollutant:	No
IMDG-Marine pollutant:	No

14.6. Special precautions for user

ADR-Subsidiary risks:	-
ADR-S.P.:	274
ADR-Transport category (Tunnel restriction code):	1 (E)
IATA-Passenger Aircraft:	850
IATA-Subsidiary risks:	-
IATA-Cargo Aircraft:	854
IATA-S.P.:	A3 A803
IATA-ERG:	8L
IMDG-EmS:	F-A , S-B
IMDG-Subsidiary risks:	-
IMDG-Stowage and handling:	Category B SW2
IMDG-Segregation:	-

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

N.A.

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SECTION 15: Regulatory information

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

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)

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:

H302 Harmful if swallowed.
H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.
H314 Causes severe skin burns and eye damage.
H272 May intensify fire; oxidiser.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Hazard class and hazard category	Code	Description
Ox. Liq. 2	2.13/2	Oxidising liquid, Category 2
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A

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Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
Resp. Sens. 1,1A,1B	3.4.1/1-1A-1B	Respiratory Sensitisation, Category 1,1A,1B
Skin Sens. 1	3.4.2/1	Skin Sensitisation, Category 1
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

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.
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.
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.

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Iscr. Trib. di Modena n° 27444