



Material Safety Data Sheet

Oxyl-PRO[®]S

Revision date: 10/03/2016

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product information

Commercial product name:
Oxyl-PRO[®]S

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

Use of the Substance/Mixture
Prevention of biofilm formation in pipelines. Water treatment. Water disinfection.

Recommended restrictions on use.

There are no uses advised against. Do not use for other purposes than the identified uses.

1.3 Details of the supplier of the safety data sheet

Cindro B.V.
Dorpsweg 96a
1676 GG Twisk
Telephone: +31(0)649149965
E-mail: t.verburg@cindro.nl

1.4 Emergency telephone number

Carechem 24 International (Europe): +44 (0) 1235 239 670

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008(CLP)

Acute toxicity; Category 4; Harmful if swallowed.
Skin irritation; Category 2; Causes skin irritation.
Specific target organ toxicity - single exposure; Category 3; May cause respiratory irritation.
Serious eye damage; Category 1; Causes serious eye damage.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Harmful; Harmful if swallowed.
Irritant; Risk of serious damage to eyes. Irritating to respiratory system and skin.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

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Signal word
Hazard statements

Danger
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.

Precautionary statements

Prevention:

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves.

Response:

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Hazardous components which must be listed on the label:

7722-84-1 Hydrogen peroxide

2.3 Other hazards

Physical/Chemical Hazard; Risk of decomposition on heating. Risk of decomposition in contact with incompatible products. (metal oxides, metal ions (e.g. Mn, Fe, Cu, Ni, Cr, Zn), metal salts, bases, reducing agents). Sustains the combustion of combustible material.

Remarks; This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical nature stabilized

Chemical Name

Hydrogen peroxide



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CAS-No. EINECS-No. / ELINCS No.

7722-84-1

231-765-0

Concentration [%]

< 50

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation

Move to fresh air. Keep warm. Oxygen or artificial respiration if needed. Call a physician immediately.

Skin contact

Wash off immediately with plenty of water removing all contaminated clothes and shoes. Wash contaminated clothing with plenty of water to prevent a fire hazard. Keep warm. If skin irritation persists, call a physician.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

Ingestion

Rinse mouth. Give small amounts of water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Keep warm. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Cough, Dizziness, Headache, Nausea, Shortness of breath, Redness, Pain, Blurred vision, Burn, Abdominal pain, Vomiting, Causes severe burns.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Treatment

Symptomatic treatment.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Extinguishing media

Water

water mist

The product itself does not burn.

Unsuitable

Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

The product itself does not burn but it sustains the combustion of combustible material. Contact with combustible material may cause fire. Risk of explosion if mixed with combustible material. Pressure build-up in confined space (risk of decomposition).

5.3 Special protective actions for fire-fighters

Self-contained breathing apparatus (EN 133)



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Complete suit protecting against chemicals

5.4 Specific methods

Cool containers / tanks with water spray

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Never return spills in original containers for re-use. Ensure adequate ventilation. Wear personal protective equipment. Remove all sources of ignition. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Prevent product from entering drains. Should not be released into the environment.

6.3 Methods and materials for containment and cleaning up

Prevent from spreading. Dam up. Very dilute solution can be washed into drains with plenty of water. Contact the proper local authorities. Never return spills in original containers for re-use.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Never return unused material to storage receptacle. Open drum carefully as content may be under pressure. Avoid exposure. Ensure adequate ventilation, especially in confined areas. Wear suitable protective clothing. Keep away from sources of ignition - No smoking. Keep away from combustible material. Protect from contamination.

7.2 Conditions for safe storage, including any incompatibilities

Keep in a cool, well-ventilated place. Keep away from heat and sources of ignition. Condition of containers should be checked regularly. Store in original container. Store in a receptacle equipped with a vent.

Materials to avoid:

Combustible material, Reducing agents, Organic materials, Bases, metal oxides, metal ions (e.g. Mn, Fe, Cu, Ni, Cr, Zn), metal salts, Rust, Dirt

7.3 Specific end uses

not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limit Values

8.1.1 Limit values in other countries

Finland:

Hydrogen peroxide

HTP-arvot 8h = 1 ppm = 1,4 mg/m³

HTP-arvot 15 min = 3 ppm = 4,2 mg/m³

Sweden:

Hydrogen peroxide

NGV = 1 ppm = 1,4 mg/m³



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TGV = 2 ppm = 3 mg/m³

Germany:

Hydrogen peroxide

MAK = 0,5 ppm = 0,71 mg/m³

Belgium:

Hydrogen peroxide

TGG 8 hr = 1 ppm = 1,4 mg/m³

Switzerland:

Hydrogen peroxide

TWA = 0,5 ppm = 0,71 mg/m³, : OSHA

STEL = 0,5 ppm = 0,71 mg/m³, : OSHA

Estonia:

Hydrogen peroxide

Piirnorm = 1 ppm = 1,4 mg/m³, *: Ceiling limit value - the maximum permitted sustained content of rapidly acting substances in the air over a 15 minute period; in the case of ammonia and isocyanide over a 5 minute period.

Piirnormi lagi = 2 ppm = 3 mg/m³, *: Ceiling limit value - the maximum permitted sustained content of rapidly acting substances in the air over a 15 minute period; in the case of ammonia and isocyanide over a 5 minute period.

Spain:

Hydrogen peroxide

VLA-ED = 1 ppm = 1,4 mg/m³

France:

Hydrogen peroxide

VME = 1 ppm = 1,5 mg/m³, : Indicative exposure limits

Ireland:

Hydrogen peroxide

OELV - 8 hrs (TWA) = 1 ppm = 1,5 mg/m³

OELV - 15 min (STEL) = 2 ppm = 3 mg/m³

Netherlands:

Hydrogen peroxide

TWA = 1 ppm = 1,4 mg/m³

Poland:

Hydrogen peroxide

NDS = 1,5 mg/m³

NDSch = 4 mg/m³

Portugal:

Hydrogen peroxide

VLE-MP = 1 ppm, A3: Substances of which the carcinogenic effect has been confirmed in laboratory tests on animals with confirmed relevance for humans

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Slovenia:

Hydrogen peroxide

MV = 1 ppm = 1,4 mg/m³

Slovakia:

Hydrogen peroxide

NPEL = 1 ppm = 1,4 mg/m³, Category 1: Local irritating factors or factors that cause sensibilisation of the airways.: Maximum duration of 15 minutes. Frequency per shift: 4. Minimum period between individual exposure peaks: 1 hour.

CEIL = 1,4 mg/m³, Category 1: Local irritating factors or factors that cause sensibilisation of the airways.: Maximum duration of 15 minutes. Frequency per shift: 4. Minimum period between individual exposure peaks: 1 hour.

DNEL

Hydrogen peroxide

End Use: Workers
Exposure routes: Inhalation
Value: 3 mg/m³
Acute, Local effects

End Use: Workers
Exposure routes: Inhalation
Value: 1,4 mg/m³
Long-term, Local effects

End Use: General population
Exposure routes: Inhalation
Value: 1,93 mg/m³
Acute, Local effects

End Use: General population
Exposure routes: Inhalation
Value: 0,21 mg/m³
Long-term, Local effects

PNEC

Hydrogen peroxide

Fresh water
Value: 0,0126 mg/l

Fresh water sediment
Value: 0,047 mg/kg

Marine water
Value: 0,0126 mg/l

Marine sediment
Value: 0,047 mg/kg



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STP
Value: 4,66 mg/l

Soil
Value: 0,0023 mg/kg

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Avoid exposure. Wash hands before breaks and immediately after handling the product. Ensure adequate ventilation. Use personal protective equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

8.2.2 Individual protection measures, such as personal protective equipment Hand protection

Glove material: butyl-rubber, Break through time: 8 h
Glove material: Natural Rubber, Break through time: 8 h
Glove material: Nitrile rubber, Break through time: 8 h
Glove material: Polyethylene, Break through time: 8 h
Glove material: PVC, Break through time: 4 h
Glove material: Neoprene, Break through time: 1 - 4 h
Do not wear leather gloves. Do not wear cotton gloves. (May cause fire.)

Eye protection

Tightly fitting safety goggles and face-shield. Eye wash bottle with pure water

Skin and body protection

Chemical resistant protective clothing. Do not wear leather shoes. Safety shower.

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment. (filter ABEK-P3)

8.2.2 Environmental exposure controls

Prevent product from entering the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

General Information (appearance, odour)

Physical state	liquid
Colour	colourless
Odour	odourless, slightly pungent

Important health safety and environmental information

pH	1,5 - 4,0
Freezing point	-52 °C
Boiling point/boiling range	114 °C



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Flash point not applicable
Evaporation rate > 1
Flammability (solid, gas) not applicable

Explosive properties:

Lower explosion limit not applicable
Upper explosion limit not applicable
Vapour pressure 299 Pa (25 °C)
Relative vapour density no data available
Density 1,195 g/cm³

Solubility(ies):

Water solubility completely soluble
Fat solubility (solvent - oil to be specified) not applicable

Partition coefficient: n-octanol/water log Pow: -1,57
Thermal decomposition > 114 °C

Viscosity:

Viscosity, dynamic 1,87 mPa.s (0 °C)
1,17 mPa.s (20 °C)
1,249 mPa.s (20 °C)

Oxidising May intensify fire; oxidiser(50 - 70 %)

9.2 Other data

Surface tension not determined

10. STABILITY AND REACTIVITY

10.1 Reactivity

Risk of decomposition in contact with incompatible products.
Risk of explosion due to rapid pressure increase in closed containers.
Decomposes to water and oxygen.
Contact with combustible material may cause fire.
Sustains the combustion of combustible material.

10.2 Chemical stability

Decomposes on heating.
Stabilising additive(s)

10.3 Possibility of hazardous reactions

Hazardous reactions See chapter 10.1.
Risk of decomposition on heating.
Risk of decomposition in contact with incompatible products.

10.4 Conditions to avoid

Conditions to avoid High temperatures.
UV light.
Protect from contamination.
Keep away from heat and sources of ignition.

10.5 Incompatible materials

Materials to avoid Combustible material
Reducing agents



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Organic materials
Bases
metal oxides
metal ions (e.g. Mn, Fe, Cu, Ni, Cr, Zn)
metal salts
Rust
Dirt

10.6 Hazardous decomposition products

Hazardous decomposition products Oxygen
Water
Steam

Thermal decomposition >114 °C

Note: Stabilized.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Harmful if swallowed.

Hydrogen peroxide:

LD50/Oral/rat: 1.193 - 1.270 mg/kg

Remarks: (35 % solution)

LD50/Inhalation/4 h/rat: > 0,17 mg/l

Remarks: (50 % solution)

LD50/Dermal/rabbit: > 2.000 mg/kg

Remarks: (35 % solution)

Irritation and corrosion

Skin: Causes skin irritation.

Eyes: Causes serious eye damage.

Hydrogen peroxide:

Skin: rabbit/4 h/Draize Test: irritating

Eyes: rabbit/Draize Test: Eye irritation

Remarks: >=5% w/w to < 8% w/w

rabbit/Draize Test: Severe eye irritation

Remarks: >= 8% w/w

Sensitisation

Hydrogen peroxide:

Not sensitizing.



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Long term toxicity

Target organ

May cause respiratory irritation.

Hydrogen peroxide:

Repeated dose toxicity:

Oral/mouse/90 d/OECD Test Guideline 408:

NOAEL: = 100 ppm

LOAEL: = 300 ppm

Remarks: In drinking water: (35 % solution)

Inhalation/rat/28 d/OECD Test Guideline 412:

NOAEL: = 2,9 mg/m³

LOAEL: = 14,6 mg/m³

Carcinogenicity

No known carcinogenic effects.

Mutagenicity

Result: Mutagenic, genotoxic

Metabolic activation:

Remarks: in vitro assay (various)

Result: not mutagenic

Remarks: in vivo assay (various)

Target organ

Remarks: (≥35 % solution)

STOT - single exposure May cause respiratory irritation.

Human experience

Inhalation

Irritating to respiratory system.

Skin contact

Contact with skin causes blanching and erythema.

Eye contact

Liquid causes severe inflammation of conjunctiva and may cause severe damage of the cornea.

Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.



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12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity effects

Aquatic toxicity

Hydrogen peroxide:

LC50/96 h/Pimephales promelas (fathead minnow)/semi-static test/US EPA TSCA Test Guidelines: 16,4 mg/l

LC50/7 d/Oncorhynchus mykiss (rainbow trout): 38,5 mg/l

EC50/48 h/Daphnia/semi-static test/US EPA TSCA Test Guidelines: 2,4 mg/l

NOEC/72 h/Skeletonema costatum (diatom)/static test: 0,63 mg/l

Toxicity to other organisms

Hydrogen peroxide:

EC50/30 min/activated sludge/Respiration inhibition of activated sludge/OECD Test Guideline 209: 466 mg/l

EC50/3 h/activated sludge/Respiration inhibition of activated sludge/OECD Test Guideline 209: > 1.000 mg/l

12.2 Persistence and degradability

Biological degradability:

Hydrogen peroxide:

Readily biodegradable

Chemical degradation:

Hydrogen peroxide:

Decomposes to water and oxygen.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: log Pow: -1,57

Hydrogen peroxide:

Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water: log Pow: -1,57

12.4. Mobility in soil

Mobility

Vapour pressure: 299 Pa (25 °C)

Water solubility: completely soluble

Henry's Constant: 0,75 mPa*m³/mol (20 °C); Evaporation from water to air is very weak.

Surface tension: not determined

Hydrogen peroxide:

Vapour pressure: 299 Pa (25 °C)

12.5. Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

no data available



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13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product In accordance with local and national regulations. See also: Accidental release measures. Wear personal protective equipment. The diluted aqueous solution can be released into drain if it is in accordance with local regulations. The undiluted waste must not be released into drain. Can be incinerated, when in compliance with local regulations.
Rinse package before disposal. Empty containers that will be returned to the manufacturer must not be rinsed with water. Empty containers/packages must not be used for other purposes.

14. TRANSPORT INFORMATION

14.1 UN number 2014

Land transport

ADR /RID:

Description of the goods:

14.2 UN proper shipping name HYDROGEN PEROXIDE, AQUEOUS SOLUTION

14.3 Class 5.1

14.4 Packaging group: II

Risk code 58

ADR/RID-Labels: 5.1, 8

Sea transport

IMDG:

Description of the goods:

14.2 UN proper shipping name UN2014, HYDROGEN PEROXIDE, AQUEOUS SOLUTION

14.3 Class: 5.1

14.4 Packaging group: II

IMDG-Labels: 5.1, 8

14.5 Environmentally Hazardous: Not a Marine Pollutant

Air transport IATA prohibits air cargo transport.

14.6 Special precautions for user

None known.

15. REGULATORY INFORMATION

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

Other regulations

Take note of Directive 96/82/EC on the control of major-accident hazards involving dangerous substances. The product belongs to at least one of the categories 1 through 11 mentioned in Annex 1 of the Directive 1996/82/EC concerning the control of major accident hazards.



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15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

16. OTHER INFORMATION

Full text of H-Statements referred to under 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.

Text of R-phrases mentioned in Section 3

- R 8 Contact with combustible material may cause fire.
- R 5 Heating may cause an explosion.
- R35 Causes severe burns.
- R20/22 Harmful by inhalation and if swallowed.

Training advice

Read the safety data sheet before using the product.

Further information

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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Sources of key data used to compile the Safety Data Sheet

Regulations, databases, literature, own tests.

Additions, Deletions, Revisions

Relevant changes have been marked with vertical lines.