

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 (REACH)

Revision date: 15-Aug-2017

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DIOSOL-8

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

1.1. Product identifier

Trade name/designation:

DIOSOL-8

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

Use of the substance/mixture:

Industrial uses

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

DIOP GmbH & Co. KG

Dieselstr. 5-6

61191 Rosbach

Telephone: 06003/814-0

E-mail: info@diopgmbh.com

1.4. Emergency telephone number

Notfallauskunft: The Emergency telephone is available during Europaen time zone office time between 8 am and 5 pm on working days., 06003/814-0 (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (oral) (<i>Acute Tox. 4</i>)	H302: Harmful if swallowed.	Harmonised (legal) classification.
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	Harmonised (legal) classification.
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	Harmonised (legal) classification.

2.2. Label elements

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

Hazard pictograms:



GHS07

Exclamation mark

Signal word: Warning

hazard statements for health hazards

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Precautionary statements Prevention

P235	Keep cool.
P280.2	Wear protective gloves and eye/face protection.

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Precautionary statements Response

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312.2	Call a doctor if you feel unwell.

Additional information:

To avoid risks to human health and the environment, comply with the instructions for use.

2.3. Other hazards

Adverse human health effects and symptoms:

Risk of serious damage to eyes. Harmful if swallowed.


SECTION 3: Composition / information on ingredients

3.2. Mixtures

Description:

Aqueous solution of Hydrogen peroxide, stabilized

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 7722-84-1 EC No.: 231-765-0 REACH No.: 01-2119485845-22	hydrogen peroxide Skin Corr. 1A, STOT SE 3, Ox. Liq. 1, Acute Tox. 4, Aquatic Chronic 3  Danger H272-H302 + H332-H314-H335-H412	0 - 8 %

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:

Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours. Immediately remove any contaminated clothing, shoes or stockings.

Following inhalation:

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

In case of skin contact:

After contact with skin, wash immediately with plenty of water and soap. Take off contaminated clothing.

After eye contact:

If product gets into the eye, keep eyelid open and rinse immediately with large quantities of water, for at least 5 minutes. Subsequently consult an ophthalmologist.

After ingestion:

Let water be drunk in little sips (dilution effect).

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

Irritating to eyes and skin.

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Product is non inflammable Carbon dioxide (CO₂), Water spray jet, alcohol resistant foam

5.2. Special hazards arising from the substance or mixture

In case of fire may be liberated: Oxygen Due to gaseous decomposition products, overpressure can occur in tightly sealed containers.

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5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information

Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet to protect personnel and to cool endangered containers. Suppress gases/vapours/mists with water spray jet. Do not allow run-off from fire-fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:

Remove persons to safety. Wear personal protection equipment. Do not breathe vapour/aerosol. Provide adequate ventilation.

6.1.2. For emergency responders

No data available

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For cleaning up:

Cover drains. Pump away bigger amounts. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Wash with plenty of water. Spilled product must never be returned to the original container for recycling. Provide adequate ventilation.

6.4. Reference to other sections

No data available

6.5. Additional information

No data available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Notice the directions for use on the label. Avoid: generation/formation of aerosols, Put lids on containers immediately after use. When using do not eat, drink or smoke. Wash hands and face before breaks and after work and take a shower if necessary. Immediately remove any contaminated clothing, shoes or stockings. Use personal protection equipment.

Fire prevent measures:

Danger of bursting container. Due to gaseous decomposition products, overpressure can occur in tightly sealed containers.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels:

Keep away from heat. Protect against direct sunlight. Store dark. Do not keep the container sealed. Suitable material for Container: Polyethylene Polypropylen

Hints on storage assembly:

Do not store together with: Base, Combustible substance

Storage class: 5.1B - Oxidising substances

Further information on storage conditions:

Store dark. Protect against direct sunlight. Keep away from heat. Keep in a cool, well-ventilated place.

7.3. Specific end use(s)

Recommendation:

No data available

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
DFG (DE)	hydrogen peroxide CAS No.: 7722-84-1	① 0.5 ppm (0.71 mg/m ³) ② 0.5 ppm (0.71 mg/m ³)

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
hydrogen peroxide CAS No.: 7722-84-1	3 mg/m ³	① DNEL worker ② DNEL acute inhalative (local)
hydrogen peroxide CAS No.: 7722-84-1	1.93 mg/m ³	① DNEL Consumer ② DNEL acute inhalative (local)
hydrogen peroxide CAS No.: 7722-84-1	1.4 mg/m ³	① DNEL worker ② DNEL long-term inhalative (local)
hydrogen peroxide CAS No.: 7722-84-1	0.21 mg/m ³	① DNEL Consumer ② DNEL long-term inhalative (local)

Substance name	PNEC Value	① PNEC type
hydrogen peroxide CAS No.: 7722-84-1	0.0126 mg/l	① PNEC aquatic, freshwater
hydrogen peroxide CAS No.: 7722-84-1	0.0126 mg/l	① PNEC aquatic, marine water
hydrogen peroxide CAS No.: 7722-84-1	0.0138 ml/l	① PNEC aquatic, intermittent release
hydrogen peroxide CAS No.: 7722-84-1	0.47 mg/kg	① PNEC sediment, freshwater
hydrogen peroxide CAS No.: 7722-84-1	0.47 mg/kg	① PNEC sediment, marine water
hydrogen peroxide CAS No.: 7722-84-1	0.0023 mg/kg	① PNEC soil, freshwater
hydrogen peroxide CAS No.: 7722-84-1	4.66 mg/l	① PNEC sewage treatment plant (STP)

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No data available

8.2.2. Personal protection equipment

Eye/face protection:

Tightly sealed safety glasses. oder Face protection shield

Skin protection:

Suitable material: Latex, NBR (Nitrile rubber) Butyl caoutchouc (butyl rubber)

Thickness of the glove material: 0,65 mm; 0,4 mm; 0,7 mm

Breakthrough time (maximum wearing time): > 8h

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Respiratory protection:

Respiratory protection necessary at: vapour / Aerosol

Suitable respiratory protection apparatus: NO-P3

Other protection measures:

Protective clothing: Chemical resistant safety shoes Chemical protection clothing acid-resistant

General health and safety measures: When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. Take off immediately all contaminated clothing. Do not breathe gas/vapour/aerosol. Avoid contact with skin. Avoid contact with eyes. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

8.2.3. Environmental exposure controls

Avoid release to the environment. Do not allow to enter into surface water or drains.

8.3. Additional information

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: colourless

Odour: stinging

Safety relevant basis data

parameter		at °C	Method	Remark
pH	2 - 5	20 °C		
Melting point	<i>not determined</i>			
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	101 °C			pressure: 1013 mbar
Decomposition temperature (°C):	<i>not determined</i>			
Flash point	<i>not determined</i>			
Evaporation rate	<i>not determined</i>			
Ignition temperature in °C	<i>not determined</i>			
Upper/lower flammability or explosive limits	<i>not determined</i>			
Vapour pressure	<i>not determined</i>	20 °C		
Vapour density	<i>not determined</i>			
Relative density	1 - 1.1 g/cm ³	20 °C		
Bulk density	<i>not determined</i>			
Water solubility (g/L)	completely miscible			
Partition coefficient: n-octanol/water	<i>not determined</i>			
Dynamic viscosity	<i>not determined</i>			
Kinematic viscosity	<i>not determined</i>			

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Oxidizing agent/oxidizing, Materials to avoid: Heavy metals, Alkali (lye)

10.2. Chemical stability

Store dark. Keep away from heat. Heating. No decomposition on normal use

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10.3. Possibility of hazardous reactions

Exothermic, self accelerating decomposition reaction develops oxygen gas. Containers may burst due to rising gas pressure

10.4. Conditions to avoid

Heating. Store dark.

10.5. Incompatible materials

Heavy metals, Alkali (lye)

10.6. Hazardous decomposition products

Danger of bursting container. No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
7722-84-1	hydrogen peroxide	LD₅₀ oral: 376 mg/kg (Rat) LD₅₀ dermal: 3,000 mg/kg (Rat) LC₅₀ inhalative: 2 mg/l 4 h (Rat)

Acute oral toxicity:

Harmful if swallowed.

Acute inhalation toxicity:

Irritation to respiratory tract

Skin corrosion/irritation:

Irritant effect on the skin: mild irritant.

Serious eye damage/irritation:

Irritant effect on the eye: mild irritant.

Respiratory or skin sensitisation:

Based on available data, the classification criteria are not met.

Germ cell mutagenicity:

Based on available data, the classification criteria are not met.

Carcinogenicity:

Based on available data, the classification criteria are not met.

Reproductive toxicity:

Based on available data, the classification criteria are not met.

STOT-single exposure:

Based on available data, the classification criteria are not met.

STOT-repeated exposure:

Based on available data, the classification criteria are not met.

Aspiration hazard:

Based on available data, the classification criteria are not met.

Additional information:

Other information: White spots on skin vanish within a few hours.

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SECTION 12: Ecological information

12.1. Toxicity

CAS No.	Substance name	Toxicological information
7722-84-1	hydrogen peroxide	LC₅₀ : 16.4 mg/l 4 d (Pimephales promelas (fathead minnow)) LC₅₀ : 37.4 mg/l 4 d (Ictalurus punctatus (Channel Catfish)) LC₅₀ : 24.4 mg/l 4 d EC₅₀ : 2.4 mg/l 2 d (Daphnia pulex (water flea)) EC₅₀ : 7.7 mg/l (Daphnia magna (Big water flea)) EC₅₀ : 2.5 mg/l 3 d (Chlorella vulgaris) EC₅₀ : 13.2 mg/l 2 d EC₅₀ : 3.36 mg/l 3 d EC₅₀ : 5.74 mg/l 4 d

Aquatic toxicity:

LC50 Fisch (96 Stunden)

Minimalwert: 22 mg/l

Maximalwert: 26,7 mg/l

Medianwert: 24,4 mg/l

Studienanzahl: 2

EC50 Krustentiere (48 Stunden)

Minimalwert: 2,32 mg/l

Maximalwert: 24 mg/l

Medianwert: 13,2 mg/l

Studienanzahl: 2

EC50 Algen (72 Stunden)

Minimalwert: 0,71 mg/l

Maximalwert: 5,81 mg/l

Medianwert: 3,36 mg/l

Studienanzahl: 6

EC50 Algen (96 Stunden)

Minimalwert: 5,38 mg/l

Maximalwert: 6,49 mg/l

Medianwert: 5,74 mg/l

Studienanzahl: 3

Additional ecotoxicological information:

Referenzen:

Office of Pesticide Programs 2000. Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)). Environmental Fate and Effects Division, U.S.EPA, Washington, D.C.

Watanabe, H., E. Takahashi, Y. Nakamura, S. Oda, N. Tatarazako, and T. Iguchi 2007. Development of a Daphnia magna DNA Microarray for Evaluating the Toxicity of Environmental Chemicals.

Environ.Toxicol.Chem. 26(4):669-676; Office of Pesticide Programs 2000. Pesticide Ecotoxicity Database (Formerly: Environmental Effects Database (EEDB)). Environmental Fate and Effects Division, U.S.EPA, Washington, D.C.

Smit, M.G.D., E. Ebbens, R.G. Jak, and M.A.J. Huijbregts 2008. Time and Concentration Dependency in the Potentially Affected Fraction of Species: The Case of Hydrogen Peroxide Treatment of Ballast Water. Environ.Toxicol.Chem. 27(3):746-753; Drabkova, M., B. Marsalek, and W. Admiraal 2007. Photodynamic Therapy Against Cyanobacteria. Environ.Toxicol. 22(1):112-115

Gregor, J., D. Jancula, and B. Marsalek 2008. Growth Assays with Mixed Cultures of Cyanobacteria and Algae Assessed by In Vivo Fluorescence: One Step Closer to Real Ecosystems?. Chemosphere 70(10):1873-1878

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12.2. Persistence and degradability

Additional information:

Further ecological information: In soil and waters rapid decomposition to water and oxygen occurs.
Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

Accumulation / Evaluation:

Additional information: No data available

12.4. Mobility in soil

In soil and waters rapid decomposition to water and oxygen occurs.

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
7722-84-1	hydrogen peroxide	—

No data available

12.6. Other adverse effects

Chemical oxygen demand (COD): 13 mg/g Verdünnung 1 : 1000, Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dilute with plenty of water. Do not dispose of as domestic waste. Small amounts (several grams) can be given to the sewage system after dilution 1:100 with water. Bigger amounts must be treated as special waste. Do not empty into drains.

Waste treatment options





Appropriate disposal / Package:

Wash with water and give to plastic recycling.

13.2. Additional information

No data available

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN-No.			
UN 2984	UN 2984	UN 2984	UN 2984
14.2. UN proper shipping name			
Hydrogen peroxide, aqueous solution	Hydrogen peroxide, aqueous solution	Hydrogen peroxide, aqueous solution	Hydrogen peroxide, aqueous solution
14.3. Transport hazard class(es)			
 5.1	 5.1	 5.1	 5.1
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
No	No	No	No

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.6. Special precautions for user			
Special provisions: Limited quantity (LQ): Hazard identification number (Kemler No.): 50 Classification code: O1 tunnel restriction code: (E) Remark:	Special provisions: Limited quantity (LQ): Classification code: O1 Remark:	Special provisions: Limited quantity (LQ): EmS-No.: F-H; S-Q Remark:	Special provisions: Limited quantity (LQ): Remark:

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

Additional information:

Keep away from food, drink and animal feedingstuffs.

SECTION 15: Regulatory information

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

15.1.1. EU legislation

No data available

15.1.2. National regulations

 [DE] National regulations

Water hazard class (WGK)

WGK:

1 - schwach wassergefährdend

15.2. Chemical Safety Assessment

No data available

15.3. Additional information

No data available

SECTION 16: Other information

16.1. Indication of changes

No data available

16.2. Abbreviations and acronyms

No data available

16.3. Key literature references and sources for data

No data available

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16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (oral) (<i>Acute Tox. 4</i>)	H302: Harmful if swallowed.	Harmonised (legal) classification.
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	Harmonised (legal) classification.
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	Harmonised (legal) classification.

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H271	May cause fire or explosion; strong oxidiser.
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.

16.6. Training advice

No data available

16.7. Additional information

The data presented here correspond to the present state of our knowledge and experience and are intended to describe our product with respect to possible safety demands. We imply with this however no guarantee of properties or description of qualities.