

Material Safety Data Sheet

eOx, Inc. Environmental Technologies

<p>1 Product Name:</p> <p>Product Code:</p> <p>Purpose</p> <p>Registration Number :</p> <p>Manufacturer Identification</p>	<p><u>EOXIDE LQ 75 - 0.75% ClO₂</u></p> <p>Chemical Component CLO2 N-38957</p> <p><u>Manufactured by:</u> eOx International bv 1e Lulofsdwarsstraat 117, 2521 AZ, The Hague, The Netherlands Tel: +31 703 807 376 Fax :+31 703 841 476 E-mail: info@eox-international.com</p>				
<p>2 Hazards Information / Risks</p>	<p>- Harmful effects on health : Irritant to the eyes</p>				
<p>3 Composition/Information on Elements</p> <p>Hazardous components:</p> <p>chlorine dioxide, solution</p> <p><small>Full text of each relevant R phrase can be found in heading 16</small></p>	<p>% Weight</p> <p>0.3 - <3</p>	<p>CAS-nr</p> <p>10049-04-4</p>	<p>EC-nr</p> <p>233-162-8</p>	<p>R-wording</p> <p>25-34-50 (1)(2)</p>	<p>Symbol</p> <p>T; N</p>
<p>4 First Aid Measures</p> <p>General indications</p> <p>After Inhalation</p> <p>After Skin Contact</p> <p>After Eye Contact</p> <p>After Ingestion</p> <p>Emergency medical treatment</p>	<ul style="list-style-type: none"> ▶ In event of serious problems call a doctor summon medical assistance urgently ▶ Remove the victim into fresh air ▶ Respiratory problems: consult a doctor/medical service ▶ Rinse with water ▶ Soap may be used ▶ Take victim to a doctor if irritation persists ▶ Rinse immediately with plenty of water ▶ Take victim to an ophtalmologist ▶ Rinse mouth with water ▶ Immediately give lots of water to drink 				
<p>5 Fire Fighting Measures</p> <p>Suitable Extinguishing Media</p> <p>Special exposure hazards</p> <p>Protection against fire</p> <p>Special procedures</p>	<ul style="list-style-type: none"> ▶ Non combustible product ▶ All extinguishing media can be used. Use extinguishing media appropriate for surrounding fire ▶ Use water stream to cool containers ▶ On burning formulation of small quantities of hydrogen chloride ▶ Evacuate unnecessary personnel ▶ Wear proper protective equipment ▶ Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves ▶ Exercise caution when fighting any chemical fire 				

IN ACCORDANCE WITH THE REACH-ENACTMENT (EG) nr. 1907/2006, art.31 appendix II.

Printing date : 2009-10-22
 Compiled by : eOx International bv
 Date of issue : 2009-05-25
 Reference number : N-38957
 Reason for revision : General revision

Product : EOXIDE LQ 75
 Revision : 1
 Revision number : 004
 Page : 1

6	Accidental Spill or Release Measures	
	Personal Precautions	› See heading 8.2/13
	Environmental Precautions	› Prevent entry to public water, sewers or soil. › Notify authorities if product enters sewer or public waters.
	After spillage/leakage	› Contain released substance, pump into suitable containers › Plug the leak, cut off the supply › Take up liquid spill into inert absorbent material › Flush with plenty of water
	Recovery on soil	› Stop the spillage, if possible without risk for the workforce › Dike for recovery or absorb with appropriate material › Sweep or shovel spills into appropriate container for disposal
7	Handling and storage	
	Technical measures	› Handle in accordance with good industrial hygiene and safety procedures
	Prevention of worker exposure	› Ensure prompt removal from eyes, skin and clothing. › Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking and when leaving work
	Storage recommended	› Provide local exhaust or general room ventilation to minimize dust and/or vapor concentrations. › Keep containers closed when not in use › Keep only in the original container in a cool, well ventilated place
	Incompatible materials	› Acids, bases, oxidizing agents, heat sources
	Packaging materials recommended	› Polyethylene, plastics, (Small quantities: Glass)
	Packaging materials NOT recommended	› Steel, Copper, Copper and its alloys, Aluminum and its alloys, Rubber
8	Exposure Controls / Personal Protection	
	Respiratory protection	› Wear gas mask with filter type B if conc. in air > exposure limit CHLORINE DIOXIDE, solution TLV-TWA : mg/m ³ 0.1 ppm TLV-STEL : mg/m ³ 0.3 ppm TLV-Ceiling : mg/m ³ ppm WEL-LTEL : 0.28 mg/m ³ 0.1 ppm WEL-STEL : 0.84 mg/m ³ 0.3 ppm TRGS 900 : 0.28 mg/m ³ 0.1 ppm MAK : 0.28 mg/m ³ 0.1 ppm MAC-TGG 8 h : mg/m ³ MAC-TGG 15 min. : 0.3 mg/m ³ MAC-Ceiling : mg/m ³ VME-8 h : 0.3 mg/m ³ 0.1 ppm VLE-15 min. : 0.8 mg/m ³ 0.3 ppm GWBB-8 h : 0.28 mg/m ³ 0.1 ppm GWK-15 min. : 0.84 mg/m ³ 0.3 ppm Momentary value : mg/m ³ ppm EC : mg/m ³ ppm EC-STEL : mg/m ³ ppm Occupational exposure controls: - Measure the concentration in the air regularly - Work under local exhaust/ventilation

IN ACCORDANCE WITH THE REACH-ENACTMENT (EG) nr. 1907/2006, art.31 appendix II.

Printing date : 2009-10-22
Compiled by : eOx International bv
Date of issue : 2009-05-25
Reference number : N-38957
Reason for revision : General revision

Product : EOXIDE LQ 75
Revision : 1
Revision number : 004
Page : 2

Personal protective equipment:

a) Respiratory protection:

- Wear gas mask with filter type B if conc. in air > exposure limit

b) Hand protection:

- Gloves

Suitable materials:

GIVE GOOD RESISTANCE:

Butyl rubber

Neoprene

PVC

- Breakthrough time: N.D.

c) Eye protection:

- Safety glasses

d) Skin protection:

- Protective clothing

Suitable materials:

GIVE GOOD RESISTANCE:

Butyl rubber

Neoprene

PVC

8.2.2 Environmental exposure controls: see headings 6.2, 6.3 and 13

Industrial Hygiene

- ▶ Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Avoid all unnecessary exposure. Ensure prompt removal from eyes, skin and clothing

9 Physical/Chemical Properties

9.1 General information:

Appearance (at 20°) : Liquid
Odour : Irritating / pungent
Colour : Yellow

9.2 Important health, safety and environmental information:

pH value (at100 %) 1.87 (100%, concentrate, 20°C).
Boiling point/boiling range N.D.
Flash point/flammability 100 ° C
Explosion limits (explosive properties) N.A.
Oxidising properties N.A.
Vapour pressure (at 20°C) N.D.
Vapour pressure (at 50°C) N.D.
Relative density (at 20°C) N.D.
Water solubility 1
Soluble in No data available
Relative vapour density N.D.
Viscosity N.D.
Partition coefficient n-octanol/water N.D.
Evaporation rate N.D.
ratio to butyl acetate N.D.
ratio to ether N.D.

IN ACCORDANCE WITH THE REACH-ENACTMENT (EG) nr. 1907/2006, art.31 appendix II.

10	Stability and Reactivity	
	Stability and Reactivity	<ul style="list-style-type: none"> ▸ Product is stable under normal temperature and pressures ▸ Store away from heat/moisture
	Hazardous reactions	<ul style="list-style-type: none"> ▸ On burning formation of small quantities of hydrogen chloride
	Hazardous Decomposition Products	<ul style="list-style-type: none"> ▸ On burning formation of small quantities of hydrogen chloride Thermal decomposition generates: chlorine dioxide, chlorates
	Conditions to Avoid	<ul style="list-style-type: none"> ▸ Temperature not exceeding 50°C ▸ Store away from heat/moisture
	Materials to avoid	<ul style="list-style-type: none"> ▸ Acids, Organic compounds, Combustibles, oil reducing agents
11	Toxicological information	
	Acute Toxicity	
	Rat oral LD50 (mg/kg)	<ul style="list-style-type: none"> ▸ 292 mg/kg
	Rabbit dermal LD50 (mg/kg)	<ul style="list-style-type: none"> ▸ N.D.
	Rabbit dermal LD50	<ul style="list-style-type: none"> ▸ Moderate irritant to skin
	Rat inhalation LC50	<ul style="list-style-type: none"> ▸ 500 ppm/15 min. Note: This refer to ppm in air NOT in solution
	Chronic toxicity Ingestion	<ul style="list-style-type: none"> ▸ N.D.
	Carcinogenicity	<ul style="list-style-type: none"> ▸ Not listed in carcinogenicity class (IRAC, EC, TLV, MAK)
	Tetratogenicity	<ul style="list-style-type: none"> ▸ Not listed in mutagenicity class (EC, MAK) ▸ Not classified as toxic to reproduction (EC)
12	Ecological information	
	Ecotoxicity	<p>LC 50 Fathead minnow adult 0.17 mg/l/96 hrs LC 50 Bluegill young of the year 0.15 mg/l/96 hrs.</p>
	Mobility	N.A.
	Effect on waste water purification	N.A.
	Volatile organic compounds (VOC)	Soluble in water, for other physicochemical properties see heading 9
	Persistence and degradability	
	biodegradation BOD5	N.A.
	water	No data available
	soil	N.D.
	Bioaccumulative potential	
	log Pow	N.A.
	BCF	N.D.
	Results of PBT assessment	Not applicable, based on available data
	Other adverse effects	WGK 1 Not dangerous for the ozone layer (Council Regulation (EC) No 2037/2000 O.J. L244
13	Disposal Considerations	
		<p>Waste material code (91/689/EEC, Council Decision 2001/118/EC O.J. L47 LWCA : KGA category 01 (the Netherlands) Hazardous waste (91/689/EEC)</p>
	Waste Information	<ul style="list-style-type: none"> ▸ Removing of residues Removal as waste according to local and national prescriptions ▸ Polluted Packaging Removal as waste according to local and national prescriptions
	Treatment of dirty packaging	After last use, the packaging should be totally empty and closed. The used packing is only suitable for the packing of this product. When the packing is consigned, it should be brought back by the supplier.

IN ACCORDANCE WITH THE REACH-ENACTMENT (EG) nr. 1907/2006, art.31 appendix II.

Printing date : 2009-10-22
Compiled by : eOx International bv
Date of issue : 2009-05-25
Reference number : N-38957
Reason for revision : General revision

Product : EOXIDE LQ 75
Revision : 1
Revision number : 004
Page : 4


14 Transport information

ADR	Not restricted for any mode of international transport
UN-number	
Proper shipping name	
ADR Class / Packing group	
IATA/ICAO	Not restricted for any mode of international transport
UN-number	
Proper shipping name	
IATA Class / Packing group	
IMDG	Not restricted for any mode of international transport
UN-number	
Proper shipping name	
IMO Class / Packing group	

15 Regulatory Information

Labeling Marks According to EC-Directives 67/548/EECs
Recognition Numbers and Hazard Symbols

Content
R-Phrases
S-Phrases

- › n.a.  Irritant
- ›
- › **36** Irritating to eyes
- › **2** Keep out of reach of children
- › **46** If swallowed, seek medical advice immediately and show this container or label

National provisions:

The Netherlands:

Waterbezwaarlijkheid: 9

Germany:

WGK : 1 (Classification based on the components in compliance with Verwaltungsvorschrift wassergefährdender Stoffe (VwVwS) of 17 May 1999)

16 Other Information

This safety data sheet has been drawn up in accordance with THE REACH-ENACTMENT (EG) nr. 1907/2006, art.31 appendix II. This safety data sheet is exclusively made for industrial/professional use.

Full text of any R phrases referred to under heading 2:

R25 Toxic if swallowed

R34 Causes burns

R50 Very toxic to aquatic organisms

Sources of key data used: The information contained herein is based on the present state of our knowledge.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the properties of the product. It is always the duty of users to determine the applicability of such information and recommendations and the suitability of any products for their own particular purpose.

Extra Remarks

--

IN ACCORDANCE WITH THE REACH-ENACTMENT (EG) nr. 1907/2006, art.31 appendix II.

Printing date : 2009-10-22
Compiled by : eOx International bv
Date of issue : 2009-05-25
Reference number : N-38957
Reason for revision : General revision

Product : EOXIDE LQ 75
Revision : 1
Revision number : 004
Page : 5