

I. Product and Company Identification

1.1 Identification of the substance or preparation:

OCS DI-OX™ 5000

1.2 Company Identification: Odour Control Systems Limited
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Hawarden,
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II. Composition/Information on Ingredients

2.1 Chemical Composition: Preparation of Aqueous solution of stabilised buffered chlorine dioxide, sodium hydroxide, polymer. Water

2.2 Risk Phrases: R8 - Contact with combustible materials may cause fire.
R22 - Harmful if swallowed
R32 - Contact with acids can liberate toxic gas.

2.3 Classification/Symbol: O Oxidising
XN Harmful

III. Hazards Identification

3.1 Adverse health effects Irritating to eyes
Harmful if swallowed

3.2 Environmental effects Toxic to aquatic organisms

3.3 Physical and chemical In contact with acids or when heated or hazards under sunlight, may develop very toxic gas (chlorine dioxide) which may cause risk of explosion.

Contact with combustible materials (grease, fats, wood, cellulose, paper, etc) may cause fire. Contact with reducing agents and sulphur containing substances causes violent exothermic reaction.

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IV. First Aid Measures

- 4.1 Eye contact: Immediately flush eyes with water for at least 15 minutes.
- 4.2 Skin contact: Remove contaminated clothing and wash affected areas with soap & water. Soak contaminated clothing with water to prevent fire risk. Seek medical attention.
- 4.3 Inhalation: Remove to fresh air. Seek medical attention. (If the patient is affected by chlorine dioxide, this is very toxic and requires urgent medical attention).
- 4.4 Ingestion: Rinse mouth with water and give water or milk to drink. Seek urgent medical attention.

V. Fire Fighting Measures

- 5.1 Special fire/explosion hazard May decompose in fire producing toxic chlorine compounds. Strong oxidising drums bursting.
- 5.2 Products of combustion Not combustible. Toxic chlorine compounds released in fire.
- 5.3 Fire Fighting procedures/ Wear S.C.B.A. for chlorine/chlorine dioxide. Keep containers cool with water spray. Avoid dispersion in the water courses. Do not use carbon dioxide or organic material.

VI. Accidental Release Measures

- 6.1 Personal protection Wear goggles giving complete protection to eyes. Plastic (not rubber) gloves and boots. Eyewash facilities should be available.
- 6.2 Environmental precautions Do not allow to dry. If possible drench with water. Contain with inert material. Pump into a suitable container or otherwise absorb in sand. Do not absorb in sawdust or other combustible materials. If substance has entered a water course or sewer or contaminated soil or vegetation, advise police.
- 6.3 Methods of cleaning up: Flush away any residues with excess water.

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VII. Handling and Storage

- 7.1 Precautions during handling:
Technical measures
Ventilation of the place, local exhaust of dust or vapours (in case of product decomposition).
- Precautions
Avoid contact with eyes and skin and breathing of activated chlorine dioxide vapours.
Wear personal protective equipment, maintain eye washer shower facilities and source of running water in the vicinity.
- Safe handling advice
Handle product with care and avoid contamination.
- 7.2 Precautions during storage:
Storage conditions
Store in a cool, clean, well ventilated area.
Do not store on wooden surfaces or flammable pallets.
Keep away from incompatible and combustible materials (especially acids), from direct sunlight and heating sources.
Provide water facilities, do not let any spilt product dry.
- 7.3 Packaging materials:
Do not use common steel, aluminium, copper and its alloys, rubber.
Use stainless steel, glass, ceramics, polyethylene, PVC.

VIII. Exposure Controls/Personal Protection

- 8.1 Special protective measures
Respiratory:
Under normal conditions of use / handling no respiratory protection is required. Should chlorine dioxide gas be released, ensure working room air concentrations are less than 0.1 ppm chlorine dioxide gas S.C.B.A. when chlorine dioxide gas is evolved.
- Hand:
Plastic gloves
- Eye:
Goggles.
- Skin:
Work suit preferable made of PVC, Neoprene, nitrile rubber.
Avoid leather, cotton or natural rubber due to fire risk.
- 8.2 Exposure limits:
Under normal conditions of handling use not applicable for chlorine dioxide gas:- (Should it be released accidentally)
0.1 ppm (0.3 mg/cu.m).
0.2 ppm (0.9 mg/cu.m). STEL.

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IX. Physical and Chemical Properties

9.1 Physical State:	Pale yellow-green solution
9.2 Odour:	Ozone like
9.3 Temperature Characteristics	Boiling point : < 214 deg F Freezing point :< minus 4 deg C.
9.4 pH:	10.00 – 10.5
9.5 Solubility: In water In solvents	Completely miscible Not soluble.
9.6 Vapour pressure	Similar to water
9.7 Density:	1.06
9,8 Flammability	Not combustible

X. Stability and Reactivity

10.1 Stability	Min. 6 months in unopened containers
10.2 Conditions/materials to avoid	Avoid exposure to direct sunlight and heat. Decomposed by heating, acids and organic and combustible matter.
10.3 Decomposition temperature	May decompose to produce chlorine and dangerous products dioxide gas which can cause overpressure and burst in confined spaces. Toxic chlorine compounds may be released.

XI. Toxicological Information

11.1 Acute toxicity:	LD50 orl.rat (by feeding-m/f): 2.5 gm kg. Category III LD50 dermal.rbt : => no dermal irritation on prolonged contact.
11.2 Local effects	Skin contact: not irritating (patch test, rabbit, 4h) Eyes: mild irritant to eyes (Draiza test rabbit).
11.3 Sensitisation:	No data.
11.4 Chronic Toxicity:	Acute, subacute and chronic (organs & systems) effects. Acute subacute and chronic toxicity tests in mice by oral feeding were performed with 5% stabilised chlorine dioxide in several dilutions.

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- Conclusions:
- A) Undiluted 5% stabilised chlorine dioxide was toxic to mice when fed 0.5ml directly from gavage.
 - B) Dilutions ranging from 1:10 to 1:240 were found to be non toxic when fed by stomach trocar.
 - C) Chronic feeding tests by gavage and in drinking water of 5% stabilised chlorine dioxide solution was non-toxic.

11.5 Long term toxicity: Carcinogenicity ; No carcinogenic potential.

11.6 Experience in humans: No significant effect after application in drinking water for up to 12 weeks. Continued inhalation of decomposition products may cause lung oedema.

XII. Biological Information

12.1 Mobility: Will disperse through aqueous systems.

12.2 Persistence and Degradability: Will degrade.

12.3 Bioaccumulative Potential: Not known.

XIII. Disposal Considerations

13.1 Disposal of product: Dispose of through approved waste disposals operative.

13.2 Disposal of packaging: Rinse empty containers thoroughly before disposal.

XIV. Transport Information

14.1 UN No: 3266

14.2 UK Road:

Hazchem Code:

Classification:

Packing Group:

Corrosive substance, Class 8.

II.

14.3 Spillage: Larger than 25 litres, decontaminate with sodium sulphite solution with a contact time of least 10 minutes, then dilute with water & flush to foul drain.

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XV. Regulatory Information

15.1 The chemicals (Hazard Information and Packaging for Supply) Regulations 1994:

- Index No: Not listed
- Risk Phrases:
 - R8 Contact with combustible materials may cause fire.
 - R22 Harmful if swallowed.
 - R32 Contact with acids liberates toxic gas.
- Safety Phrases:
 - S14 Keep away from acids.
 - S17 Keep away from combustible materials.
 - S26 in case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 - S36 Wear suitable protective clothing,
/37 gloves and eye/face protection.
/39
- Classifications Symbols:
 - O Oxidiser
 - Xn Harmful

XVI. Other Information

16.1 Recommended uses: Industrial Odour Control Compound.

This information is given in good faith and is based on information and tests believed to be reliable. The suitability of this product for any particular use is not suggested or implied. This document is not a specification and properties shown are not guaranteed.

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Always READ material safety data sheet before use.

preserving the environment

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