



I. Product and Company Identification

1.1 Identification of the substance or preparation:

OCS DI-OX PLUS C.S. GRADE

1.2 Company Identification: Odour Control Systems Limited
33A Castle Close,
Hawarden Industrial Park
Manor Lane,
Hawarden,
Deeside.
CH5 3PP.
Tel: 01244 536700 Fax: 01244 535184

II. Composition/Information on Ingredients

2.1 Chemical Composition: Preparation of Aqueous solution of stabilised buffered chlorine dioxide sodium hydroxide, essential oils, polymer, surfactants, terpenes and inert ingredients.

2.2 Risk Phrases: R8 Contact with combustible materials may cause fire.
R22 Harmful if swallowed.
R32 Contact with acids liberates 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 & Chemical: In contact with strong acids can develop very toxic gas (chlorine dioxide) which may cause risk of explosion.
Avoid heating and exposure to strong sunlight which can cause evaporation to dryness and risk of fire, 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

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| 4.1 | Eye Contact: | Immediately flush eyes with water for at least 15 minutes.
Seek medical advice if symptoms persist. |
| 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 if irritation persists. |
| 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 medical attention. |
| 4.5 | Immediate Medical Advice | Treat symptoms. Risk of pulmonary oedema. |

V. Fire Fighting Measures

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| 5.1 | Special fire/explosion hazard | May decompose in fire producing toxic chlorine compounds.
Strong oxidising agent - will assist combustion. Risk of drums bursting. |
| 5.2 | Products of combustion | Not combustible. Toxic chlorine compounds maybe released in fire. |
| 5.3 | Fire Fighting procedures/ | Wear S.C.B.A. for chlorine/Extinguishing media chlorine dioxide.
Keep containers cool with water spray.
Avoid dispersion in the water courses.
Do not use carbon dioxide or organic material.
In case of spreading avoid drying by dilution with plenty of water. |

VI. Accidental Release Measures

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| 6.1 | Personal Protection: | Wear goggles, plastic gloves (not rubber) 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 with non combustible materials. If substance has entered a water course or sewer advise relevant local authorities. |
| 6.3 | Methods of Cleaning Up: | Flush away any residues with excess water.
Spillages greater than 25 litres should be decontaminated with sodium sulphite solution with a contact time of at least 10 minutes before flushing away. |

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VII. Handling and Storage

- 7.1 Precautions During Handling:
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| 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 any 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:
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| Technical Measures | Provide grounding of installations and anti-tight, anti-corrosion electric equipment.
Provide for safety area to retain accidental leakage. |
| Storage Conditions: | Store in a cool, clean, well ventilated area.
Do not store on wooden surfaces or flammable pallets.
Keep away from incompatible (especially acids) and combustible materials, from direct sunlight and heating sources.
Provide water facilities, do not let any spilt product dry. |
- 7.3 Packaging Materials:
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| | Do not use common steel, aluminium, copper and its alloys or rubber.
Use stainless steel, glass, ceramics, polyethylene, PVC. |
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VIII. Exposure Controls/Personal Protection

- 8.1 Special Protective Measures
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| Respiratory: | In confined spaces or indoors, ensure working room air concentrations are less than 0.1ppm chlorine dioxide gas. Wear S.C.B.A. when chlorine dioxide gas is evolved. |
| Hand: | Wear plastic gloves. |
| Eye: | Wear goggles. |
| Skin: | Work suit, preferably made of PVC, Neoprene, nitrile rubber.
Avoid leather, cotton or natural rubber due to fire risk. |
- 8.2 Exposure Limits:
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| | For chlorine dioxide gas:
0.1ppm (0.3mg/cu.m)
0.3ppm (0.9mg/cu.m) STEL. |
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IX. Physical and Chemical Properties

9.1	Physical State:	Pale yellow liquid.
9.2	Odour:	Pine/Terpene
9.3	Temperature Characteristics:	Freezing point:< minus 5°C
9.4	pH:	9.0 - 9.5
9.5	Solubility: In Water: In Solvents:	Completely miscible. Not soluble.
9.6	Vapour Pressure:	N/A
9.7	Density:	1.00 - 1.01
9.8	Flammability:	Not combustible

X. Stability and Reactivity

10.1	Stability:	Minimum 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 and Dangerous Products Released:	At very high temperatures i.e. greater than 100°C, it may decompose to produce chlorine dioxide gas which can cause overpressure and burst in confined spaces. Toxic chlorine dioxide gas may then be released.

XI. Toxicological Information

11.1	Acute Toxicity:	LD50 orl.rat (by feeding-m/f): >2000 mg/kg. LD50 dermal.rbt: => 2000 mg/kg.
11.2	Local Effects:	Skin contact: not irritating (patch test, rabbit, 4h) Eyes: irritant to eyes (Draiza test rabbit).
11.3	Sensitisation:	No data.
11.4	Chronic Toxicity:	Repeated dose in drinking water 90 days, rat (m/f) NOEL = 400 mg/1/d.
11.5	Long Term Toxicity:	Carcinogenicity: No carcinogenic potential. Teratogenicity: No teratogenic potential.
11.6	Experience in Humans:	No significant effect after application in drinking water for upto 12 weeks. Continued inhalation of decomposition products may cause lung oedema.

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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: 3139
- 14.2 UK Road:
Hazchem Code: 2X (additional advice A)
Classification: Corrosive substance.
Packing Group: 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.

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 very 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

- 15.2 Exposure Limits: For chlorine dioxide gas:
0.1ppm (0.3mg/cu.m)
0.3ppm (0.9mg/cu.m) STEL.

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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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Each recipient should carefully review this information, data and recommendations in this specific context of its intended use. This product should only be used according to the specific guidelines for use laid out in Odour Control Systems Limited publications. Use of these products is deemed to be acceptance of the above.

Always READ material safety data sheet before use.

preserving the environment

Odor Control Systems Ltd
33a Castle Close, Manor Lane
Hawarden Industrial Park
Hawarden, Flintshire CH5 3QX

Phone: +44 (0)1244 536700
Fax: +44 (0)1244 535184
E-mail: mail@odourcontrolsystems.ltd.uk
Web: www.odourcontrolsystems.ltd.uk



Certificate No. 7174

