



I. Product and Company Identification

1.1 Identification of the substance or preparation:

OCS DI-OX™ 1000 (including DI-OX 1000/1112, DI-OX 1000/312 and DI-OX 1000/912)

1.2 Company Identification:

Odour Control Systems Limited
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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: Contact with eyes may cause severe damage. Harmful if swallowed.
- 3.2 Environmental Effects: Very Toxic to aquatic organisms.
- 3.3 Physical & Chemical Hazards: In contact with acids or when heated or 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

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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. |
| 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. |

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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. |

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| 7.3 Packaging Materials: | 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: | Ensure working room air concentrations are less than 0.1ppm chlorine dioxide gas 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:

For chlorine dioxide gas:
0.1ppm (0.3mg/cu.m)
0.2ppm (0.9mg/cu.m) STEL.

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IX. Physical and Chemical Properties

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| 9.1 | Physical State: | Clear Solution. |
| 9.2 | Odour: | Typical |
| 9.3 | Temperature Characteristics: | Boiling point : < 214 deg F. Freezing point:< minus 10°C |
| 9.4 | pH: | 9.5 - 10.00 |
| 9.5 | Solubility: In Water: In Solvents: | Completely miscible. Not soluble. |
| 9.6 | Vapour Pressure: | Similar to water |
| 9.7 | Density: | 1.01 |
| 9.8 | Flammability: | Not combustible |

X. Stability and Reactivity

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| 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: | May decompose to produce chlorine dioxide gas which can cause overpressure and burst in confined spaces. Toxic chlorine compounds may be released. |

XI. Toxicological Information

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| 11.1 | Acute Toxicity: | LD50 orl.rat (by feeding-m/f): 12.5 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: 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. |
| | 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. |

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| 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

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| 12.1 Mobility: | Will disperse through aqueous systems. |
| 12.2 Persistence and Degradability: | Will degrade. |
| 12.3 Bioaccumulative Potential: | Not known. |

XIII. Disposal Considerations

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| 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

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| 14.1 UN No: | 3139 |
| 14.2 UK Road: | |
| Hazchem Code: | |
| Classification: | Harmful substance |
| Packing Group: | II. |
| 14.3 Spillage: | Larger than 25 litres, decontaminate with sodium sulphite solution with a contact time of at least 10 mins, 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:

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| 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)
0.2ppm (0.9mg/cu.m) STEL.

XVI. Other Information

16.1 Recommended Uses: Industrial Odour Control Compound and Biocide.

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Always READ material safety data sheet before use.

preserving the environment

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