Odour Control Systems Limited

MSDS DATA SHEET

I. Product and Company Identification

1.1 Identification of the substance or preparation:

OCS SODIUM BISULPHITE SOLUTION

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 Specification will be given on request

2.2 Hazards Identification : Physical And Environmental Slightly toxic to living resources (4)
See ecological information

2.3 Hazards Identification : Adverse Human Health Affects Irritant to eyes, skin and respiratory system.
Harmful if swallowed.

III. Hazards Identification

3.1	Risk Phrases:	22, 31	
	Safety Phrases:	14, 36/37/39, 46	
	Primary Risk	HARMFUL	Secondary Risk:
	S.I. Number:	2693	Conveyance Class: 8
	ADR Class:	8, CORROSIVE	ADR HIN: 80
	Tremcard No.:	80G20	EINECS No. 231– 548 –
	IATA Special Provisions:	N/A	IMDG Code (Page): 8126
	UN Number:	2693	IMCO class: 8, CORROSIVE
	CAS Number:	7631-90-5	Packing Group: =III
	Hazchem Code:	2R	UK Customs Number: CUS 23319

3.2 CHIP Risk Phrases Harmful if swallowed. Contact with acids liberates toxic gas

3.3 CHIP Safety Phrases Keep away from acids and concentrated oxidising agents.
Wear suitable protective clothing, gloves and eye/face protection
If swallowed seek medical advice immediately & show this container or label

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IV. First Aid Measures

4.1	Inhalation	Remove from exposure. Keep warm and at rest. If there is respiratory distress give oxygen. If respiration stops or shows sign of failing, apply artificial respiration. Do not use mouth to mouth ventilation. Obtain medical attention urgently, particularly if coughing persists.
4.2	Skin Contact	Immediately wash with plenty of water, preferably under a shower if affected area is large enough to warrant this. Remove contaminated clothing and thoroughly clean and dry all clothes before re-use. Obtain medical attention if irritation persists or if blistering occurs
4.3	Eye Contact	Irrigate eye thoroughly with water for at least 10 Minutes, holding the eyelid apart if necessary. Obtain medical attention.
4.4	Ingestion	Wash out mouth with water and give plenty of water to drink. Obtain medical attention. Do not induce vomiting. Treatment may be needed for shock or pain.
4.5	Medical Assistance	Symptomatic treatment and supportive therapy as indicated.

V. Fire Fighting Measures

5.1	Special Protective Equipment	Non-flammable. Decomposes in heated air to produce toxic and corrosive gases. Therefore firefighters should wear self-contained breathing apparatus and full body protective clothing (8)
5.2	Suitable Extinguishing Media	Select extinguishing medium appropriate to other materials involved in and/or to the circumstances of the fire. Use fog equipment. In absence of fog equipment a fine spray may be used (8). Keep containers cool with water spray.
5.3	Special Exposure Hazards	Non-flammable. Stable under normal conditions. Decomposes on heating to liberate toxic fumes of sulphur dioxide and corrosive mists of sulphuric acid (if moist).
5.4	Fire & Explosion Hazard Data	

Flash Point:	N/A
Auto – Ignite Temperature:	N/A
Hazardous Combustion Products:	SULPHUR DIOXIDE

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VI. Accidental Release Measures

6.1	Methods for cleaning up: Small spillages: Large spillages:	Dilute with water, neutralise, then wash away with large quantities of water (8). Contain with sand or earth and transfer to suitable container for subsequent disposal by a licenced contractor. See disposal considerations and environmental precautions. Dispose of hazardous waste in accordance with waste disposal and water authority regulations.
6.2	Environmental Precautions	If size of spillage warrants and has contaminated water courses, drains or vegetation – advise appropriate authorities. Evacuate personnel from area.
6.3	Personal precautions	Avoid contact with the liquid. Ventilate the area to dispel toxic decomposition fumes – see stability and reactivity. Appropriate protective clothing should be worn when dealing with a spillage – see exposure controls

VII. Handling and Storage

7.1	Storage	Store in a cool, dry, well ventilated area, away from Incompatable chemical or materials – see stability and reactivity. Keep containers closed to prevent rapid decomposition. For bulk storage, store in lead, rubber – lined, 316L stainless steel or high density polyethylene (below 60°C) tanks. Do not store in metallic, nylon or plastic (above softening temperatures) containers.
7.2	Handling	Exposure by inhalation or skin contact should be Minimised by good industrial hygiene practice. Wear appropriate protective clothing – see exposure control. Safety showers and eyebaths should be available in areas where accidental exposure is possible. The product should be contained in a closed system away from oxidising agents and acids. Ensure adequate ventilation. Smoking is prohibited in storage areas.

VIII. Exposure Controls/Personal Protection

8.1	Hand protection	Wear PVC or rubber gloves
8.2	Eye protection	Wear chemical goggles. Eyebaths should be provided at places where accidental exposure possible.
8.3	Skin protection	Wear PVC/rubber boots. Where significant exposure is possible (eg in dealing with spillage or fire). Showers should be provided at places where accidental exposure may occur.
8.4	Respiratory protection	Occupational exposure limits assigned by HSE (1) and ACGIH (2):- OES – LTEL = 5mgm – 3, OES – STEL = Not listed HSE (1). In the case of decomposition products:- Sulphur dioxide, OES – LTEL = 2ppm (5mgm – 3), OES – STEL = 5ppm (13mgm – 3) HSE (1). Odour threshold = 3ppm. In the event where significant exposure is possible (eg in dealing with spillage, fire or exposure to vapour and/or toxic fumes). Wear self-contained breathing apparatus – see stability and reactivity.

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MATERIAL SAFETY DATA SHEET

IX. Physical and Chemical Properties

9.1	Appearance	Straw coloured liquid
9.3	Odour	Pungent odour of sulphur dioxide, a strong foul odour

9.2	Chemical Synonyms:	BISULPHITE SOLUTION	SODIUM ACID SULPHITE
	Molecular Mass:	104.06	Lethal Dosage: 2g/kg (rat) (100%)
	Solubility in water:	Complete	Specific Gravity @ 20°C: 1.35 H20=1
	Vapour Density:	2.26 air = 1	Vapour Pressure: 11.76 mbar 20°C
	Freezing Point:	-4°C	Boiling Point°C: DECOMPOSES
	Viscosity:	4 – 5 cP 20°C	pH: 4 –6 (10% SOLN)
	FORMULA:	NaHSO3	

X. Stability and Reactivity

10.1	Condition to avoid	Avoid exposure to high temperatures, direct sunlight, Moisture and contamination by dust and foreign bodies
10.2	Materials to avoid	Reacts dangerously with acids and liberates toxic decomposition fumes. Toxic fumes may be liberated when in contact with acids and concentrated oxidising agents. Corrosive to most metals.
10.3	Hazardous Decomposition Products	Decomposes in heated air to liberate toxic fumes of sulphur dioxide and corrosive fumes of sulphuric acid, if moisture present.

XI. Toxicological Information

11.1	Harmful if swallowed.	Liquid and decomposition fumes cause severe irritation and corrosion to skin, eyes, respiratory and digestive tracts. Causes vomiting and stomach pains when ingested. Exposure to high levels of decomposition fumes, may cause respiratory difficulties and pulmonary oedema. Coughing, choking, dizziness and headaches.
11.2	Chronic affects	Effects sense to taste and smell and may give rise to respiratory disease. Corneal ulceration and permanent eye damage.

XII. Biological Information

12.1	Ecological Information	Slightly toxic to living resources – LC50 96hr 10 – 100mg/l (4). No evidence of bioaccumulation or tainting of seafood (4)

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XIII. Disposal Considerations

13.1 Disposal Dangers	Treat as for spillages. Wear appropriate protective clothing – see accidental release measures. Care should be taken to ensure accidental mixing with oxidising agents, in drains, is avoided. Do not attempt to neutralise with strong alkalis. Neutralisation generates to much heat. See disposal methods.
13.2 Disposal Methods	Treat as for spillages. See accidental release Measures. Large and small spillages. Dilute. May be washed to drain with large quantities of water (8). First neutralise with careful addition of soda ash (sodium bicarbonate). Allow 2 – 3 minutes between treatment steps. Add equal volumes of sodium hypochlorite solution and allow to stand for two hours. Transfer hazardous waste into containers of water and neutralise. Wash surplus liquid to waste with plenty of water. Dispose of any hazardous waste in accordance with waste disposal or water authority regulations.

XIV. Transport Information

14.1 SI 1992/743	The road traffic (carriage of dangerous substances in road tankers and tank containers) regulations.
14.2 SI 1993/1746	The chemicals (hazard information and packaging) Regulations
14.3 SI 1992/742	Road traffic (carriage of dangerous substances in packages etc.) regulations.

XV. Regulatory Information

15.1 The chemicals (Hazard Information and Packaging for Supply) Regulations for Supply 1994 (SI No. 3247) (CHIP2).

15.2 Supply	Harmful
15.3 Conveyance	Corrosive substance
15.4 Phrases	Harmful if swallowed. Contact with acids liberates toxic gas. Keep away from acids and oxidising agents. Wear suitable protective clothing, gloves and eye/face protection. If swallowed seek medical advice immediately & show this container/ label.

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XVI. Other Information

16.1 Training Advice

The user should be trained to handle chemicals and be fully aware of the product's reaction/hazards. Read the label before opening the container. Avoid storage with or near reactive chemicals or incompatable materials. See stability and reactivity.

16.2 Recommended uses and restrictions

Used as a source of sulphur dioxide. Often used as an alternative to the powder/crystalline sodium sulphite or metabisulphite. The product is used as a reducing agent in a variety of applications. As an oxygen scavenger in boiler water treatment. As a preservative in the food and brewery industries. As an antichlor in the textile and in other industries. In effluent treatment, particularly that containing chromium. Used in the cellulosic fibre and paper industries. Used in dyes and pharmaceutical industries. Persons suffering asthma or other respiration problems should avoid contact or exposure to the product.

16.3 Data Sources

1. HSE guidance note EH 40 occupational exposure limits (latest edition)
2. ACGIH (threshold limit values and biological exposure indices) 1985-86
3. Chemicals (hazard information and packaging for supply) regulations 1994(SI No. 3247) (CHIP 2).
4. IMO reports and studies No. 35 (the evaluation of hazards of harmful substances carried by ships) 1989
5. IMDG code (international maritime dangerous goods codes) 1990
6. Control of substances hazardous to health regulations. (SI 1988/1657)
7. Factories act 1961
8. Hazchem list No. 6 (emergency action codes and supplementary information 1990)

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