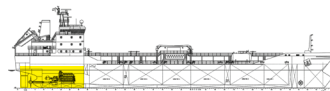


OXIGEN CONTROL



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CATALYSED FOR RAPID OXYGEN REMOVAL PREVENT OXYGEN CORROSION

APPROVED BY



PHYSICAL DATA

Appearance: Pink liquid
Density: 1,33
Ph of 5% solution: 5,5

DESCRIPTION

OXIGEN CONTROL is a catalysed sodium sulphite in liquid form. It is very soluble in water.

APPLICATIONS

OXIGEN CONTROL is used as an oxygen scavenger in boiler water treatment, reacting with oxygen to form inert sodium sulphate. The catalyst ensures rapid reaction times so that complete oxygen removal can be achieved. Rapid oxygen removal means minimal corrosion plus extended boiler life. In boilers where condensate system protection is necessary, UNIservice CONDENSATE CONTROL should be used but applied completely separate to the OXIGEN CONTROL.

Note: OXIGEN CONTROL may also be used for the removal of chlorine, 4 mis of OXIGEN CONTROL removes 1g of free chlorine.

DOSAGE AND CONTROL

OXIGEN CONTROL is a slightly acid liquid and thus must NOT be mixed with any alkaline treatment when dosing the feed system. Mixing with alkaline treatments will cause precipitation of the catalyst. OXIGEN CONTROL can be fed neat or diluted with water. Dilution should not exceed 30 times and must be used immediately.

Application by proportioning pump into the feed system is ideal but addition by dosing pot or alternative means to the feed system or direct to the boiler is acceptable.

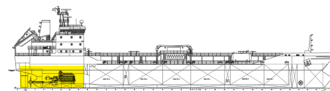
Addition at de-aerator outlet on feed pump suction to give protection to as much of the system as possible is recommended.

OXIGEN CONTROL must be dosed at the rate of 83 mls/tonne if liquid, 45 gr./tonne if powder. This dosage is required to maintain the desired 20-30 mg/l of sodium sulphite in the boiler.

Note: Where boilers are left idle for any length of time a sulphite reserve of 100-200 PPM sodium sulphite should be maintained in the water to protect against corrosion.

The SINGLE TUBE low pressure boilers, I. E. QUICK VAPORISATION BOILERS (without accumulation of steam) are subject to corrosion even after only one or two years of operation under the action of oxygen which becomes more active in the presence of a carbonic acid. That can occur despite the use of distilled water and treatment with BWT ONE SHOT.

OXIGEN CONTROL



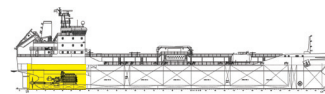
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In order to reduce the corrosive effect of oxygen, when that type of boiler is used for production of steam only occasionally, one should leave in the water a reserve of sulphite of 100 to 200 PPM (mg/l) to protect the serpentine from corrosion, when the boiler is in use, the level of sulphite should be maintained at 20 to 30 PPM.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, THIS INFORMATION IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU DO A TEST TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION FURNISHED BY URRUTY GG NIEGO SRL HEREUNDER ARE GIVEN GRATIS, AND URRUTY GG NIEGO SRL ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.

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OXIGEN CONTROL



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Safety Data Sheet

1. Identification of the substance / preparation and the Company

1.1 Identification of the substance or preparation

Product name OXIGEN CONTROL LIQUID

1.2 Use of the substance / preparation

Intended use Oxygen Sequestering Agent

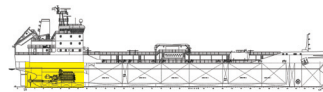
1.3 Company identification

Name Urruty gg Niego S.r.l.
Full address Via al Santuario di N.S. Guardia 58 a
District and Country 16162 Genova Bolzaneto (GE)
Italia
Tel. + 39 010 711395
Fax + 39 010 713120
e-mail address of the competent person responsible for the Safety Data Sheet info@uniservicemarine.com

1.4 Emergency telephone

For urgent inquiries refer to First Aid Information: Centro Antiveleni Milano - Niguarda
Phone: 02 - 66101029 (specialized in chemical products poisoning).

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2. Hazards Identification

2.1 Substance/Preparation Classification

This product is dangerous under 67/548/EEC and 1999/45/EC directives and subsequent amendments. Therefore, this product requires a safety data sheet according to the Regulation (EC) 1907/2006 and subsequent amendments. Further information on health and/or environmental hazards can be found in sections 11 and 12 of this sheet.

Danger Symbols: Xn
R phrases: 22-31

2.2 Danger Identification

HARMFUL IF SWALLOWED.
CONTACT WITH ACIDS LIBERATES TOXIC GAS.

3. Composition / Information on ingredients

Contains:

Name	Concentration % (C)	Classification
Sodium hydrogen sulphite 1%	100,00 %	R31
CAS No 7631-90-5		Xn R22
CE No 231-548-0		Note B
Index No 016-064-00-8		

The complete text of -R- phrases is specified in section 16.

4. First aid measures

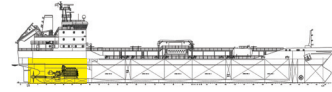
No episodes of damage to health ascribable to the product have been reported. Nevertheless, observance of good industrial hygiene is recommended.

5. Fire-fighting measures

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

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SUITABLE EXTINGUISHING MEDIA

The extinction equipment should be of the conventional kind: carbon dioxide, foam, powder and nebulised water.

EXTINGUISHING MEDIA WHICH SHALL NOT BE USED FOR SAFETY REASONS

None in particular.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products (carbon oxide, toxic pyrolysis products, etc).

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Hardhat with visor, fireproof clothing (fireproof jacket and trousers with straps around arms, legs and waist), work gloves (fireproof, cut proof and dielectric), a depressurised mask with facemask covering the whole of the operator's face or a self-respirator (self-protector) in the event of large quantities of fume.

6. Accidental release measures

PERSONAL PRECAUTIONS

Use breathing equipment if fumes or powders are released into the air.

ENVIRONMENTAL PRECAUTIONS

The product must not penetrate the sewers, surface water, ground water and neighbouring areas.

METHODS FOR CLEANING UP

Confine using earth or inert material. Collect as much material as possible and eliminate the rest using jets of water. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

7. Handling and storage

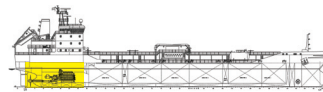
Make sure that equipment is available for cooling the vessels, to prevent the danger of overpressure and overheating in the event of fire in the vicinity. Refer to the other sections of this data sheet for information relating to health and environmental risks.

8. Exposure control / personal protection.

8.1 Exposure limit values

Not available

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8.2 Exposure controls

As the use of adequate technical equipment must always take priority over personal protection equipment, make sure that the workplace is well aired through effective local aspiration or bad air vent. If such operations do not make it possible to keep the concentration of the product below the permitted workplace exposure thresholds a suitable respiratory tract protection must be used. See product label for hazard details during use. Ask your chemical substance suppliers for advice when choosing personal protection equipment. Personal protection equipment must comply with the rules in force indicated below.

HAND PROTECTION

Protect hands with category I (ref. Directive 89/686/EEC and standard EN 374) work gloves, such as those in latex, PVC or equivalent. The following should be considered when choosing work glove material: degradation, breakage times and permeation. Work glove resistance to preparations should be checked before use, as it can be unpredictable. Gloves' limit depends on the duration of exposure.

EYE PROTECTION

Use of protective airtight goggles (ref. standard EN 166) recommended.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (ref. Directive 89/686/CEE and standard EN 344). Wash body with soap and water after removing overalls.

RESPIRATORY PROTECTION

If the threshold value for one or more of the substances present in the preparation for daily exposure in the workplace or to a fraction established by the company's prevention and protection service is exceeded, wear a mask with an B or universal filter, the class (1, 2 or 3) of which must be chosen according to the limit concentration of use (ref. standard EN 141).

The use of breathing protection equipment, such as masks with organic vapour and dust/mist cartridges, is necessary in the absence of technical measures limiting worker exposure. The protection provided by masks is in any case limited.

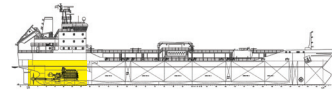
If the substance in question is odourless or its olfactory threshold is higher than the relative exposure limit and in the event of an emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% volume, wear self-contained, open-circuit compressed air breathing apparatus (ref. standard EN 137) or fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece (ref. standard EN 138).

In the presence of risks of exposure to splashes or squirts during work, adequate mouth, nose and eye protection should be used to prevent accidental absorption.

All appropriate action must be taken to ensure that the above substance or preparation (blend, solution, dispersion, etc.) does not come into contact, even by accident, with acids, by adopting suitable technological and/or organisational measures.

If the above substance is intentionally made to react with acids, the need to provide adequate PPE should be considered in view of the characteristics of hazardousness of the reagents and reaction by-products.

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9. Physical and chemical properties

Colour	pale yellow
Odour	pungent
Appearance	liquid
Solubility	soluble
Vapour density	Not available
Evaporation speed	Not available
Comburent properties	Not available
Partition coefficient: n-octanol/water	Not available
pH	4,4
Boiling point	105°C
Melting point	-5°C
Flash point	Not available
Explosive properties	Not available
Vapour pressure	Not available
Specific gravity	1,330Kg/l

10. Stability and reactivity

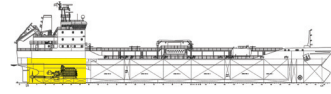
The product is stable in normal conditions of use and storage. In the event of thermal decomposition or fire, vapours potentially dangerous to health may be released.

11. Toxicological information

Acute effects: ingestion of this product is harmful. Even small amounts of product may cause serious health problems (stomach pain, nausea, sickness, diarrhoea). This product may slightly irritate mucosas, the upper respiratory tract, eyes, and skin. Exposure symptoms may include: sting, cough, asthma, laryngitis, respiratory disorders, headache, nausea and sickness.

This product generates toxic harmful gases upon contact with acids.

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12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

13. Disposal consideration

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

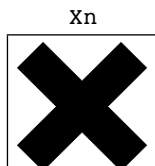
CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

14. Transport information

This product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

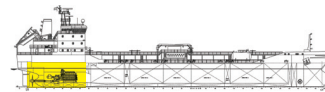
15. Regulatory information



HARMFUL

- R22 HARMFUL IF SWALLOWED.
R31 CONTACT WITH ACIDS LIBERATES TOXIC GAS.
S25 AVOID CONTACT WITH EYES.
S46 IF SWALLOWED, SEEK MEDICAL ADVICE IMMEDIATELY AND SHOW THIS CONTAINER OR LABEL.

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Contains:

Sodium hydrogen sulphite 1%

Label EC: 231-548-0

Danger labelling under directives 67/548/EEC and 1999/45/EC and following amendments and adjustments.

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

16. Other information

Text of (R) phrases quoted in section 3 of the sheet.

R22 HARMFUL IF SWALLOWED.
R31 CONTACT WITH ACIDS LIBERATES TOXIC GAS.

GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments;
2. Directive 67/548/EEC and following amendments and adjustments (technical adjustment XXIX);
3. Regulation (EC) 1272/2008 (CLP) of the European Parliament;
4. Regulation (EC) 1907/2006 (REACH) of the European Parliament;
5. The Merck Index. - 10th Edition;
6. Handling Chemical Safety;
7. Niosh - Registry of Toxic Effects of Chemical Substances;
8. INRS - Fiche Toxicologique (toxicological sheet);
9. Patty - Industrial Hygiene and Toxicology;
10. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition;

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product .

This document must not be regarded as a guarantee on any specific product property. The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses. Changes to previous review

The following sections were modified: 01 / 08 / 09 / 13