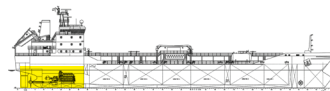


OXYGEN SCAVENGER DEHA



Page
01 of 02

OXYGEN SCAVENGER FORMULATED TO SUBSTITUTE THE HYDRAZINE

PHYSICAL DATA

Appearance: Clear light yellow
Specific gravity: 1.00
pH undiluted: 10.4-10.6
Solubility: complete
Flash point: none

DESCRIPTION

UNIservice OXYGEN SCAVENGER DEHA is the new oxygen scavenger formulated to substitute the Hydrazine. Its volatile properties ensure a distribution throughout the boiler and condensate system providing a good protection against oxygen corrosion. The product establish as well a passivating layer of magnetite on all inner surfaces.

APPLICATIONS

This product must be dosed together with combined BWT One shot or in conjunction with treatment based on Alkalinity Control and Hardness Control, where also mechanical system as deareators are present .

ADVANTAGES

- Safe and easy to use
- Reduce corrosion of iron and copper
- Neutralises acid occurred in condensate water
- Organic product, no solid salts are added
- Volatile product, can replace Condensate Control as well

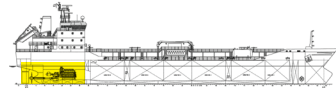
DOSAGE

The dosing point should be placed in the boiler feed line or in the boiler body by means of an injector and a dosing pump (same as Hydrazine). The dosage must be continue and the reserve of DEHA in the condensate must be kept within 0,10 and 0,30 ppm.

CONTROL

Use UNISERVICE DEHA test.

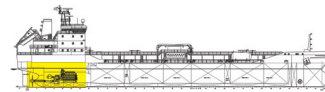
OXYGEN SCAVENGER DEHA



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.

this space intentionally left blank

OXYGEN SCAVENGER DEHA



Rev.
008

Safety Data Sheet

1. Identification of the substance / preparation and the Company

1.1 Identification of the substance or preparation

Product name OXYGEN SCAVENGER DEHA

1.2 Use of the substance / preparation

Intended use Oxygen scavenger

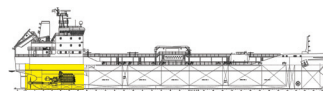
1.3 Company identification

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).

OXYGEN SCAVENGER DEHA



Rev.
008

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: 37/38-41-43-48/22

2.2 Danger Identification

IRRITATING TO RESPIRATORY SYSTEM AND SKIN.
RISK OF SERIOUS DAMAGE TO EYES.
MAY CAUSE SENSITIZATION BY SKIN CONTACT.
HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE IF SWALLOWED.

3. Composition / Information on ingredients

Contains:

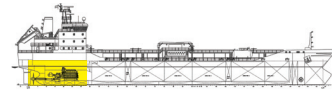
| Name | Concentration % (C) | Classification |
|-----------------------|---------------------|----------------|
| DIETILIDROSSILAMMINA | 20 <= C < 21,5 | R 5 |
| CAS No 7803-49-8 | | Xn R22 |
| CE No 232-259-2 | | Xn R48/22 |
| Index No 612-122-00-7 | | Xi R37/38 |
| | | Xi R41 |
| | | Xi R43 |
| | | N R50 |

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.

OXYGEN SCAVENGER DEHA



Rev.
008

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.

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.

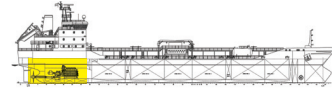
METHODS FOR CLEANING UP

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.

OXYGEN SCAVENGER DEHA



Rev.
008

8. Exposure control / personal protection.

8.1 Exposure limit values

Not available

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 II (ref. Directive 89/686/EEC and standard EN 374) work gloves, such as those in PVC, neoprene, nitril 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

Wear hood visor or protective visor together with airtight goggles (ref. standard EN 166)

SKIN PROTECTION

Wear category II 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

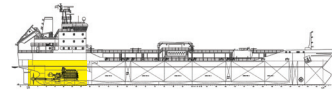
If the threshold value for one or more of the substances present in the preparation for daily exposure in the workplace or to a fraction established by the company's prevention and protection service is exceeded, wear a mask with an B or universal filter, the class (1, 2 or 3) of which must be chosen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

An emergency eye washing and shower system must be provided.

OXYGEN SCAVENGER DEHA



Rev.
008

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.

In the event of prolonged worker exposure, verify the possibility of operating in a closed circuit or of reorganising the work cycle to avoid repetitive exposure; make sure the PPE used is as efficient as possible.

9. Physical and chemical properties

| | |
|--|---------------|
| Colour | Not available |
| Appearance | liquid |
| Solubility | soluble |
| Vapour density | Not available |
| Evaporation speed | Not available |
| Comburent properties | Not available |
| Partition coefficient: n-octanol/water | Not available |
| pH | 10,5 |
| Boiling point | Not available |
| Flash point | Not available |
| Explosive properties | Not available |
| Vapour pressure | Not available |
| Specific gravity | 1,000Kg/l |

10. Stability and reactivity

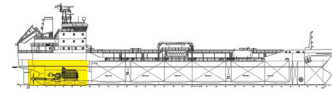
The product is stable in normal conditions of use and storage. In the event of thermal decomposition or fire, vapours potentially dangerous to health may be released.

11. Toxicological information

Acute effects: vapour inhalation may irritate the lower and upper respiratory tract and cause cough and respiratory disorders. At high concentrations, it may also cause pulmonary edema. Contact with skin may cause: irritation, erythema, edema, dryness and chapped skin. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

This product may cause serious ocular lesions, cornea opacity, iris lesions, irreversible eye coloration.

OXYGEN SCAVENGER DEHA



Rev.
008

Upon contact with skin, this product causes sensitization (dermatitis). Dermatitis derives from skin irritation on the areas which repeatedly come into contact with the sensitizing agent. Cutaneous lesions may include: erythemas, edemas, papules, vesicles, pustules, scurvies, ulcerations and exudative phenomena, whose intensity varies according to illness seriousness and affected areas. Erythemas, edemas and exudative phenomena prevail during the acute phase. Scuffy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.

This product may cause functional disorders or morphological mutations after repeated or prolonged exposure, by ingestion of a product quantity of 50 mg/kg (body weight)/day or lower.

12. Ecological information

No specific data are available for this product. Handle it according to good working practices. Avoid littering. Do not contaminate soil, sewers and waterways. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

Please take all the proper measures to reduce harmful effects on aquifers.

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.

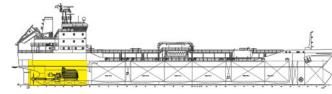
CONTAMINATED PACKAGING

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

14. Transport information

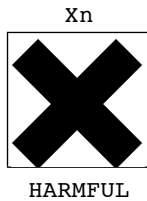
This product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

OXYGEN SCAVENGER DEHA



Rev.
008

15. Regulatory information



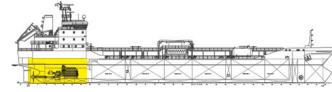
- R37/38 IRRITATING TO RESPIRATORY SYSTEM AND SKIN.
R41 RISK OF SERIOUS DAMAGE TO EYES.
R43 MAY CAUSE SENSITIZATION BY SKIN CONTACT.
R48/22 HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE IF SWALLOWED.
S24/25 AVOID CONTACT WITH SKIN AND EYES.
S26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.
S37/39 WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION.

Contains:
DIETILIDROSSILAMMINA

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.

OXYGEN SCAVENGER DEHA



Rev.
008

16. Other information

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

| | |
|--------|---|
| R 5 | HEATING MAY CAUSE AN EXPLOSION. |
| R22 | HARMFUL IF SWALLOWED. |
| R37/38 | IRRITATING TO RESPIRATORY SYSTEM AND SKIN. |
| R41 | RISK OF SERIOUS DAMAGE TO EYES. |
| R43 | MAY CAUSE SENSITIZATION BY SKIN CONTACT. |
| R48/22 | HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE IF SWALLOWED. |
| R50 | VERY TOXIC TO AQUATIC ORGANISMS. |

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 / 15