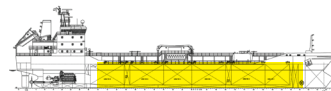


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HYDROCARBON REMOVER (EX BTS)



IMO APPROVED
MEPC.2/CIRC.13 Annex 10

PHYSICAL DATA

Neutral colourless liquid with a characteristic odour.
Completely miscible with sea water and fresh water.
Suitable for use on zinc-silicate coatings and most common metals.
Limited application on epoxy coatings (maximum concentration 10% and maximum temperature 60° C).
Specific gravity (20° C) : 1.00
Flash point PM CC: 74°

DESCRIPTION

- Neutral cleaning product based on highly efficient dissolving and low foaming non-ionic surface active agents.
- Especially developed for the removal of vegetable, animal and mineral oils as well as fats where cleaning with ALKACLEAN or MARISOL or ALKACLEAN SAFETY is not possible.
- Suitable for cleaning tanks coated with zinc-silicate and all common metals.

APPLICATION

1. WATERBASED NEUTRAL HCF can be used for the removal of vegetable and/or animal oils and fats and light mineral oils in aluminium and/or zinc-silicate coated tanks.
2. WATERBASED NEUTRAL HCF can be used as an after-treatment agent in hydrocarbon free cleaning operations where cleaning has been carried out with e.g. ALKACLEAN or MARISOL.
3. If MARISOL has been used for a hydrocarbon-free cleaning there may be a need for spot-cleaning treatment with WATERBASED NEUTRAL HCF if contamination was excessive.

DIRECTIONS FOR USE

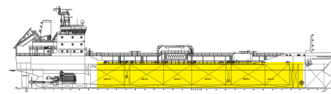
Cleaning of tanks

Prewash before cleaning with WATERBASED NEUTRAL HCF, it is recommended to prewash with hot water at 50° C. For drying and semi-drying oils a prewash with cold water should be carried out immediately after discharge of cargo to retard oxidation and hardening of oil residues.

Recirculation method

A chemical solution is prepared in an empty slop tank or one of the after tanks near the pump room, circulated via the automatic tank washing system pump and heater to the tank to be cleaned, where from the solution is returned to the chemical solution tank via the stripping line. Usually it is not possible to recirculate the chemical solution through the tank washing system heater (to maintain solution temperature) without making a temporary connection between the chemical solution tank and the tank washing

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pump. Capacities of solution tank, pipeline and pumps etc should be calculated carefully to ensure sufficient volumetric quantity for a continuous recirculation. Depending on size and condition of tanks to be cleaned and quantity of chemical solution, a drawback in this method is that usually only 3 tanks can be cleaned with one solution after which a fresh solution should be made and heated before cleaning can continue. Depending on the degree of contamination WATERBASED NEUTRAL HCF is circulated as a 5% solution for a period of 2-6 hours. The water temperature should be approx. 20-60° C. After the circulation period rinse thoroughly with water.

Spray method

Spray the hot tank surfaces with undiluted WATERBASED NEUTRAL HCF until the surfaces are well soaked and let the product act for at least 30 min. Then rinse all tank surfaces with water at max. 60° C for 45 min.

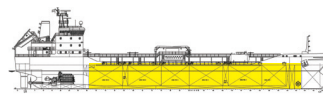
Hydrocarbonfree cleaning

After cleaning with MARISOL or UNICLEAN GP and rising with hot fresh water at a max. temperature of 60° C hand spray a 15% WATERBASED NEUTRAL HCF solution in fresh water on to the hot tank surfaces and let it acts for 30 minutes. Rinse thoroughly with hot chloride free water when cleaning is completed. If fresh water is used, steam tanks afterwards to remove any chlorides which may cause delay in passing the chloride test for methanol etc.

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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Safety Data Sheet

1. Identification of the substance / preparation and the Company

1.1 Identification of the substance or preparation

Product name WATER BASED NEUTRAL HCF

1.2 Use of the substance / preparation

Intended use Hydrocarbon remover tankcleaning detergent

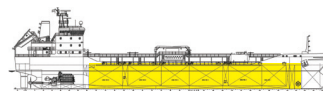
1.3 Company identification

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 info@uniservicemarine.com
for the Safety Data Sheet

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: Xi
R phrases: 36

2.2 Danger Identification

IRRITATING TO EYES.

3. Composition / Information on ingredients

Contains:

Name	Concentration % (C)	Classification
MARLIPAL 31-9 CAS No 68439-54-3	5 <= C < 6	Xn R22 Xi R41
2-BUTOXYETHANOL CAS No 111-76-2 CE No 203-905-0 Index No 603-014-00-0	3 <= C < 3,5	Xn R20/21/22 Xi R36/38

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

4. First aid measures

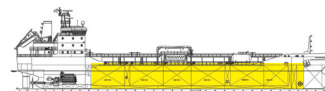
EYES: Irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.

SKIN: Wash immediately with plenty of water. Remove contaminated clothing. If irritation persists, seek medical attention. Wash contaminated clothing before using them again.

INHALATION: Remove to open air. If breathing is irregular, seek medical advice.

INGESTION: Obtain immediate medical attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person.

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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

Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site. If there are no contraindications, spray solid products with water to prevent the formation of dust. Use breathing equipment if fumes or powders are released into the air. Block the leakage if there is no hazard. Do not handle damaged containers or the leaked product before donning appropriate protective gear. For information on risks for the environmental and health, respiratory tract protection, ventilation and personal protection equipment, see the other sections of this sheet.

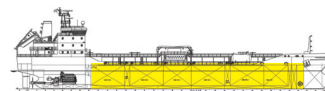
ENVIRONMENTAL PRECAUTIONS

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

METHODS FOR CLEANING UP

Use inert absorbent material (sand, vermiculite, diatomaceous earth, Kieselguhr, etc.) to soak up leaked product. Collect the majority of the remaining material and deposit it in containers for disposal. If there are no contraindications, use jets of water to eliminate product residues. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

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7. Handling and storage

Store in a well ventilated place, keeping the containers closed when not used. Do not smoke while handling. Keep far away from sources of heat, bright flames and sparks and other sources of ignition.

8. Exposure control / personal protection.

8.1 Exposure limit values

Name	Type	Country	TWA/8h		STEL/15min		
			mg/m3	ppm	mg/m3	ppm	
2-BUTOXYETHANOL	TLV-ACGIH		97				Skin
	OEL	EU	98	20	246	50	Skin
	OEL	IRL		20		50	Skin
	WEL	UK		25		50	Skin

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.

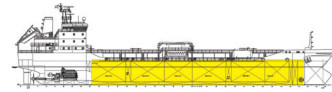
EYE PROTECTION

Wear protective airtight goggles (ref. standard EN 166).

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.

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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).

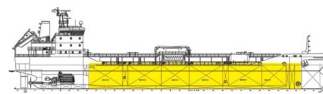
The use of breathing protection equipment, such as masks with organic vapour and dust/mist cartridges, is necessary in the absence of technical measures limiting worker exposure. The protection provided by masks is in any case limited.

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).

9. Physical and chemical properties

Colour	Not available
Odour	odour less
Appearance	liquid
Solubility	soluble
Vapour density	Not available
Evaporation speed	Not available
Comburent properties	Not available
Partition coefficient: n-octanol/water	Not available
pH	7
Boiling point	Not available
Melting point	-5°C
Flash point	Not available
Lower explosive limit	1% (v/v)
Upper explosive limit	11% (v/v)
Vapour pressure	Not available
Specific gravity	1,000Kg/l

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10. Stability and reactivity

The product is stable in normal conditions of use and storage. When heated or in the event of a fire, carbon oxides may be released and vapours which are dangerous to health. The vapours may also form explosive mixtures with the air.

2-Butoxyethanol may form explosive peroxides; it reacts with light metals, such as aluminium (ref. H.C.S.).

11. Toxicological information

Acute effects: stinging eyes. Symptoms may include: rubescence, edema, pain and lachrymation. Vapour inhalation may moderately irritate the upper respiratory tract. Contact with skin may cause slight irritation. Ingestion may cause health problems, including stomach pain and sting, nausea and sickness.

2-BUTOXYETHANOL: oral LD50 (mg/kg) 470 (RAT) ; dermal LD50 (mg/kg) 220 (RABBIT) ; inhalation LC50 (rat) 2,21 mg/l/4h.

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.

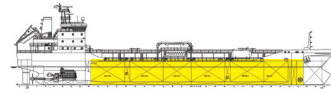
CONTAMINATED PACKAGING

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

14. Transport information

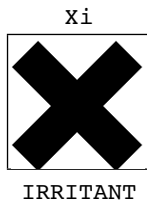
This product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

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15. Regulatory information



- R36 IRRITATING TO EYES.
S25 AVOID CONTACT WITH EYES.
S26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

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

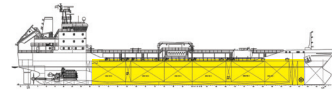
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

16. Other information

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

- R20/21/22 HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
R22 HARMFUL IF SWALLOWED.
R36/38 IRRITATING TO EYES AND SKIN.
R41 RISK OF SERIOUS DAMAGE TO EYES.

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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