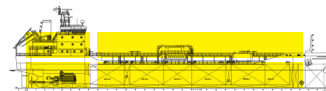


MARISOL



Page
1 of 2

MEDIUM DUTY ALKALINE CLEANER WATER BASED



IMO APPROVED
MEPC.2/CIRC.13 Annex 10

PHYSICAL DATA

Appearance: Clear liquid
pH in 1% solution in water: 10
Apparent Specific gravity: 1

DESCRIPTION

Alkaline cleaning agent containing alkaline salts and surfactants.

APPLICATIONS

- Cleaning of soft and light non oxidised vegetable and animal oil residues from tank surfaces. -Suitable for use on most tank coatings including aluminium, zinc alloy and other light metal alloys.
- Cleaning of steam sides of condensers.
- Cleaning of oil and grease residues in heat exchangers, preheaters etc.

DIRECTIONS FOR USE - PRODUCT DOSE

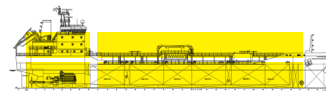
High Pressure work

- For HIGH PRESSURE work allow MARISOL to penetrate for about 3 to 5 minutes before washing off to prevent MARISOL from drying on the surface to be cleaned and forming edges; keep it damp. Cleaning effect is greatly increased by working with warm water.
- For HIGH PRESSURE work, dilute 1 ltr. of MARISOL with 5 ltrs. of water

Tank Cleaning

- Cleaning of tanks should, if possible, be carried out immediately after discharge of contents.
- Product should be mixed in a 2% to 5% MARISOL solution with fresh water and applied at a temperature above 60°C where possible. A volume of MARISOL of approximately 0,5 ltr. per square metre of 1 millimetre thickness of deposit should be used.
- For solutions with salt water, we recommend dosage amounts should be 1 1/2 times greater than the amount required with fresh water.
- Apply by circulation, spray, steam or soak. For fast and efficient cleaning best results are obtained by using fixed and portable tank cleaning machines such as Butterworth or similar.
- Flush tanks out after final cleaning, preferably with fresh water.

MARISOL



Cleaning Condensers or Heat Exchangers

- Prepare a 5% solution of MARISOL with fresh water.
- Apply by circulation for 24 hours, or by filling condenser or heat exchanger approximately half full, heating and agitating by steam lance or auxiliary steam line. A temperature of 60°C to 90°C should be maintained during cleaning process.
- Drain thoroughly flush with fresh water.

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

MARISOL



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: Xi
R phrases: 36

2.2 Danger Identification

IRRITATING TO EYES.

3. Composition / Information on ingredients

Contains:

Name	Concentration % (C)	Classification
MARLIPAL 31-9	3 <= C < 3,5	Xn R22
CAS No 68439-54-3		Xi R41
2-BUTOXYETHANOL	3,5 <= C < 4	Xn R20/21/22
CAS No 111-76-2		Xi R36/38
CE No 203-905-0		
Index No 603-014-00-0		
ETHANOLAMINE	1 <= C < 1,5	C R34
CAS No 141-43-5		Xn R20/21/22
CE No 205-483-3		
Index No 603-030-00-8		

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

MARISOL



Rev.
008

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.

5. Fire-fighting measures

In the event of a fire, cool containers immediately to prevent hazard of explosions and the generation of gas hazardous to health and safety. Always wear full fireproof gear.

GENERAL INFORMATION

In the case of fire, use jets of water to cool the containers to prevent the risk of explosions (product decomposition and excess pressure) and the development of substances potentially hazardous for health. Always wear full fire prevention gear.

SUITABLE EXTINGUISHING MEDIA

Use extinction equipment containing carbon dioxide, foam and chemical powders. For product leaks and spills that do not catch fire, nebulised water can be used to dispel flammable fumes and protect the individuals taking part in stemming the leak.

EXTINGUISHING MEDIA WHICH SHALL NOT BE USED FOR SAFETY REASONS

Do not use water.

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), self-respirator (self-protector).

6. Accidental release measures

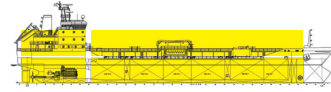
PERSONAL PRECAUTIONS

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.

MARISOL



Rev.
008

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.

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
ETHANOLAMINE	TLV-ACGIH		7,5		15		Skin
	OEL	EU	2,5	1	7,6	3	Skin
	OEL	IRL		3		6	Skin
	WEL	UK		3		6	Skin

MARISOL



Rev.
008

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.

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).

MARISOL



Rev.
008

9. Physical and chemical properties

Colour	Not available
Odour	citrus
Appearance	liquid
Solubility	soluble
Vapour density	Not available
Evaporation speed	Not available
Comburent properties	Not available
Partition coefficient: n-octanol/water	Not available
pH	8,5
Boiling point	Not available
Flash point	Not available
Explosive properties	Not available
Vapour pressure	2000kPa
Specific gravity	1,050Kg/l

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.).

Monoethanolamine reacts basically in water and violently with strong acids.

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.

MARISOL



Rev.
008

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

Xi



IRRITANT

- 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.

MARISOL



Rev.
008

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.
R34	CAUSES BURNS.
R36/38	IRRITATING TO EYES AND SKIN.
R41	RISK OF SERIOUS DAMAGE TO EYES.

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 / 03 / 08 / 09 / 13 / 16