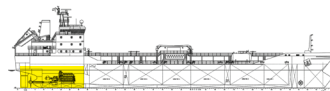


# SOOT STICKS SOOT REMOVER



Page  
01 of 03

## IMPROVES THE CONDITION OF COMBUSTION GAS PASSES IN BOILERS BURNING HEAVY FUEL OIL OR COAL

- Reduces soot and slag deposits
- Reduces cold end corrosion
- Improves heat transfer
- Increases boiler efficiency
- Aids soot blowing
- Reduces cleaning costs

### AVAILABLE IN:

Powder or Sticks

### PHYSICAL DATA

Appearance: Greyish powder  
Specific gravity: 1,2 — 1,4  
Corrosion action: None on ordinary metals

### DESCRIPTION

Active blend of mineral based salts, containing slag modifiers and carbon oxidation catalyst. Each stick contains approximately 0,5 Kg of SOOT REMOVER.

### APPLICATIONS

To remove unburned carbon slag deposits from: -Boiler furnaces, superheaters, economisers, air heaters and exhaust path/stacks.

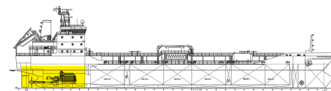
### ADVANTAGES

- Reduces soot and slag deposits by transforming them into dry, powdery ashes which are easily removed.
- Reduces cold end corrosion by neutralizing sulphuric acid deposits on surfaces where the temperature is lower than the dew point of the exhaust gas.
- Improves heat transfer and aids soot blowing due to reduction in deposits.
- Increases boiler efficiency.
- Reduces cleaning costs by decreasing maintenance and frequency of cleaning.
- No need to shut down boiler or plant when dosing.
- Available in easy-to-use stick form.

### DIRECTIONS FOR USE

Determine the quantity of SOOT STICKS / SOOT REMOVER required by quantity of fuel consumed per boiler per day. See DOSAGE TABLE. Introduce the appropriate amount of SOOT STICKS / SOOT REMOVER into the hottest part of the boiler furnace by adopting any of the following methods:

# SOOT STICKS SOOT REMOVER



- A** Open a boiler peephole or furnace door and throw in the required number of sticks.
- B** Remove the burner and shoot the required number of sticks through the body of the burner housing into the furnace and replace the burner.
- C** If the boiler is equipped with dosing injector simply pour the contents of the stick into the injectors and direct the nozzle towards the hottest area of the flame.

## PRODUCT DOSE

- For oil-fired boilers, the daily dosage depends on the fuel oil consumption per boiler, per day (see table).
- For coal-fired boilers, the approximate daily dosage is 3 Kg of SOOT REMOVER per 30 tonnes of coal consumed per boiler every 24 hours.

Note: for best results apply SOOT STICKS SOOT REMOVER daily, immediately after soot blowing.

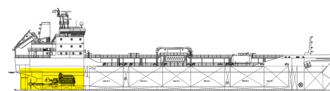
## PACKAGING

IN POWDER: NORMAL SIZE 25 Kg drums of powder  
IN STICKS: box of 50 STICKS of 0,5 Kg per STICK

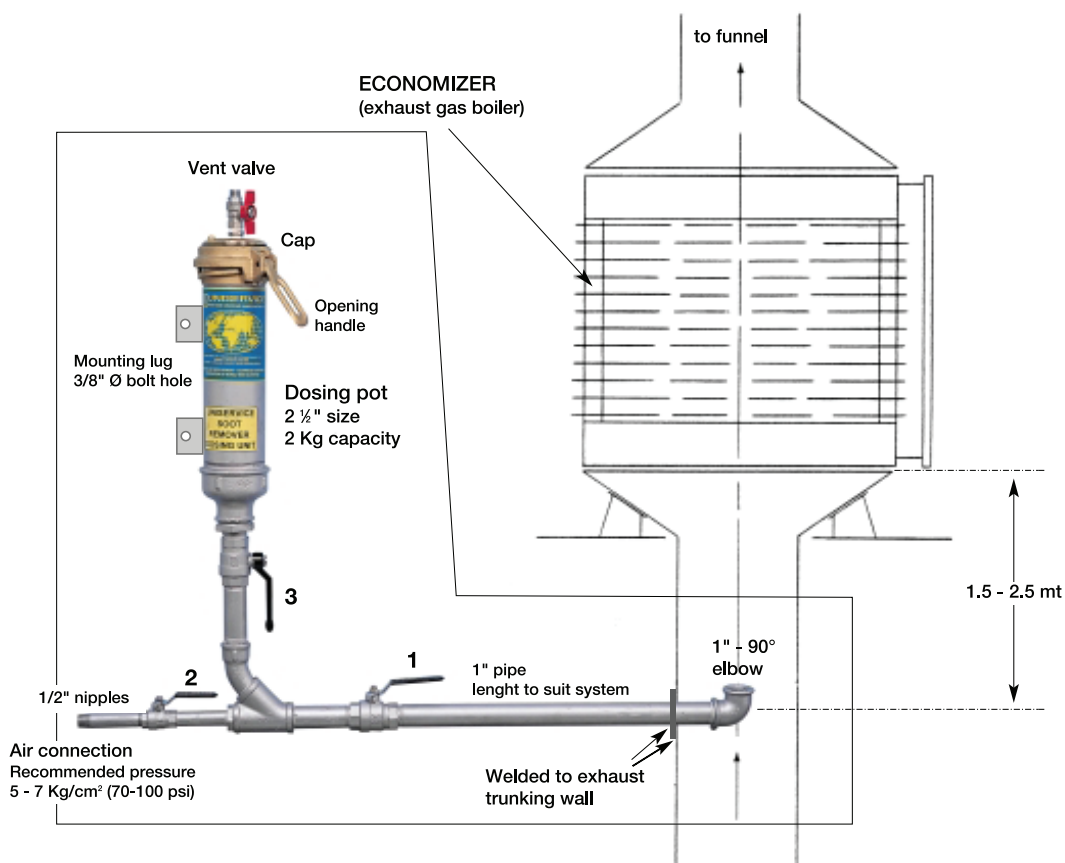
## DOSAGE TABLE

Oil Consumption Tonnes/day	20	40	60	80	100	120	140	160	180
Dosage Kg (Powder)	1	2	4	6	9	12	14	16	18
N° of Sticks	2	4	8	12	18	24	28	32	36

# SOOT STICKS SOOT REMOVER



## SOOT REMOVER DOSING UNIT TYPICAL INSTALLATION



### OPERATION INSTRUCTION

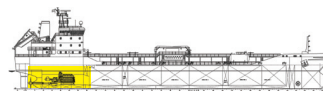
- 1) Fill dosing pot with SOOT REMOVER powder.
- 2) In sequence open valves 1, 2 and 3
- 3) Open vent valve until all SOOT REMOVER is injected (make sure all powder is injected hammering the dosing pot)
- 4) Close valves in contrary sequence 3, 2, 1

**Note:** Install injector in same direction of gas flow centered in the exhaust trunking

**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.



# SOOT STICKS SOOT REMOVER



Rev.  
003

## 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: 42/43

### 2.2 Danger Identification

MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

---

## 3. Composition / Information on ingredients

Contains:

Name	Concentration % (C)	Classification
Copper oxychloride	10 <= C < 20	Xn R22
CAS No 1332-65-6		Xn R42/43
		Xi R36

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

---

## 4. First aid measures

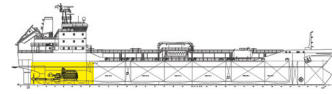
**EYES:** Irrigate copiously with clean, fresh water for at least 15 minutes. Seek medical advice.

**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.

# SOOT STICKS SOOT REMOVER



Rev.  
003

## 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 foam.

---

## 6. Accidental release measures

### PERSONAL PRECAUTIONS

If there are no contraindications, spray powder with water to prevent the formation of dust. Use breathing equipment if powders are released into the air.

### ENVIRONMENTAL PRECAUTIONS

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

### METHODS FOR CLEANING UP

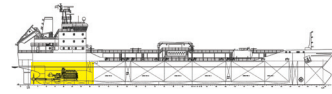
Use mechanical tools to collect leaked product and eliminate the remainder using jets of water. Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

---

## 7. Handling and storage

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.

# SOOT STICKS SOOT REMOVER



Rev.  
003

## 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

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

#### 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.

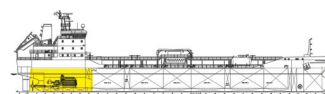
#### RESPIRATORY PROTECTION

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 an FFP3 (ref. standard EN 141) type half mask.

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).

# SOOT STICKS SOOT REMOVER



Rev.  
003

## 9. Physical and chemical properties

Colour green

Solubility insoluble

Viscosity	Not available
Vapour density	Not available
Evaporation speed	Not available
Comburent properties	Not available
Partition coefficient: n-octanol/water	Not available
pH	Not available
Boiling point	Not available
Flash point	Not available
Explosive properties	Not available
Vapour pressure	Not available
Specific gravity	Not available
VOC (Directive 1999/13/EC) :	0
VOC (volatile carbon) :	0

## 10. Stability and reactivity

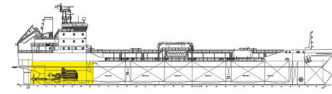
The product is stable in normal conditions of use and storage. Due to thermal decomposition or in the event of a fire vapours may be produced potentially dangerous to health.

## 11. Toxicological information

Inhalation of this product causes sensitization, which may give rise to a series of inflammatory episodes, most of all characterized by obstruction and affecting the respiratory system. Sometimes, sensitization phenomena arise together with evident rhinitis and asthma. Damages to the respiratory system depend on the inhaled quantity, on the product concentration in the working environment and on the exposure time. Contact with skin 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, scurves, ulcerations and exudative phenomena, whose intensity varies according to the illness seriousness and affected areas.



# SOOT STICKS SOOT REMOVER



Rev.  
003

Erythemas, edemas and exudative phenomena prevail during the acute phase. Scurfy skin, dryness, ulcerations and skin thickening prevail during the chronic phase.

SODIUM CHLORIDE: oral LD50 (mg/kg) 3000 (RAT).

---

## 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.

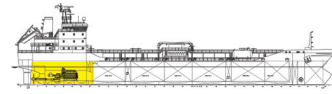
---

## 14. Transport information

This substance 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.

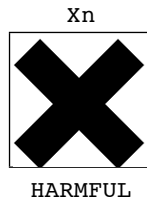
---

# SOOT STICKS SOOT REMOVER



Rev.  
003

## 15. Regulatory information



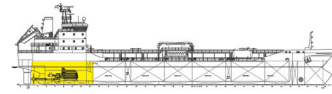
- R42/43 MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.  
S22 DO NOT BREATHE DUST.  
S24 AVOID CONTACT WITH SKIN.  
S37 WEAR SUITABLE GLOVES.  
S45 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).  
S63 IN CASE OF ACCIDENT BY INHALATION: REMOVE CASUALTY TO FRESH AIR AND KEEP AT REST.

Contains:  
Copper oxychloride

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.

# SOOT STICKS SOOT REMOVER



Rev.  
003

## 16. Other information

Text of -R- phrases quoted in section 3 of the sheet.

R22                HARMFUL IF SWALLOWED.  
R36                IRRITATING TO EYES.  
R42/43            MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

### 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 / 02 / 08 / 09 / 11 / 13 / 15 / 16