



**BMT Bunker und Mineralöltransport GmbH**  
**27472 Cuxhaven**

Date printed 27.02.2018, Revision 09.02.2018

Version 01

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Marine Residual Fuel Oil RMA to RML**

**Bunker C, RMA 10, RMB 30, RMD 80, RME 180, RMG 180, RMG 380**

**RMG 500, RMG 700, RMK 380, RMK 500, RMK 700, IFO 180, IFO 380**

**IFO 500, IFO 700**

Registration number	01-2119485975-17-XXXX
IUPAC	Heavy Fuel oil
EU-INDEX	649-008-00-1
EINECS/ELINCS	265-045-2
CAS	64741-45-3

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

#### 1.2.1 Relevant uses

Fuel

#### 1.2.2 Uses advised against

None known.

### 1.3 Details of the supplier of the safety data sheet

Company	BMT Bunker und Mineralöltransport GmbH Hafenkaje 1 27472 Cuxhaven / GERMANY Phone +49 (0) 4721 590 7790 Fax +49 (0) 4721 590 7799 Homepage <a href="http://www.bmt-bunker.de">www.bmt-bunker.de</a> E-mail <a href="mailto:info@bmt-bunker.de">info@bmt-bunker.de</a>
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#### Address enquiries to

Technical information	<a href="mailto:info@bmt-bunker.de">info@bmt-bunker.de</a>
Safety Data Sheet	<a href="mailto:sdb@chemiebuero.de">sdb@chemiebuero.de</a>

### 1.4 Emergency telephone number

Advisory body	+49 (0) 30-30686700 (24h)
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## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]

Carc. 1B: H350 May cause cancer.  
 Acute Tox. 4: H332 Harmful if inhaled.  
 Repr. 2: H361d Suspected of damaging the unborn child.  
 STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure.  
 Aquatic Acute 1: H400 Very toxic to aquatic life.  
 Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects.



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## 2.2 Label elements

### Hazard pictograms



### Signal word

DANGER

### Contains:

Heavy Fuel oil EU-INDEX 649-008-00-1

### Hazard statements

H350 May cause cancer.  
 H332 Harmful if inhaled.  
 H361d Suspected of damaging the unborn child.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 (Blut, Thymusdrüse, Leber)  
 H410 Very toxic to aquatic life with long lasting effects.

### Precautionary statements

P201 Obtain special instructions before use.  
 P260 Do not breathe mist / vapours / spray.  
 P280 Wear protective gloves / protective clothing / eye protection / face protection.  
 P308+P313 IF exposed or concerned: Get medical advice / attention.  
 P273 Avoid release to the environment.  
 P501 Dispose of contents/container in accordance with local/national regulation.

## 2.3 Other hazards

### Environmental hazards

Does not contain any PBT or vPvB substances.

### Other hazards

Further hazards were not determined with the current level of knowledge.

## SECTION 3: Composition / Information on ingredients

### Product-type:

The product is a substance.

Range [%]	Substance
100	Heavy Fuel oil
	CAS: 64741-45-3, EINECS/ELINCS: 265-045-2, EU-INDEX: 649-008-00-1, Reg-No.: 01-2119485975-17-XXXX
	GHS/CLP: Carc. 1B: H350 - Acute Tox. 4: H332 - Repr. 2: H361d - STOT RE 2: H373 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410, M = 1

### Comment on component parts

This material may contain hydrogen sulfide (H<sub>2</sub>S), a highly toxic and extremely flammable gas. Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%. For full text of H-statements: see SECTION 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General information

Take off contaminated clothing and wash before reuse.

#### Inhalation

Remove the victim into fresh air and keep him calm.  
 In the event of symptoms seek medical treatment.

#### Skin contact

In case of contact with skin wash off immediately with soap and water.  
 Consult a doctor if skin irritation persists.

#### Eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 If eye irritation persists: Get medical advice/attention.

#### Ingestion

Consult a doctor immediately.  
 Do not induce vomiting.  
 Rinse mouth.



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**4.2 Most important symptoms and effects, both acute and delayed**

Shortness of breath  
Cough  
Irritant effects  
Dizziness  
Headache

**4.3 Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.  
If swallowed or in the event of vomiting, risk of product entering the lungs.  
Forward this sheet to the doctor.

**SECTION 5: Fire-fighting measures****5.1 Extinguishing media**

**Suitable extinguishing media** Carbon dioxide.  
Dry powder.  
Foam.  
Sand.

**Extinguishing media that must not be used** Full water jet.

**5.2 Special hazards arising from the substance or mixture**

Risk of formation of toxic pyrolysis products.  
Carbon monoxide (CO)

**5.3 Advice for firefighters**

Do not inhale explosion and/or combustion gases.  
Use self-contained breathing apparatus.  
Wear full protective suit.  
  
Cool containers at risk with water spray jet.  
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.  
Collect contaminated firefighting water separately, must not be discharged into the drains.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Keep away from all sources of ignition.  
Ensure adequate ventilation.  
High risk of slipping due to leakage/spillage of product.  
Forms slippery surfaces with water.  
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

**6.2 Environmental precautions**

Prevent spread over a wide area (e.g. by containment or oil barriers).  
Do not discharge into the drains/surface waters/groundwater.  
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

**6.3 Methods and material for containment and cleaning up**

Take up with absorbent material (e.g. sand).  
Take up with absorbent material (e.g. oil binder).  
Leaked liquid may be possibly sucked up in a suitable, prepared container.  
Dispose of absorbed material in accordance with the regulations.

**6.4 Reference to other sections**

See SECTION 8+13

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Provide good room ventilation even at ground level (vapours are heavier than air).

Avoid formation of aerosols.

Encapsulation or vacuuming required.

Use solvent-resistant equipment.

Keep away from all sources of ignition - Refrain from smoking.

Take precautionary measures against static discharges.

Ignitable mixtures can be formed in the empty container.

Vapours can form an explosive mixture with air.

Apparates and equipments must be conform in accordance to standard of storage and handling of flammable products.

Use explosion-proofed equipment/fittings and non-sparkling tools.

Do not eat, drink, smoke or take drugs at work.

After worktime and before work breaks the affected skin areas must be thoroughly cleaned.

Use barrier skin cream.

Take off contaminated clothing and wash before reuse.

Cloths contaminated with product should not be kept in trouser pockets.

**7.2 Conditions for safe storage, including any incompatibilities**

Provide solvent-resistant and impermeable floor.

Keep only in original container.

Prevent penetration into the ground.

Only use containers that are approved specifically for the substance/product.

Do not store together with oxidizing agents.

Do not store together with food and animal food/diet.

Keep container in a well-ventilated place.

Keep container tightly closed.

Protect from heat/overheating and from sun.

Keep in a cool place. Store in a dry place.

**7.3 Specific end use(s)**

See product use, SECTION 1.2



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**SECTION 8: Exposure controls / personal protection****8.1 Control parameters****Ingredients with occupational exposure limits to be monitored (GB)**

Substance
hydrogen sulphide
CAS: 7783-06-4, EINECS/ELINCS: 231-977-3, EU-INDEX: 016-001-00-4
Long-term exposure: 5 ppm, 7 mg/m <sup>3</sup>
Short-term exposure (15-minute): 10 ppm, 14 mg/m <sup>3</sup>

**Ingredients with occupational exposure limits to be monitored (EU)**

Substance / EC LIMIT VALUES
hydrogen sulphide
CAS: 7783-06-4, EINECS/ELINCS: 231-977-3, EU-INDEX: 016-001-00-4
Eight hours: 5 ppm, 7 mg/m <sup>3</sup>
Short-term (15-minute): 10 ppm, 14 mg/m <sup>3</sup>

**DNEL**

Substance
Heavy Fuel oil, CAS: 64741-45-3
Industrial, dermal, Long-term - systemic effects: 0,065 mg/kg bw/day.
Industrial, inhalative (mist), Acute - local effects: 4700 mg/m <sup>3</sup> .
Industrial, inhalative (mist), Long-term - systemic effects: 0,18 mg/m <sup>3</sup> .
general population, oral, Long-term - systemic effects: 0,015 mg/kg bw/day.

**PNEC**

Substance
Heavy Fuel oil, CAS: 64741-45-3
oral (food), 66,7 mg/kg.

**8.2 Exposure controls**

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
<b>Eye protection</b>	safety glasses (EN 166:2001)
<b>Hand protection</b>	0,7 mm Viton, >480 min (EN 374-1/-2/-3). The details concerned are recommendations. Please contact the glove supplier for further information.
<b>Skin protection</b>	Solvent-resistant protective clothing.
<b>Other</b>	Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Avoid contact during pregnancy/ while nursing.
<b>Respiratory protection</b>	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, combination filter A-P2. (DIN EN 14387)
<b>Thermal hazards</b>	none
<b>Delimitation and monitoring of the environmental exposition</b>	Protect the environment by applying appropriate control measures to prevent or limit emissions.



## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Color	black
Odor	characteristic
Odour threshold	not required
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not determined
Flash point [°C]	> 75
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	not determined
Upper explosion limit	not determined
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	not determined
Bulk density [kg/m <sup>3</sup> ]	not applicable
Solubility in water	immiscible
Partition coefficient [n-octanol/water]	not determined
Viscosity	> 20,5 mm <sup>2</sup> /s (40°C)
Relative vapour density determined in air	not determined
Evaporation speed	not determined
Melting point [°C]	not determined
Autoignition temperature [°C]	> 200
Decomposition temperature [°C]	not applicable

### 9.2 Other information

none

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

### 10.2 Chemical stability

The product is stable under standard conditions.

### 10.3 Possibility of hazardous reactions

Reactions with strong oxidizing agents.

### 10.4 Conditions to avoid

Strong heating.  
See SECTION 7.2.

### 10.5 Incompatible materials

Strong oxidizing agent.

### 10.6 Hazardous decomposition products

No hazardous decomposition products known.



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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Substance
Heavy Fuel oil, CAS: 64741-45-3
LD50, dermal, Rabbit: > 2000 mg/kg.
LD50, oral, Rat: > 2000 mg/kg.
LC50, inhalativ (mist), Rat: > 1 - < 5 mg/L 4h.

<b>Serious eye damage/irritation</b>	Non-corrosive / non-irritating.
<b>Skin corrosion/irritation</b>	Non-corrosive / non-irritating.
<b>Respiratory or skin sensitisation</b>	Non-sensitizing.
<b>Specific target organ toxicity — single exposure</b>	No classification.
<b>Specific target organ toxicity — repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure. (Blut, Thymusdrüse, Leber)
<b>Mutagenicity</b>	There is no evidence of any mutagenic effects.
<b>Reproduction toxicity</b>	Suspected of damaging the unborn child.
<b>Carcinogenicity</b>	Can cause cancer.
<b>Aspiration hazard</b>	No classification.
<b>General remarks</b>	none

## SECTION 12: Ecological information

### 12.1 Toxicity

### 12.2 Persistence and degradability

<b>Behaviour in environment compartments</b>	not determined
<b>Behaviour in sewage plant</b>	not determined
<b>Biological degradability</b>	not determined

### 12.3 Bioaccumulative potential

Contains components with the potential to bioaccumulate.

### 12.4 Mobility in soil

The product is insoluble in water.  
Spillages may penetrate the soil causing ground water contamination.

### 12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

### 12.6 Other adverse effects

Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.



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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

##### Product

Dispose of as hazardous waste.  
For recycling, consult manufacturer.  
Disposal in an incineration plant in accordance with the regulations of the local authorities.

**Waste no. (recommended)** 130701\*

##### Contaminated packaging

Packaging that cannot be cleaned should be disposed of as for product.  
Uncontaminated packaging may be taken for recycling.

**Waste no. (recommended)** 150110\*

### SECTION 14: Transport information

#### 14.1 UN number

**Transport by land according to ADR/RID** 3082

**Inland navigation (ADN)** 3082

**Marine transport in accordance with IMDG** 3082

**Air transport in accordance with IATA** 3082





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**14.2 UN proper shipping name**

Transport by land according to ADR/RID Environmentally hazardous substance, liquid, n.o.s. (Heavy Fuel oil)

- Classification Code M6

- Label



- ADR LQ 5 I

- ADR 1.1.3.6 (8.6)

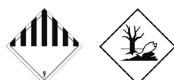
Transport category (tunnel restriction code) 3 (E)

Inland navigation (ADN)

Environmentally hazardous substance, liquid, n.o.s. (Heavy Fuel oil)

- Classification Code M6

- Label



Marine transport in accordance with IMDG

Environmentally hazardous substance, liquid, n.o.s. (Heavy Fuel oil)

- EMS

F-A, S-F

- Label



- IMDG LQ

5 I

Air transport in accordance with IATA

Environmentally hazardous substance, liquid, n.o.s. (Heavy Fuel oil)

- Label

**14.3 Transport hazard class(es)**

Transport by land according to ADR/RID 9

Inland navigation (ADN) 9

Marine transport in accordance with IMDG 9

Air transport in accordance with IATA 9

**14.4 Packing group**

Transport by land according to ADR/RID III

Inland navigation (ADN) III

Marine transport in accordance with IMDG III

Air transport in accordance with IATA III



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**14.5 Environmental hazards**

Transport by land according to ADR/RID      yes

Inland navigation (ADN)      yes

Marine transport in accordance with IMDG      MARINE POLLUTANT

Air transport in accordance with IATA      yes

**14.6 Special precautions for user**

Relevant information under SECTION 6 to 8.

**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**

not determined

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>EEC-REGULATIONS</b>	1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
<b>TRANSPORT-REGULATIONS</b>	DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2018).
<b>NATIONAL REGULATIONS (GB):</b>	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
- VOC (2010/75/CE)	not determined

**15.2 Chemical safety assessment****SECTION 16: Other information****16.1 Hazard statements (SECTION 03)**

H410 Very toxic to aquatic life with long lasting effects.  
 H400 Very toxic to aquatic life.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H361d Suspected of damaging the unborn child.  
 H332 Harmful if inhaled.  
 H350 May cause cancer.



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**16.2 Abbreviations and acronyms:**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
 ATE = acute toxicity estimate  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging  
 DMEL = Derived Minimum Effect Level  
 DNEL = Derived No Effect Level  
 EC50 = Median effective concentration  
 ECB = European Chemicals Bureau  
 EEC = European Economic Community  
 EINECS = European Inventory of Existing Commercial Chemical Substances  
 ELINCS = European List of Notified Chemical Substances  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
 IC50 = Inhibition concentration, 50%  
 IMDG = International Maritime Code for Dangerous Goods  
 IUCLID = International Uniform Chemical Information Database  
 LC50 = Lethal concentration, 50%  
 LD50 = Median lethal dose  
 LC0 = lethal concentration, 0%  
 LOAEL = lowest-observed-adverse-effect level  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 NOAEL = No Observed Adverse Effect Level  
 NOEC = No Observed Effect Concentration  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 STP = Sewage Treatment Plant  
 TLV@/TWA = Threshold limit value – time-weighted average  
 TLV@STEL = Threshold limit value – short-time exposure limit  
 VOC = Volatile Organic Compounds  
 vPvB = very Persistent and very Bioaccumulative

**16.3 Other information****Classification procedure**

Carc. 1B: H350 May cause cancer. (Calculation method)  
 Acute Tox. 4: H332 Harmful if inhaled. (Calculation method)  
 Repr. 2: H361d Suspected of damaging the unborn child. (Calculation method)  
 STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (Calculation method)  
 Aquatic Acute 1: H400 Very toxic to aquatic life. (Calculation method)  
 Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects. (Calculation method)

**Modified position**

none



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