
Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1. Product identifier

- **Trade name:** RESIDUAL MARINE FUELS
F RMA 10
F RMB 30
F RMD 80
F RME 180
F RMG 180
F RMG 380
F RMG 500
F RMG 700
F RMK 380
F RMK 500
F RMK 700 (Fuel Oil, Fuel Oil HS)

- **Chemical name:** Fuel oil, residual
- **Index no.:** 649-024-00-9
- **EC no.:** 270-675-6
- **CAS no.:** 68476-33-5
- **Registration No.:** 01-2119474894-22-0087
- **Product code:** **1000064, 1000065, 1000626**

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

- **Relevant identified uses:** **Industrial:** Manufacture of Substances, Formulation & (Re)Packing of substances, Use as intermediate, Use as a fuel
Professional, Consumer: Use as a fuel
- **Uses advised against:** The uses that are in the list above are relevant.
Other uses are not recommended unless an assessment that proves that the related risks are controlled has been conducted before starting that use.

1.3. Details of the supplier of the safety data sheet

- **Manufacturer/supplier:** **INA-Industrija nafte, d.d.**

Address: Av. Većeslava Holjevcica 10
pp 555, 10002 Zagreb, HRVATSKA

Phone: 00-385-1-6450-842 / 00-385-1-6451-075 (24 h)

Fax: 00-385-1-6452-050

e-mail: sds@ina.hr

- **Responsible person:** **SD & HSE Sector**
Mirela Mavrinac, B.Sc. Tel. 00-385-1-6450-803
Hrvoje Raukar, B.Sc.

1.4. Emergency Telephone Number

- **Emergency Service Telephone Number:** **112**

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

National Protection and Rescue Directorate	00-385-1-3650-011
Nehajska 5, 10000 Zagreb	00-385-1-3650-084
e-mail: info@duzs.hr	00-385-1-3650-082
	00-385-1-3650-083

- Medical Information Telephone Number: 00-385-1-23-48-342

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EC) No 1272/2008 (CLP/GHS):

Acute Tox. 4; H332

Repr. 2; H361

Carc. 1B; H350

STOT Rep. Exp.2; H373

Aquatic Chronic1; H410

2.2. Substance or mixture labelling

2.2.1. Labelling according to Regulation (EC) No 1272/2008 (CLP/GHS)

Hazard pictograms:



GHS07



GHS08



GHS09

Signal word: Danger

Hazard statements (H):	H332	Harmful if inhaled.
	H350	May cause cancer by inhalation.
	H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
	H373	May cause damage to organs through prolonged or repeated exposure through prolonged or repeated exposure.
	H410	Very toxic to aquatic life with long lasting effects.
	EUH066	Repeated exposure may cause skin dryness or cracking.
Precautionary statements (P):	P201	Obtain special instructions before use.
	P260	Do not breathe vapours.
	P273	Avoid release to the environment.
	P281	Use personal protective equipment as required.

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

- P308+ P313 IF exposed or concerned: Get medical advice/ attention.
- P501 Dispose of contents/container in accordance with national regulations.

2.3. Other hazards

No data.

3. COMPOSITION / INFORMATION ON INGREDIENTS

-Substance:	X		Mixture:		
- Components contributing to product hazardousness:					
Substance name	Substance identification			[%]	Classification according to Regulation (EC) No 1272/2008 (CLP/GHS)
	CAS no.	EC no.	Registration no. (REACH)		
Residual marine fuels	68476-33-5	270-675-6	01-2119474894-22-0087	≤100	Acute Tox. 4; H332 Repr. 2; H361 Carc. 1B; H350 STOT Rep. Exp.2; H373 Aquatic Chronic1; H410

4. FIRST AID MEASURES

- General information:

- First aid procedures

- after inhalation: Afflicted person shall be brought to fresh air.
In case of headache, dizziness, nausea and permanent complaints immediately seek medical attention.
In case of fainting transport in lateral position to hospital, paying attention to the free passing of the air through the respiratory tract.
If the person is breathing with difficulty or not at all, administer CPR (heart massage and artificial respiration) and immediately seek medical assistance.
- after skin contact: Take the soaked clothing and footwear off, rinse thoroughly the places of contact with water and soap for at least 10-15 minutes. In case of swelling, redness or itchiness, seek medical assistance.
- after eye contact: Remove contact lenses and flush the eyes with running water for at least 15 minutes. In case of irritation, blurred vision and swelling immediately seek medical attention
- after ingestion: DO NOT invoke vomiting! Do not give anything by mouth. Always assume aspiration into the lungs has occurred. If vomiting occurs, keep the head below the level of hips in order to prevent penetration into the lungs. Immediately seek medical attention.

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

- Note to person administering first aid/ physician:** Risk of pulmonary oedema due to aspiration into the lungs. Administering oxygen only by trained medical personnel.

5. FIRE FIGHTING MEASURES

- **Extinguishing media**
 - SUITABLE: Air foam, CO₂ powder, water mist.
 - NOT SUITABLE: Water jet.
- **Firefighting measures for special hazards:** Remove all ignition sources, call for firemen. Pay special attention to finding out whether there is a risk of explosive-air mixture formation at temperatures above the flash point.
- **Special firefighting measures:** Use water mist and water spray for cooling the surfaces exposed to heat and for protection of persons. Only those who are trained in fire protection/fire-fighting may use water spray (sprayed/dispersed water).
- **Special fire fighter protective equipment:** Wear protective clothing for firefighters (intervention suit) in accordance with HRN EN 469 and a self-contained open-circuit compressed air breathing apparatus in accordance with HRN EN 137.
- **Special hazards arising from the substance or mixture:** Vapours, being heavier than air, remain close to the ground and in recesses from where they can spread farther from the place of accident and cause explosion and fire.
- **Advice for firefighters:** No data.
- **Additional information:** No data.

6. ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Ventilate thoroughly the premises at risk. Display a visible sign prohibiting entrance, use of open flame and sparking devices. Do not smoke. Stand upwind from the spill site. Use means of personal protection mentioned under Item 8.
- **Environmental precautions:** Mark out the contaminated area with signs and prevent leaks and spills into watercourses, canals, drainage systems and soil by digging a protective ditch, setting up partitions made of bags of dry sand, soil or clay. Ensure good ventilation. In case of major spills notify the communication unit by dialling 112.

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

- **Methods for cleaning-up and recovery:** Pump the product from the damaged tank into an empty tank - container with the pump designed for use in potentially explosive atmosphere. Absorb the remainders with absorbents (sawdust, sand, mineral adsorbents and other inert materials). Store the waste material and contaminated surface layer of soil that was removed in closed containers in well-ventilated premises. Hand over for disposal to legal entities for hazardous waste disposal, authorised by the Ministry in charge of environmental protection.
- **Additional warnings:** For the purpose of protecting the local sea zone and port infrastructure from pollution, ships have to be surrounded with a safety barrier. In case of major spills notify Port Authorities and Emergency Service by dialling 112.

7. HANDLING AND STORAGE

- Handling

- safety precautions: Check the level of hydrogen sulfide (H₂S) before entering the confined space in which the product is stored. The vapours are heavier than air, product build-up near the floor of the storage space is possible. Handle the product in well-ventilated areas. Keep away from sources of heat and ignition. Never check the level in the tank near open flames, sparks or smoke. Adhere to occupational health and safety and fire protection measures.

- safe handling advice: Do not smoke. Avoid inhalation of vapours, as well as contact with skin and eyes. Apply personal safety equipment from item 8.

- **Storage:** technical measures and storage conditions:

- SUITABLE: Properly constructed and equipped tanks. Storage tanks in ships have to be kept in a cold and well vented room.
- TO BE AVOIDED: Everything else.

- Packaging materials

- RECOMMENDED: Prescribed for the purpose.
- NOT SUITABLE: No data.

- **Special use:** No data.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Exposure limit values

Hazardous substance (CAS No.)	Occupational exposure limit values/short term values (OEL/STEL)		Biological limit values
	ppm	mg/m ³	
-	-	-	-

- **Monitoring procedures:**

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

8.2. Exposure controls

- Summary of risk management measures:

8.2.1. Occupational exposure controls

- Description of operating procedure and technological control:

Provide a good ventilation / air outlet in the work area.

- Personal protective equipment

- respiratory tract protection: Safety mask for the whole face (HRN EN 136/AC:2006). During the fire, obligatory use of self-sustaining breathing apparatus with compressed-air open circuit (HRN EN 137).
- hand protection: Safety gloves made of a resistant, impermeable material, such as nitrile rubber or viton (HRN EN 374-1, 374-2, and 374-3).
- eye protection: Safety goggles with side guards or vizier (HRN EN 166) for lower concentrations, and safety mask for higher concentrations.
- skin and body protection: Safety clothing and footwear, nitrile rubber apron, chemical safety suit.

- Special hygienic and safety precautions:

Maintain the regular hygiene standards prescribed for working with hazardous substances. Take-off the contaminated clothes and footwear. Regularly check and maintain the equipment/accessories and devices by washing with running water. Smoking prohibited during handling this product, as well as eating and drinking. After each interruption of work, obligatory hand washing.

8.2.2. Environmental exposure controls

- Summary of risk management measures: No data.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information:

- state: Liquid
- colour: Colourless, clear
- odour: Weak
- odour threshold: No data.

9.2. Important health, safety and environmental information:

- pH value (indicate conc. and temp.): Not applicable
- boiling point/boiling range: °C >150
- flash point: °C ≥ 60,0
- flammability (solid, gas): No data
- explosive properties: vol. % 0.5 – 5.0
- oxidizing properties: Not applicable
- vapour pressure: kPa Not applicable
- density at 15 °C: kg/m³ 920,0 – 1010,0
- relative density: Not applicable

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

- solubility (indicate solvent):	g/L	Not applicable
- Solubility in water:	g/L	Not applicable
- partition coefficient n-octanol / water	logPow	Not applicable
- viscosity (kinematic) at 50 °C:	mm ² /s	10,00 – 700,0
- vapour density at 15°C:	kg/m ³	Not applicable
- volatility:		No data

9.3. Other data:

- melting point/freezing point:	°C	Not applicable
- disintegration temperature:	°C	No data
- auto ignition temperature:	°C	260 – 410
- conductivity:	pS/m	Not applicable

10. STABILITY AND REACTIVITY

- Reactivity:	Stable at the prescribed conditions of use and storage.
- Chemical stability:	Stable at the prescribed conditions of use and storage.
- Possibility of hazardous reactions:	No data.
- Conditions to avoid:	Contact with air, strong oxidants, and increased temperature.
- Incompatible materials:	Strong oxidants.
- Hazardous decomposition products:	Incomplete combustion produces a mixture of solid and liquid particles and gases, including H ₂ S, sulfur oxides, nitrogen oxides and carbon oxides.

11. TOXICOLOGICAL INFORMATION

- Information on toxicological effects:

- Acute toxicity

- oral (LD ₅₀):	> 5000 mg/kg
- inhalation (LC ₅₀):	4,1 mg/l
- dermal (LD ₅₀):	> 2000 mg/kg

- Irritation/Corrosion

- skin:	Repeated exposure may cause skin dryness or cracking (EUH066).
- eyes:	Irritating effect possibly accompanied by redness.
- respiratory tract:	Harmful if inhaled.

- Sensitisation

- skin:	No data available.
- respiratory tract:	No data available.

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

- **Aspiration hazard:**
- **Other classic effects: (e.g. unconsciousness, particularly toxic metabolites, etc.):** No data available.
- **Permanent effects due to acute or chronic exposure:** No data available.
- **Special effects**
 - mutagenicity: No data available.
 - carcinogenicity: May cause cancer. (H350)
 - fertility decrease: Suspected of damaging fertility. (H361f)
 - harmful effect on unborn child: Suspected of damaging the unborn child. (H361d)
 - toxicity to reproduction: No data available.
 - other (e.g. endocrine disruptors): No data available.
 - STOT (SE): No data available.
 - STOT (RE): May cause damage to organs through prolonged or repeated exposure. (H373)
- **Prohibitions and restrictions:** No data available.
- **Other:** No data available.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

- to aquatic organisms: No data available.
- to ground organisms: No data available.
- to plants and land animals: No data available.

12.2. Persistence and degradability

- biodegradation: No data available.
- other degradation processes: No data available.
- degradation in wastewater: Harmful for aquatic organisms, may have a long-term harmful effect in water.

12.3. Bioaccumulative potential

- bio-concentration factor (BCF): No data available.

12.4. Mobility in soil

Method: No data available.

- Known or predicted distribution in environmental compartments:

- surface tension: No data available.
- absorption/desorption: No data available.
- other physical and chemical properties: See item 9.

12.5. Results of PBT and vPvB assessment

- data from chemical safety report: No data available.

12.6. Other adverse effects: No data available.

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

13. DISPOSAL CONSIDERATIONS

- **Waste codes:** 13 07 01*
- **Waste treatment methods:** There is no classic waste from this product except in case of unintentional release. For such cases see Section 6.
- **Waste from residues:** -
- **Contaminated packaging:** Not applicable.
- **Relevant provisions:** Act on Sustainable Waste Management, Regulation on waste catalogue, Ordinance on waste management.

14. TRANSPORT INFORMATION

- **UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUIDS, N.O.I.
(Fuel oil residual)
 - **UN number:** 3082
 - **Transport hazard class(es)**
ADR/RID/ADN/ICAO/IATA: 9
IMDG: 9
 - **Packing group**
ADR/RID/ADN/IMDG/ICAO/IATA: III
 - **Environmental hazards**
ADR, RID, ADN, ICAO/IATA: yes
IMDG: yes, maritime pollutant
 - **Special precautions for user**
Not applicable
- | | |
|---|--|
| ADR | RID |
| Transport category: 3 | Transport category: 3 |
| Vehicle for tank carriage: AT | Tank code: LGBV |
| Tank code: LGBV | Label: 9 |
| Tunnel restriction code: (E) | Classification code: M6 |
| Label: 9 | Hazard identification: 90 |
| Classification code: M6 | Special provisions: 274, 335, 601. |
| Hazard identification: 90 | |
| Special provisions: 274, 335, 601. | |
| ADN | IMDG |
| Label: 9 | Subsidiary risk: yes, maritime pollutant |
| Additional requirements/Remarks: 22, 27
*see 3.2.3.3 | Group of the cargo: Category A |
| Dangers: 9+ (N1, N2, CMR, F or S) | Special provisions: 274, 335. |

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

Equipment required: * ; PP

EmS: F-A, S-F

Classification code: M6

Segregation group: Category A

Carriage permitted: yes

Type of tank vessel: * ; N /*; 3

Anti-explosion protection required: no

Maximum degree of filling in %: * ; 97

ICAO

Label: 9 + identifier "Environmental hazard"

Cargo IMP code: RMD

Passenger and cargo aircraft: LQ-30 kg G
(PI Y964); 450 I (PI 964)

Cargo aircraft only: 450 I (PI 964)

ERG code: 9L

Transport in liquid/bulk condition according to MARPOL Convention, Annex II and IBC Codex

Trade name: Not applicable

Pollution category (according to MARPOL, Annex II): Not applicable

Vessel type (according to IBC Code): Not applicable

Special and operative requirements (according to IBC Code): Not applicable

15. REGULATORY INFORMATION

- Applicable EU regulations:

EU Regulation No. 1906/2007 and No. 1272/2008 of the European Parliament and the Council; Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH); EU Regulation No. 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer; EU Regulation No 689/2008 of the European Parliament and of the Council of 17 June 2008 concerning the export and import of dangerous chemicals; EU Regulation No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants; Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives;

- Applicable national regulations:

Chemicals Act; Regulations on Hazardous Substance Exposure Limit Values during Work and Biological Limit Values

- Chemical Safety Assessment carried out (CSA): YES X NO

- Authorization information: -

- Restriction information: -

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

16. OTHER INFORMATION

Revision indicators

Section: **Subject of change:**

Completely new edition of SDS "Residual Marine Fuels", with changes in all sections.

Full text of H- phrases, EUH- and P-phrases:

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Skin corrosion/irritation.
H336	May cause drowsiness or dizziness.
H340	May cause genetic defects.
H350	May cause cancer by inhalation.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H411	Toxic to aquatic life with long lasting effects.
P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P281	Use personal protective equipment as required.
P331	Do NOT induce vomiting.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with national regulations.

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS number	Chemical Abstract Service number
CLP	Classification, Labelling and Packaging of substances and mixtures
CSA	Chemical Safety Assessment
CSR	Chemical Safety Report
EC number	European Community number for identification of chemical substances commercially available in the EU
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code transport

Product	RESIDUAL MARINE FUELS	Date:	2017/2/28
		Edition:	5

LC50	Lethal concentration for 50% of tested organisms
LD50	Lethal concentration for 50% of tested organisms (medium lethal concentration)
OIN	Oil industry notes
PBT	Persistent, bioaccumulative and toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
STOT (SE)	Specific Target Organ Toxicity (Single Exposure)
STOT (RE)	Specific Target Organ Toxicity (Repeated Exposure)
UVCB	Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials
vPvB	Very persistent and very bioaccumulative

Statement:

This SDS is in compliance with the EU Regulation No. 1907/2006 and No. 1272/2008 of the European Parliament and the Council. It contains important user health and safety and environmental protection information. The information provided herein is not a substitute for any specification of quality and should not be deemed as a guarantee of the adequacy and applicability of this product for any purpose whatsoever. All information provided herein is based on our current knowledge and compliant with applicable legal regulations. The user is responsible for adherence to relevant legal regulations.

Data source:

1. www.hzt.hr
2. <http://echa.europa.eu/hr>
3. Hazard classification and labelling of petroleum substances in the EEA, Concawe 2015.

APPENDIX: EXPOSURE SCENARIOS ACCORDING TO CHEMICAL SAFETY REPORT
