

MSDS – Material Safety Data Sheet – FUEL OIL

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION

Trade name: INTERMEDIATE MARINE FUEL

Product code: IFO

Suppliers name and address:

Monjasa A/S
Strevelinsvej 34
7000 Fredericia
Denmark

Routine inquiries:

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2. COMPOSITION/INFORMATION ON INGREDIENTS

components	cas no.	range in %
Atmospheric tower petroleum residues (CAS No. 64741453) or light vacuum petroleum residues (CAS No. 64741566) blended with heavy catalytic cracked petroleum distillates (CAS No. 64741599), catalytic cracked clarified petroleum oils (CAS No. 64741624) or pyrolysis fuel oil (CAS No. 69013214)	68476335	100

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW:

WARNING STATEMENT:
AVOID PROLONGED AND REPEATED SKIN CONTACT. IF SKIN CONTACT OCCURS, WASH EXPOSED AREA WITH SOAP AND WATER.

LAUNDER CONTAMINATED CLOTHING

FLAMMABLE

MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.
USE ONLY AS A FUEL.

EFFECTS OF OVEREXPOSURE:

SKIN:

Brief contact may cause slight irritation. Repeated or prolonged contact may cause more severe irritation and discomfort, seen as local oil acne, redness, itching, inflammation, cracking and possible secondary infection. May cause allergic reactions in some individuals. Absorption from prolonged or repeated skin contact may cause systemic toxicity.

Skin contact may produce a sunburn-like condition through an increased sensitivity to sunlight or other light sources. Contact with heated material may cause thermal burns.

EYE:

May cause irritation, experienced as mild discomfort and seen as slight excess redness of the eye.

INHALATION:

May cause respiratory tract irritation. May release toxic hydrogen sulfide vapors and cause harmful central nervous system effects. Effects may include headache, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death.

INGESTION:

May be irritating to mouth, throat, and stomach. Symptoms may include pain, nausea, vomiting, and diarrhea.

LONG TERM TOXIC EFFECTS:

Suspect cancer hazard. Contains a component(s) that may cause cancer. Risk of cancer depends on duration and level of exposure.

Toxic gas hazard.

See section 11 for additional information.

4. FIRST AID MEASURES

SKIN CONTACT:

Wash skin thoroughly with plenty of water, using soap if available. Remove contaminated clothing. In case of burns through contact with hot product, cool with plenty of running water. Get medical attention.

EYE CONTACT:

Rinse immediately with plenty of water until irritation subsides, or at least 15 min. Hold eyelids apart while flushing to rinse entire surface of eye and lids with water. Splashes of hot product should be immediately flushed with clean water until irritation subsides. Get immediate medical attention.

INHALATION:

In emergency situations use proper respiratory protection to immediately remove the affected victim from exposure. If not breathing, ensure clear airway. Remove to fresh air. Administer artificial respiration if breathing has stopped. If breathing is difficult, qualified medical personnel may administer oxygen. Keep at rest. Call for prompt medical attention.

INGESTION:

If swallowed, DO NOT induce vomiting. Aspiration of the material can cause serious lung injury such as chemical

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pneumonia. Call a doctor immediately. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person.

ADVICE TO DOCTOR:

This product may present an aspiration hazard. See related comments in this MSDS. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours. The use of nitrites in H2S poisoning is recommended as part of the treatment regimen, although the efficacy has not been unequivocally demonstrated. Hyperbaric oxygen therapy (as used in cyanide poisoning with some success) may also benefit if other measures are ineffective.

5. FIRE-FIGHTING MEASURES

APPROPRIATE EXTINGUISHING MEDIA:

Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

INAPPROPRIATE EXTINGUISHING MEDIA:

Straight Streams of Water

FIRE AND EXPLOSION HAZARDS:

Combustible material, low hazard. The product can form flammable mixtures or can burn only on heating above the flash point. However, in a small percentage of residual fuels, light hydrocarbon components can generate flammable headspace gases not detectable by the flash point test. If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop leak. Use water to flush spills away from sources of ignition.

SPECIAL FIRE-FIGHTING PROCEDURES:

Water fog or spray, to cool fire-exposed surfaces (e.g. containers) and to protect personnel, should only be used by personnel trained in fire fighting. Cut off "fuel"; depending on circumstances, either allow the fire to burn out under controlled conditions or use foam or dry chemical powder to extinguish the fire.

Respiratory and eye protection required for fire fighting personnel exposed to fumes or smoke.

HAZARDOUS COMBUSTION PRODUCTS:

Smoke, sulphur oxides, and carbon monoxide in the event of incomplete combustion. Possible release of hydrogen sulphide during heating or hot storage.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

See Section 8.

NOTIFICATION PROCEDURES:

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. In the event of a spill or accidental release, notify immediately relevant authorities in accordance with all applicable

regulations. US regulations require reporting releases of this material to the environment which exceed the applicable reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

STOP LEAK IF YOU CAN DO IT WITHOUT RISK

PROTECTIVE MEASURES:

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required due to toxicity or flammability of the material. See Section 5 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 4 for First Aid Advice. See Section 8 for Personal Protective Equipment.

SPILL MANAGEMENT:

LAND SPILL:

Shut off source taking under normal safety precautions. Prevent liquid from entering sewers, water courses or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation. Take measures to minimise the effects on ground water.

Recover by skimming or pumping using explosion-proof equipment, or contain spilled liquid with booms, sand, or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as directed in Section 13.

WATER SPILL:

Confine the spill immediately with booms. Warn other shipping. Notify port and other relevant authorities.

Remove from the surface by skimming or with suitable absorbents. Disperse the residue in unconfined waters, if permitted by local authorities and environmental agencies.

ENVIRONMENTAL PRECAUTIONS:

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

7. HANDLING AND STORAGE

HANDLING:

Avoid contact with skin. Use proper bonding and/or grounding procedures. Prevent small spills and leakage to avoid slip hazard. Material can accumulate static charges which may cause an electrical spark (ignition source).

STORAGE:

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area. Storage containers should be grounded and bonded. Drums must be grounded and bonded and equipped with self-closing valves, pressure vacuum bungs and flame arresters.

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING CONTROLS:

Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposure.

EYE/FACE PROTECTION:

Avoid eye contact. The wearing of chemicals safety goggles or face shield is recommended.

SKIN PROTECTION:

Avoid contact with skin or clothing. Skin contact can be minimized by wearing impervious protective clothing including gloves. Protective clothing made from neoprene, nitrile, or n-butyl rubber is suitable in these applications.

Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly.

RESPIRATORY PROTECTION:

If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

PERSONAL PROTECTION:

In open systems where contact is likely, wear safety goggles, chemical-resistant overalls, and chemically impervious gloves.

Where only incidental contact is likely, wear safety glasses with side shields. No other special precautions are necessary provided skin/eye contact is avoided.

9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT:	> 204.4 C
FLASH POINT	> 60 deg C
FLAMMABILITY	Not determinate
VAPOUR PRESSURE:	Negligible
VAPOUR DENSITY AT 1BAR:	Heavier than air
DENSITY:	g/ml: at 15 deg. C range 0.94 - 1.01 (varies with grade)
AUTO-IGNITION	Not determinate
VISCOSITY:	mm ² /S: 30-700 at 50 deg. C
POUR POINT:	< 10 C
BENZENE	Not determinate
HYDROGEN SULPHIDE	Not determinate
SULPHUR	< 4,5%
APPEARANCE / ODOUR:	Black viscous liquid with a petroleum oil odour

10. STABILITY AND REACTIVITY

STABILITY:

Material is stable under normal conditions.

CONDITIONS TO AVOID:

Open flames and high energy ignition sources.

INCOMPATIBLE MATERIALS:

Avoid contact with strong oxidants such as liquid chlorine and concentrated oxygen.

HAZARDOUS DECOMPOSITION PRODUCTS:

Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION:

Will not occur.

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11. TOXICOLOGICAL INFORMATION

EFFECTS OF OVER EXPOSURE:

SKIN CONTACT: Prolonged or repeated contact may dry and defeat the skin, leading to irritation and possibly dermatitis.

Prolonged or repeated contact may also lead to more serious skin disorders, including skin cancer.

Exposure to hot material may cause thermal burns.

EYE CONTACT: Hot splashes may cause eye burns and permanent tissue damage.

INHALATION: Negligible hazard at ambient/normal handling temperatures. In high concentrations and/or at elevated temperatures, vapour or mist is irritating to mucous membranes, may cause headaches and dizziness, may be anaesthetic and may cause other central nervous system effects.

Contains small amount of hydrogen sulphide which can accumulate to dangerous levels in the air space above the material.

INGESTION: Minute amounts aspirated into the lungs during ingestion or vomiting may cause severe pulmonary injury and death.

CHRONIC: Lifetime skin painting tests indicate that materials of similar composition have produced skin cancer in experimental animals. The relationship of these results to humans has not been fully established.

Contains polynuclear aromatic hydrocarbons (PNAS). Prolonged and/or repeated skin contact with certain PNAs has been shown to cause skin cancer. Prolonged and/or repeated exposures by inhalation of certain PNAs may also cause cancer of the lung and of other sites of the body.

TOXICITY DATA:

ACUTE:

The exact composition of this product may vary and the potential health hazards described were based upon the possible components.

CHRONIC:

Based on what is known of this product and of materials of similar composition and refining history, this product would be expected to have carcinogenic potential.

12. ECOLOGICAL INFORMATION

In the absence of specific environmental data for this product, this assessment is based on information for general hydrocarbon components found in residual fuels. Residual fuels, immediately following a release into the environment, will remain largely on the soil surface, and in water, will distribute largely between the water and sediment surfaces. Based on chemical/physical information from the literature for selected components in this product, harmful effects to terrestrial and

aquatic habitats could occur. This product is expected to be resistant to biodegradation and to persist in the environment.

13. DISPOSAL CONSIDERATIONS

This product contains hazardous ingredients listed in Section 2. Collect and dispose of it at an authorised disposal facility, in conformance with national and local regulations, and in accordance with directives on hazardous waste.

14. TRANSPORT INFORMATION

USUAL SHIPPING CONTAINERS:

Tankers, rail cars, tank trucks, drums. Do not use galvanised steel, zinc/lead or zinc/copper alloys or natural rubber tank material.

TRANSPORT TEMPERATURE:

deg. C: 10 – 60

AIR (IATA):

Not Regulated for Air Transport

15. REGULATORY INFORMATION

For current health and safety information on marine fuels, contact any Sales representative in the country where the bunker purchase took place.

16. OTHER INFORMATIONS

PRODUCT TYPE / USES:

Heavy fuel oil for large slow speed marine diesel engines, steamships and as blending stock for intermediate marine diesel fuels.

SOURCE OF KEY DATA:

The recommendations presented in this Material Safety Data Sheet were compiled from actual test data (when available), comparison with similar products, component information from suppliers and from recognised codes of good practice.

-----NOTE-----

The information and recommendations contained herein are, to the best of knowledge and belief, accurate and reliable as of the date issued, but are offered without guarantee or warranty. They relate to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Conditions of use of the material are under the control of the user; therefore, it is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

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