

**SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**
**Residual Fuel Oil**

AR1622, AR2810, AR2859, AR2860, AR2890, AR3181, AR3182, AR3183, DMR2065, DMR2067, DMR2069, DMR2070, DMR2071, (DMR “specials” referred to as residual oil standards)

This product is intended for laboratory use.

**Alpha Resources Inc. 3090 Johnson Rd. Stevensville, MI 49127 (269)465-5559**

**CHEMTREC Emergency Phone Number: (800) 424-9300**

**Signal Word: WARNING**

**SECTION 2— HAZARDS IDENTIFICATION**

**Physical Hazard:** Combustible liquid (Category 4) **Health Hazard:** Carcinogenicity (Category 2)

**Hazard Statements:** Combustible liquid (H227), suspected of causing cancer, inhalation (H351).

**Precautionary Statements:** Obtain special instructions before use (P201), don't handle until all safety precautions have been read and understood (P202), keep away from flames and hot surfaces (P210), wear protective gloves/clothing/eyewear/face (P280), If exposed or concerned get medical attention or advice (P308+P313), store in well ventilated place (P403), store locked up (P405), Dispose of content/container in accordance with local, regional, national, and international regulations (P501).


**SECTION 3— COMPOSITION, INFORMATION ON INGREDIENTS**

Component	CAS #	Common %
Fuel Oil	68553-00-4	100

Residual Oil contains various concentrations of elements specified on Certificates of Analysis.

Components are listed as in compliance with OSHA 29CFR 1910.1200

**SECTION 4— FIRST AID MEASURES**

**If inhaled:** Remove victim to fresh air and keep at rest in a position comfortable for breathing (P304+P340). If breathing is difficult qualified personnel may administer Oxygen. Seek medical attention.

**If in eyes:** Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do so. Continue rinsing (P305+P351+P338). **If eye irritation persists:** Get medical advice or attention (P337+P313).

**If on skin:** Wash with plenty of water. (P302+P352). If persists seek medical attention and bring label. Thoroughly clean and dry contaminated clothing or shoes.

**If swallowed:** If adverse effects occur after ingestion, seek medical attention.

**Most Important Symptom:** May cause irritation to eyes, skin, and respiratory system. Inhalation symptoms could be described as cough, irritation, difficulty breathing and possibly cancer. Skin exposure may lead to dermatitis.

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## SECTION 5 — FIRE FIGHTING MEASURES

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**Fire Hazards:** Moderate fire hazard. Mixtures of this material as vapor or air-borne can be explosive when above the flash point.

**Extinguishing Media:** Use extinguishing agents such as: regular dry chemical, carbon dioxide, water, or foam.

**Avoid:** Using streams of water because the possibility of frothing increases.

**Fire-Fighting Equipment/Instructions:** Move bottle from fire zone, if it can be done without risk. Avoid breathing in of material or combustion by-products. Put protective clothing and NIOSH approved self-contained breathing apparatus.

NFPA Rating: Health=1      Fire=2      Reactivity=0

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## SECTION 6 — ACCIDENTAL RELEASE MEASURES

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**Personal Precautions, Protective equipment, and emergency procedures:** Use appropriate protective equipment.

**Methods and Materials for clean up:** Stay away from heat, flames, sparks and other igniters. Soak up released material with a non-combustible medium such as sand and place into an acceptable vessel for disposal.

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## SECTION 7 — HANDLING AND STORAGE

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**Handling:** Personal protection equipment should be used while working with these materials.

**Storage:** Store in a cool, dry place and keep sealed. Follow all regulations or standards that apply. Keep separate from oxidizing materials.

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## SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

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**Personal Protection:** Wear protective gloves, protective clothing, and eye protection (P280). Wash hands thoroughly after handling (P264). Chemical resistant gloves should be worn at all times when handling chemicals. Wear splash resistant safety goggles with a shield.

**Engineering Controls:** Proper ventilation should be used when appropriate (P271). An approved NIOSH respirator should be worn if exposure limits are excessive. Eye wash stations are important to have nearby in case of accident.

**No occupational exposure limits have been created.**

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## SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

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Black thick liquid	Odor: tar-like smell	Specific gravity: ~1
Melting/Freezing Point: N/A	Boiling Point: N/A	Relative Density: varies
Refractive index: N/A	Soluble: Insoluble in water	Evaporation Rate: N/A
Flash point: ~70 °C	Auto-Ignition Temperature: 407°C	
Explosive limits, LEL Vol%: 1%	Explosive limits, UEL Vol%: 5%	

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## SECTION 10 — STABILITY AND REACTIVITY

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Stable material at normal laboratory conditions.      Not reactive at normal temperature and pressure.

**Avoid:** Avoid heat, flames, sparks, and any other ignition sources. Dangerous gases can build-up in confined spaces. Container could blow up if exposed to extreme temperatures.

**Incompatible:** Oxidizing materials

**Hazardous Decomposition:** Thermal decomposition will produce Oxides of Carbon and Hydrogen Sulfide.

**Hazardous Polymerization:** None

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## SECTION 11 — TOXICOLOGICAL INFORMATION

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**Exposure:** Takes place by three routes; inhalation, skin, and ingestion.

**Symptoms related to toxicology:** Could cause irritation to the eyes and skin disorders

### Potential Health Effects

**Inhalation:** Could cause irritation to respiratory tract if oil mist is inhaled. Highly concentrated vapors/mist may cause Central Nervous System depression or irritation.

**Skin, eye, and ingestion:** Contact with the skin could cause irritation. Large amounts of contact with skin in high concentrations can cause weight loss, anorexia, ataxia, lethargy, and even death. Contact with eyes could result in irritation. Gastrointestinal problems might follow ingestion in the form of nausea, vomiting, and diarrhea.

**Acute Toxicity:** Rat, Oral LD50: 4320mg/kg Rat, Oral LD50: >25ml/kg Rabbit, Dermal LD50: >2000mg/kg

**Skin Corrosion/Irritation:** Rabbit, Skin 500mg mild; 0.5ml

**Serious eye damage/irritation:** Rabbit, Eyes, 100µL (24hr) mild

**Skin sensitization:** No data

**Germ cell mutagenicity:** No data

**Reproductive toxicity:** No data

**Listed as a carcinogen or potential carcinogen.** Residual fuel oil is listed as a Group 2b (classifiable as possibly carcinogenic to humans) by IARC. Also, listed as not a carcinogen by OSHA. Also, listed by NTP and OSHA as a carcinogen.

**The application of bunker fuel to mice induced benign and malignant skin tumors.**

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## SECTION 12 — ECOLOGICAL INFORMATION

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**Ecotoxicity Data:** Fish, Zebrafish, LC50: 48mg/L, semi-static (96hr).

**Persistence and Degradability:** No data

**Bio-accumulative Potential:** No data

**Mobility in Soil:** No data

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## SECTION 13 — DISPOSAL CONSIDERATIONS

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Waste disposal should be done in compliance with existing federal, state and local environmental regulations. Do not contaminate any streams, lakes, or ponds.

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## SECTION 14 — TRANSPORT INFORMATION

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U.S. DOT and IATA: This material is not regulated by DOT in non-bulk packaging or by IATA.

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## SECTION 15 — REGULATORY INFORMATION

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U.S. Federal Regulations

TSCA Status: Listed on Toxic Substance Control Act Inventory List.

CERCLA Reportable Quantity: Not regulated

RCRA Status: Not regulated

SARA 313 Title III:

Section 302 Extremely Hazardous Substances: None

Section 311/312 Hazardous Categories: Chronic health and fire.

Section 313 Toxic Chemicals: None

Canadian Regulations

WHMIS: None

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**SECTION 16 — OTHER INFORMATION**

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The data and information as stated was furnished by the manufacturer/vendor/supplier of this product. Alpha Resources Inc. cannot warrant the accuracy of this information and shall not be responsible or liable for any damage that may result, should any of the information be erroneous.