

GOODWAY REFINING, LLC

Safety Data Sheet

*** 1. Product and Company Identification ***

Material Name: Residual Fuel Oil

Synonyms: #6 Fuel Oil; Heavy Fuel Oil; Ship fuel; Bunker Fuel; Burner Oil

Recommended Use: Ship fuel, burner fuel, heating oil

Supplier: Goodway Refining, LLC
4745 Ross Rd.
Atmore, AL 36502

Emergency Telephone #: CHEMTREC 800-424-9300
Goodway 251-294-5660

*** 2. Hazards Identification ***

GHS Classification:

Flammable Liquids – Category 4
Skin Corrosion/Irritation – Category 2
Carcinogenicity – Category 1B
Aquatic Toxicity – Category 1
Specific Target Organ Toxicity – Category 2
Blood, Liver, Thymus

GHS Label Elements

Symbol(s):



Signal Word(s):

Danger

Hazard Statements:

Combustible liquid
Causes skin irritation
Causes eye irritation
May cause an allergic skin reaction
May cause cancer
May cause respiratory irritation
May cause drowsiness and dizziness
Toxic to aquatic life
Harmful if inhaled

Precautionary Statements:

Prevention:

Keep away from flames and hot surfaces – No smoking
Wear protective gloves/clothing/eye/face protection
Do not breathe fumes/gas/vapors

Wear respiratory protection
 Wash hands and forearms thoroughly after handling
 Obtain special instructions before use
 Do not handle until safety precautions have been read and understood
 Avoid release to the environment

- Response:** IF INHALED: Remove victim to fresh air and keep at rest in a comfortable breathing position.
 IN CASE OF FIRE: Use water spray, fog, hand-held dry chemical or foam to extinguish.
 IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation persists or a rash develops, seek medical attention.
 IIF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, seek medical attention.
 Contain spill with inert material or earthen dam if possible.
 If exposed or concerned, seek medical attention.
- Storage:** Store in a well-ventilated place.
 Keep container tightly closed
 Store locked up.
- Disposal:** Dispose of contents and container to appropriate waste site or reclaimer in accordance with local, regional, national/international regulations.
- Other Hazards:** Repeated exposure may cause skin dryness or cracking.
 Contact with hot material can cause thermal burns.
 Hydrogen sulfide (H₂S) is highly toxic and may be fatal if inhaled.
 May ignite on surfaces at temperatures above auto-ignition temperature.
 Electrostatic charges may be generated during pumping.
 Electrostatic discharge may cause fire.
 Flammable vapors may be present even at temperatures below the flash point.
 This product is intended for use in closed systems only.

*** 3. Composition/Information on Ingredients

Mixture Description: A combination of heavy (high boiling point) petroleum hydrocarbons. The amount of sulfur varies with product specification and does not affect the health and safety properties as outlined in the Safety Data Sheet.

CAS #	Chemical Identity/ Component	Concentration %
68607-30-7	Residual Fuel Oil	99.00-100%
7704-34-9	Sulfur	0.00-1.00%

***** 4. First Aid Measures *****

General Information:	Vaporization of H ₂ S that has been trapped in clothing can be dangerous to rescuers. Maintain respiratory protection to avoid contamination from the victim to rescuer. Mechanical ventilation should be used to resuscitate if at all possible.
Inhalation:	Remove person to fresh air. Do not attempt to rescue the victim unless proper respiratory protection is worn. If the victim is not breathing, provide artificial respiration/CPR as necessary. Transport to the nearest medical facility asap.
Skin Contact:	Remove contaminated clothing. Wash skin with soap and water or waterless hand cleaner. Thermal burns require immediate medical attention depending on the severity and the area of the body burned. Soiled clothing must be laundered before reuse.
Eye Contact:	Flush eyes immediately with clean water for at least 15 minutes. Seek medical attention immediately.
Ingestion:	DO NOT INDUCE VOMITING. Do not administer liquids. Obtain immediate medical attention. Lean victim forward to prevent aspiration if spontaneous vomiting occurs,

***** 5. Fire Fighting Measures *****

CAUTION: Flammable vapor production at ambient temperature in the open is expected to be minimal unless the oil is heated above its flash point. However, industry experience indicates that light hydrocarbon vapors can build up in the headspace of storage tanks at temperatures below the flash point of the oil, presenting a flammability and explosion hazard. Tank headspaces should be regarded as a potential flammable, since the oil's flash point cannot be regarded as a reliable indicator of the potential flammability in tank headspaces.

General Fire Hazards:	See Section 9 for flammability properties. Vapors may ignite rapidly when exposed to an ignition source. Vapors are heavier than air, therefore it is possible for them to spread along the ground for long distances to an ignition source and flash back. Floats on water and may reignite on water surface. Hydrogen sulfide and sulfur dioxide may be given off when this material is heated. Do not depend on sense of smell for warning.
Suitable Extinguishing Media:	Fire- fighting foam, water spray, or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.
Unsuitable Extinguishing Media:	Do not use water in a jet.
Fire Fighting Instructions:	Wear full protective clothing and self-contained breathing apparatus. Isolate the area around the fire. Major fires may require withdrawal, allowing the tank to burn. Large tank fires typically require specially trained personnel and equipment to extinguish the fire.

***** 6. Accidental Release Measures *****

Recovery and Neutralization:	Evacuate the area of all non-essential personnel. Carefully contain and stop the source of the spill, if safe to do so. Avoid contact with spilled or released material. Ventilate contaminated area thoroughly.
Materials and Methods for Cleanup:	Take up with sand or other oil absorbent materials. Carefully shovel, scoop, or sweep into an approved waste container for reclamation or disposal. Do not flush away residues with water. Retain as contaminated waste. Remove contaminated soil and dispose of safely in a clearly marked container.
Emergency Methods:	Remove or secure all ignition sources. Consider wind direction...stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc to confirm spill areas.
Personal Protections and Protective Equipment:	Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).
Environmental Precautions:	Prevent from spreading or entering drains, ditches, rivers, or other bodies of water by using sand, earth, or other appropriate barriers. Do not flush down sewage system, unless system is designed to handle such material.

***** 7. Handling and Storage *****

Handling Procedures:	Product is generally stored and transported hot (110-140 degrees F) Handle as a combustible liquid. Keep away from heat, sparks, and open flames. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion. Electrical equipment should be approved for classified area.
Storage Procedures:	Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers tightly closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressureinze, cut, heat, weld, or expose such containers to sources of ignition. Store in a well-ventilated area. Bulk storage tanks should be diked.
Imcompatibles:	Keep away from strong oxidizers. Some synthetic materials may be unsuitable for containers or container linings depending on the material specification and intended use. Examples of materials to avoid are: natural rubber, nitrile rubber, ethylene propylene rubber polystyrene, and PVC. However, some may be suitable for glove materials.
Other Advice:	Ensure that all local regulations regarding handling and storage facilities are followed. Hydrogen sulfide (H ₂ S) and toxic sulfur oxides may be given off when this material is heated. Do not depend on sense of smell for warning.

***** 8. Exposure Controls/Personal Protection *******Component Exposure Limits:**

Material	Source	Type	Ppm	mg/m3	Notation
Hydrogen Sulfide	ACIGH	TWA	1 ppm		
	ACIGH	STEL	5 ppm		

Engineering Measures/Controls:

Use sealed systems as much as possible.
Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment:

Eye washes and emergency showers for emergency use.

Personal Protective Equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory Protection:

If a hydrogen sulfide hazard is present, use a positive pressure SCBA or Type C supplied air respirator with escape bottle.

Hand/Skin Protection:

When prolonged or frequent repeated contact occurs, nitrile gloves may be suitable (breakthrough time of > 240 minutes).
For incidental contact/splash protection, neoprene or PVC gloves may be suitable.

Eye Protection:

When handling heated product, wear heat resistant gloves.

Chemical splash goggles (preferred) or safety glasses are recommended where there is a possibility of splashing or spraying.

***** 9. Physical and Chemical Properties *****

Appearance:	Black, viscous
Odor:	Characteristic heavy, petroleum/asphalt-type odor
Odor Threshold:	ND
pH:	ND
Relative Density:	0.887 – 0.934
Vapor Pressure:	<0.1 kPa
Vapor Density:	ND
Melting Point/Freezing Point:	ND
Boiling Range:	400-1200 degrees F
Flash Point:	>140 degrees F
Water Solubility:	Insoluble/Negligible
Flammability:	Combustible liquid
Upper/Lower Flammability Limits:	ND
Auto Ignition Temp:	>765 degrees F
Evaporation Rate:	ND
Partition coefficient(n-octanol/water):	ND
Decomposition Temperature:	NA
Viscosity:	ND

***** 10. Stability and Reactivity *****

Chemical Stability:	Stable under normal conditions of use
Hazardous Reaction Potential:	Will not occur
Conditions to Avoid:	Avoid high temperatures and ignition sources
Incompatible Materials:	Strong oxidizing agents

Hazardous Decomposition Products: None expected to form under normal storage conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, sulfur dioxides, and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative degradation. Hydrogen sulfide.

***** 11. Toxicological Information *****

Basis for Assessment: Information given is based on product data, a knowledge of the components, and the toxicology of similar products

Likely Routes of Exposure: Inhalation, skin contact, and eye contact are the primary routes of exposure, although accidental ingestion is possible.

Acute Oral Toxicity: Low toxicity: LD50 > 5000 mg/kg, rat

Acute Dermal Toxicity: Low toxicity: LD50 > 2000 mg/kg, rabbit

Acute Inhalation Toxicity: Extremely toxic: LC100 = 600ppm(v) , 0.5h, Man (hydrogen sulfide)
Harmful if inhaled. LC50 > 1.0 - <= 5.0 mg/l, 4h, rat

Skin Corrosion/Irritation: Can be slightly irritating, especially with prolonged contact. May cause dermal sensitization. Hot product can cause burns from moderate to severe.

Serious Eye Damage/Irritation: Contact with eyes may cause mild to moderate irritation. Hot product may cause severe eye burns and/or blindness.

Respiratory Irritation: Inhalation hazard at ambient temperatures is minimal. Upon heating , fumes may be involved, which may result in respiratory tract irritation and central nervous system effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

Respiratory or Skin Sensitization: Not expected to be a sensitizer.

Aspiration Hazard: Not considered to be an aspiration hazard.

Germ Cell Mutagenicity: Positive in in-vitro, but negative in in-vivo mutagenicity assays.

Carcinogenicity: Causes cancer in laboratory animals.

Reproductive and Development Toxicity: This product is not reported to have any reproductive toxicity effects.

Specific Target Organ Toxicity – Single Exposure: Not reported to have any specific target organ general toxicity single exposure effects.

Specific Target Organ Toxicity – Repeated Exposure: May cause damage to organs through prolonged or repeated exposure

***** 12. Ecological Information *****

Basis for Assessment: Fuels are typically made from blending several refinery streams. Ecotoxicological studies have been carried out on a variety of hydrocarbon blends and streams but not those containing additives. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

Acute Toxicity: Very toxic to aquatic organisms.

Mobility: May partition into air, soil, and water.

Persistence/Degradability: Persistent. Not readily biodegradable.

Bioaccumulation: May bio-accumulate in aquatic organisms.

Other Adverse Effects: Films formed on water may affect oxygen transfer and damage organisms.

***** 13. Disposal Considerations *****

Material Disposal:	Recover or recycle if possible. Do not dispose into the environment, in drains, or in water courses. Waste from a spill should be disposed of in accordance with prevailing regulations.
Container Disposal:	Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Send to drum recoverer or metal reclaimer.
Local Legislation:	Disposal should be in accordance with applicable regional national, and local laws and regulations. Local regulations may be more stringent than regional or national requirements and must be in compliance.

***** 14. Transport Information *******DOT Information**

Shipping Name:	Residual Fuel Oil
NA #:	1993
Hazard Class:	3
Packing Group:	III
Placard:	

***** 15. Regulatory Information *******Component Analysis**

UA TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

This material contains one of more of the following chemicals required to be identified under SARA Section 302, SARA Section 304, SARA Section 313, SARA Section 311/312, and/or CERCLA.

SARA Section 302 This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	SARA Section 302 EHS and TPQs
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Petroleum Residue	NA
Catalytic Cracked Clarified Oil	NA
Diesel Oil	NA
Sulfur Compounds	NA
5-methylchrysene	NA
Naphthalene	NA
Benzo(a)phenanthrene	NA
Hydrogen Sulfide	= 500 lb TPQ

SARA Section 304 This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	SARA Section 302 EHS and TPQs
Petroleum Residue	NA
Catalytic Cracked Clarified Oil	NA
Diesel Oil	NA
Sulfur Compounds	NA
5-methylchrysene	NA
Naphthalene	= 100 lb final RQ
Benzo(a)phenanthrene	= 100 lb final RQ
Hydrogen Sulfide	= 100 lb final RQ

SARA Section 313 This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) Form R:

Name	SARA Section 302 EHS and TPQs
Petroleum Residue	None
Catalytic Cracked Clarified Oil	None
Diesel Oil	None
Sulfur Compounds	None
5-methylchrysene	= 0.1 % Supplier notification limit
Naphthalene	= 0.1 % de minimis concentration
Benzo(a)phenanthrene	= 1.0 % Supplier notification limit
Hydrogen Sulfide	None

SARA Section 311/312 The following EPA hazard categories apply to this product:

- Acute Health Hazard
- Chronic Health Hazard
- Fire Hazard
- Extremely Hazardous

***** 16. Other Information *****

NFPA Hazard Rating:

Health: 1
Fire: 2
Reactivity: 0



HMIS Hazard Rating:

Health: 1
Fire: 2
Physical: 0



Additional Information:

This document contains important information to ensure the safe storage, handling, and use of this product. The information in this document should be brought to the attention of the person in your organization responsible for advising on safety matters.

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

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