24-HOUR EMERGENCY TELEPHONE

SPRAGUE: 603-431-1000 CHEMTREC: 800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: #6 FUEL OIL
Synonyms: BUNKER C FUEL, UTILITY FUEL OIL, RESIDUAL FUEL OIL #6
Chemical Formula: Not applicable to mixtures
Recommended Use of the Chemical and Restrictions On Use: Industrial Fuel Oil
Manufacturer / Supplier: Sprague Operating Resources LLC **Phone:** 603-431-1000
185 International Drive, Portsmouth, NH 03801
Emergency Phone Number: SPRAGUE: 603-431-1000; CHEMTREC: 800-424-9300

2. Hazard(s) Identification

Classification of the Substance or Mixture:
Acute Toxicity, Inhalation - Category 4
Carcinogenicity - Category 1B
Specific Target Organ Toxicity (Repeated Exposure) – Category 2
Chronic Aquatic Toxicity – Category 1

Risk Phrases:
R20: Harmful by inhalation.
R45: May cause cancer.
R48 / 21: Harmful: Danger of serious damage to health by prolonged exposure in contact with skin.
R50 / 53: Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R66: Repeated exposure may cause skin dryness or cracking.

Label Elements:

Trade Name: #6 FUEL OIL

Signal Word: Danger

Hazard Statements:
H332: Harmful if inhaled.
H350: May cause cancer.
H373: May cause damage to organs through prolonged or repeated exposure.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements:
P260: Do not breathe dust / fume / gas / mist / vapors / spray.
P280: Wear protective gloves / protective clothing / eye protection / face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.
P331: Do not induce vomiting.
P501: Dispose of contents / container to an approved waste disposal plant.

3. Composition / Information on Ingredients

CAS Number: 68553-00-4
EC Number: 271-384-7
Index Number: 649-030-00-1
Molecular Weight: Not applicable to mixtures

Ingredient	CAS Number	Percent	Hazardous	Chemical Characterization
#6 Fuel Oil *	68553-00-4	100%	Yes	Mixture
Hydrogen Sulfide	7783-06-4	Varies (< 1%)	Yes	Substance

* Consisting of a complex mixture of parafinic, olefinic, and naphthenic hydrocarbons, plus fused polycyclic hydrocarbons (C10 and higher) as benzene solubles.

4. First-aid Measures

Inhalation: Remove from vapor to fresh air. If breathing has stopped, give artificial respiration. Maintain airway and blood pressure and administer oxygen, if available. Keep affected person warm and at rest. Qualified personnel should perform administration of oxygen. Get medical attention immediately.

Ingestion: DO NOT INDUCE VOMITING or give anything by mouth to an unconscious person. When vomiting occurs, keep person's head lower than hips to prevent pulmonary aspiration. Get medical attention immediately.

Skin Contact: Remove contaminated clothing. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 - 20 minutes.) If irritation develops, seek medical aid.

Eye Contact: Flush eyes immediately with large amounts of water, occasionally lifting upper and lower lids until no evidence of chemical remains (approximately 15-20 minutes). If irritation develops, seek medical aid.

5. Fire-fighting Measures

Fire: Flammable Liquid and Vapor!

Explosion: Water or foam may cause frothing. Vapors are heavier than air and may settle to ground level and in dents; they may spread away from the site of accident and cause explosion and fire.

Fire Extinguishing Media*:* Foam, Carbon Dioxide, and Dry Chemical.

Special Information: Do not use water on a #6 Fuel Oil fire in a tank or other containers since it may cause violent eruption and spreading of burning #6 Fuel Oil. Material will not burn unless preheated. Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves, and rubber boots); including a positive-pressure NIOSH approved self-contained breathing apparatus. Cool fire exposed containers with water. Judgment must be used when applying foams to burning oil that is above the boiling point of water. Consult NFPA 11 for additional information.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures: Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

Environmental Precautions and Methods and Materials for Containment and Cleaning Up: Keep out of sewers, drainage areas and waterways. If properly trained, proceed with the following measures:
1. For small spills, take up with sand or other absorbent material and place into containers for later disposal.
2. For large spills, dike far ahead of spill to prevent entrance into watercourses and/or ground water.

Observe local, state, and federal governmental regulations.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities:

Avoid excessive inhalation or skin contact. Isolate from sources of ignition. Prohibit eating, drinking, and the use of tobacco in the immediate area of asphalt use or where asphalt fumes are present. Avoid prolonged contact with exposed skin and sunlight – photosensitization reactions may occur.

Protect against physical damage and excessive temperatures. Store in a well-ventilated location, away from any area where the fire hazard may be acute that complies with NFPA 30 "Flammable and Combustible Liquid Code." Separate from incompatibles, including strong oxidizers.

Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid.) Observe all warnings and precautions listed for the product. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks."

8. Exposure Controls / Personal Protection

Airborne Exposure Limits:
For #6 Fuel Oil (68553-00-4): mineral oil mist
OSHA Permissible Exposure Limit (PEL): 5 mg/m3
ACGIH Threshold Limit Value (TLV): 5 mg/m3
For Hydrogen Sulfide (7783-06-4):
OSHA Permissible Exposure Limit (TWA): 10 ppm - 14 mg/m3 (TWA); 15 ppm - 21 mg/m3 (STEL); 20 ppm (CEIL)
ACGIH Threshold Limit Value (TLV): 10 ppm - 14 mg/m3 (TWA); 15 ppm - 21 mg/m3 (STEL)

Ventilation System: Indoors: A system of local and / or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details. Use explosion-proof equipment. / Outdoors: Work upwind.

Personal Respirators (NIOSH Approved): If the exposure limit is exceeded and engineering controls are not feasible, use a mask with an organic vapor cartridge or positive pressure air supplied (SCBA) unit. Breathing air quality must meet the requirements of the OSHA respiratory protection standard (29CFR1910.134).

Skin Protection: Gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure - Neoprene, PVC.

Eye Protection: Use chemical safety goggles and / or a full face shield where splashing is possible.

Hygiene Measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

9. Physical and Chemical Properties

Appearance: Thick, heavy, black liquid
Odor: Asphalt odor
Odor Threshold: Not determined
pH: No information found
% Volatiles by volume @ 21C (70F): N/A
Melting Point: Not determined
Boiling Point / Boiling Range: 400 - 1200F (204 - 649C)
Flash Point: 150 - 270F (66 - 132C) (Closed Cup)
Evaporation Rate (BuAC=1): Not determined
Flammability: Flammable Liquid and Vapor!
Upper / Lower Flammability or Explosive Limits: Upper – 20.1 / Lower – 3.9
Vapor Pressure (mm Hg): 0.2
Vapor Density (Air=1): 6
Relative Density: Not determined
Solubility: Insoluble
Partition Coefficient: n-octanol / water: logPow 2.7 - 6.0
Auto-ignition Temperature: 765F
Decomposition Temperature: Not determined
Viscosity: 97.4-660 cSt @ 50C (122F) 37.5-172 cSt @ 71.1C (160F)

10. Stability and Reactivity

Reactivity and / or Chemical Stability: Stable under ordinary conditions of use and storage at normal temperatures and pressures.

Possibility of Hazardous Reactions and Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

Incompatible Materials: Strong oxidants, e.g., chlorine and concentrated oxygen.

Hazardous Decomposition Products: Carbon monoxide and other unidentified organic compounds may be formed upon combustion.

11. Toxicological Information

Potential Health Effects:

Inhalation: Irritation of respiratory tract mucous membranes, nausea, CNS depression, pulmonary edema.

Ingestion: Irritation of gastrointestinal tract. Larger quantities can cause nausea and central nervous system depression.

Skin Contact: May cause skin irritation.

Eye Contact: Irritation of cornea and/or conjunctiva.

Chronic Exposure:
Inhalation: Irritation of respiratory tract mucous membranes, possible mild chemical pneumonitis with high concentrations.
Skin Contact: Repeated or prolonged skin contact can result in skin disorders and potential sensitization.

Carcinogenicity: According to the IARC, there is inadequate evidence for the carcinogenicity in humans of fuel oils, and there is sufficient evidence for the carcinogenicity in experimental animals of residual (heavy) fuel oils.

Reproductive Toxicity: Reproductive and growth-related effects of fuel oil are not known.

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:) No data available.

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:) No data available.

Acute Toxicity:
LD50 Oral - rat - 5,530 mg/kg

12. Ecological Information

Ecotoxicity: Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
For #6 Fuel Oil (68553-00-4):
Pimephales promelas LC50: 35 mg/L - 96 h [flow-through]
Brachydanio rerio LC50: 48 mg/L – 96 h [semi-static]

Persistence and Degradability: No information available.

Bioaccumulative Potential: No information available.

Mobility in Soil: No information available.

Other adverse effects: No information available.

13. Disposal Considerations

Recycle or dispose of in accordance with local, state, and federal safety and environmental laws and regulations. Refer to latest EPA or state regulations regarding proper disposal.

14. Transport Information

UN Number: UN1993
UN Proper Shipping Name: FUEL OIL (#6)
Packing Group: III

DOT **IMDG** **IATA**

Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)
Transport Hazard Class(es): 3

Maritime Transport IMDG/GGVSea
Transport Hazard Class(es): 3
Marine Pollutant: Yes

Air Transport ICAO-TI and IATA-DGR
Transport Hazard Class(es): 3

Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code

Special Precautions for User: This product may be re-classed as a combustible liquid when shipped domestically, by land only. If re-classed as a combustible liquid, this product is unregulated by DOT when shipped in non-bulk quantities.

15. Regulatory Information

Chemical Inventory Status

Ingredient	TSCA	EC	Canada - DSL
#6 Fuel Oil (68553-00-4)	Yes	Yes	Yes

Federal, State & International Regulations

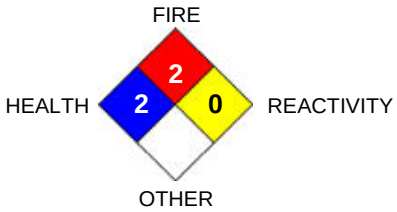
	SARA 302		SARA 313		CERCLA	RCRA
Ingredient	**RQ**	**TPQ**	**List Chemical**	**Catg.**		
#6 Fuel Oil (68553-00-4)	No	No	No	No	No	No

SARA 311/312	**Acute:** Yes	**Chronic:** Yes	**Fire:** Yes	**Pressure**: No	**Reactivity:** No

16. Other Information

HMIS / NFPA Hazard Rating:

4=EXTREME
3= SERIOUS
2= MODERATE
1=SLIGHT
0=MINIMAL



Effective Date: 7/29/14 – Viscosity values updated

Previous Revisions:
7/29/14 – Viscosity values updated
11/01/13 – Modified aspiration instructions
05/01/13 – Standardized for GHS and REACH
10/97, 10/12/00, 07/19/02, 06/05, Reformatted 4/99

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