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An Axel Johnson, Inc. Company

MATERIAL SAFETY DATA SHEET

#5 FUEL OIL

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Page 1 of 4.

| SECTION 1 - MATERIAL IDENTIFICATION | | 24 HOUR EMERGENCY INFORMATION | |
|-------------------------------------|------------------------------------|---|--|
| PRODUCT / CHEMICAL NAME | #5 FUEL OIL | Sprague: 603-431-1000 Chemtrec: 800-424-9300 | |
| PRODUCT / CHEMICAL SYNONYMS | BUNKER FUEL, RESIDUAL FUEL OIL #5. | HMIS / NFPA HAZARD RATING | |
| CHEMICAL FAMILY / FORMULA | AROMATIC PETROLEUM OIL | 4=EXTREME 3=SERIOUS 2=MODERATE 1=SLIGHT 0=MINIMAL | |
| MATERIAL USE OR OCCURRENCE | INDUSTRIAL FUEL OIL | | |

| SECTION 2 - INGREDIENTS | | | | | | |
|---|-----|------------|---|-----------|-----------------------|--|
| COMPONENT | % | C.A.S. NO. | OSHA PEL | OSHA STEL | ACGIH TLV | OTHER |
| NO. 5 FUEL OIL Consisting of a complex mixture of parafinic, olefinic, and naphthenic hydrocarbons, plus fused polycyclic hydrocarbons (C10 and higher) as benzene solubles. | >99 | 68-476-335 | 5 mg/M ³ (mineral oil mist) | | 5 mg/M ³ | |
| Polycyclic Hydrocarbons | <1 | 08-007-452 | 0.2 mg/M ³ | | 0.2 mg/M ³ | (benzene solubles as coal tar pitch volatiles) |

| SECTION 3 - PHYSICAL DATA | |
|---|---|
| BOILING POINT: | 426°-1062°F (218°-570°C) % VOLATILITY BY VOLUME: N/A |
| VAPOR PRESSURE (mm Hg): | 0.1 VAPOR DENSITY (AIR = 1): 6 |
| SPECIFIC GRAVITY (H2O = 1): | .93 - 1.05 SOLUBILITY IN WATER: Insoluble. |
| EVAPORATION RATE (n-butyl acetate = 1): | 0.01 |
| APPEARANCE & ODOR: | Black oily liquid, characteristic hydrocarbon odor. |

| SECTION 4 - FIRE AND EXPLOSION HAZARD DATA | |
|---|------------------------|
| FLASH POINT: 156°-366° F (69°-186° C) (Tag. Closed Cup) | AUTOIGNITION TEMP: N/A |
| FLAMMABILITY LIMITS IN AIR (% BY VOL.) | LEL: 1.0 UEL: 5.0 |
| EXTINGUISHING MEDIUM: Dry chemical, foam, carbon dioxide. | |
| SPECIAL FIRE FIGHTING PROCEDURES: Use supplied-air breathing equipment for enclosed areas. Cool exposed containers with water spray. Continue water spray until entire container contents are cool. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of storage tank due to fire (subject to the fire chief's directions). | |
| UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not mix or store with strong oxidants. Do not store or pour near sources of ignition. Do not pressurize, cut, heat, weld, or expose to sources of ignition. Vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back. | |



MATERIAL SAFETY DATA SHEET

#5 FUEL OIL

Revised 1/94; 10/00; 08/02; 06/05 Reformatted 4/99.

Page 2 of 4.

SECTION 5 - HEALTH DATA

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| TOXICOLOGICAL TEST DATA: | No data available. | RESULTS: |
| | ACUTE HEALTH EFFECTS | CHRONIC HEALTH EFFECTS |
| INHALATION | Mist or vapor may cause respiratory tract irritation. CNS depressant. High levels may cause giddiness, headache, dizziness, nausea, vomiting, and loss of coordination, narcosis, stupor, coma, and unconsciousness. | Prolonged exposure may cause dizziness, weakness, weight loss, anemia, nervousness, pains in the limbs, peripheral numbness, and paresthesia. Renal failure possible. Degenerative changes of liver and kidneys may occur after prolonged exposure to high concentrations. |
| INGESTION | Irritation, giddiness, vertigo, headache, anesthetic stupor, CNS depression, coma and death. | No data available |
| SKIN CONTACT | Drying, cracking and defatting dermatitis. Direct contact may cause extreme irritation with severe erythema and edema with blistering and open sores. Absorption of large amounts may result in narcosis. | Repeated or prolonged exposure may cause irritation, dermatitis, and a rash of pimples and spots. |
| EYE CONTACT | Irritation is possible. However, animal studies indicate that irritation is unlikely. | No data available. |

FIRST AID



PROCEDURES

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 persons head lower than head to prevent pulmonary aspiration. Get medical attention immediately.

SKIN CONTACT: Remove contaminated clothing. Wipe off excess oil with a dry cloth and then 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.

SECTION 6 - REACTIVITY DATA

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| STABILITY: | Stable under normal temperatures and pressures. |
| HAZARDOUS POLYMERIZATION: | Hazardous polymerization has not been known to occur under normal temperatures and pressures. |
| CONDITIONS TO AVOID: | May be ignited by heat, sparks, or flame. Vapors may travel to a source of ignition and flash back. Vapor explosion hazard indoors, outdoors, or in sewers. |
| INCOMPATIBLES: | May explode or react violently when exposed to oxidizing materials. |
| TYPICAL DECOMPOSITION | Thermal decomposition may release various hydrocarbons and hydrocarbon |

PRODUCTS:

derivatives including carbon dioxide, water, organic acids, and aldehydes.

**MATERIAL SAFETY DATA SHEET****#5 FUEL OIL**

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Page 3 of 4.

SECTION 7 - SPECIAL PROTECTION

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| RESPIRATORY PROTECTION: | Use with adequate ventilation. For large spills or when completing work in confined spaces, use a mask with an organic vapor cartridge or positive pressure air supplied (SCBA) unit. |
| VENTILATION | LOCAL EXHAUST: MECHANICAL (General): |
| EYE PROTECTION: | Splash goggles or shields with safety glasses |
| PROTECTIVE GLOVES: | Neoprene, PVC. |
| OTHER PROTECTIVE CLOTHING OR EQUIPMENT: | Employee must wear appropriate impervious clothing and equipment to prevent repeated or prolonged skin contact with this substance. |

SECTION 8 - SPECIAL PRECAUTIONS

| | |
|---|---|
| PRECAUTIONS FOR SAFE HANDLING AND STORAGE: | Avoid excessive inhalation or skin contact. Isolate from sources of ignition. |
| SPILL AND LEAK PROCEDURES: | Shut off ignition sources (no smoking, shut off flames or flares in hazard area). Isolate hazard area and restrict entry. 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; and, 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. |
| WASTE DISPOSAL METHOD | Recycle or dispose of in accordance with local, state, and federal safety and environmental laws and regulations. |

SECTION 9 - DOT HAZARDOUS MATERIAL INFORMATION

| | | |
|---|--------------------------------------|--|
| PROPER SHIPPING NAME: FUEL OIL (#5) | LABEL: FLAMMABLE | REQUIRED PLACARDING: FLAMMABLE OR COMBUSTIBLE / 1993 |
| HAZARD CLASS: CLASS 3 (Flammable liquid) | PACKING GROUP (P.G.): III | N.A./U.N. NUMBER: NA 1993 |
| HAZARDOUS SUBSTANCE / RQ: NOT AVAILABLE | | SHIPPING DESCRIPTION: FUEL OIL (#5), 3, NA 1993, PG III |
| NOTE: 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. | | |

SECTION 10 - EPA SARA TITLE III INFORMATION

| | | |
|---|-------------------|---------------------|
| SECTION 311/312 HAZARD CLASSIFICATION: | ACUTE: YES | CHRONIC: YES |
| | FIRE: YES | PRESSURE: NO |
| | | REACTIVE: NO |

SECTION 11 - REMARKS

None



MATERIAL SAFETY DATA SHEET

#5 FUEL OIL

Revised 11/98; 10/00; 08/02; 06/05 Reformatted
4/99. Page 4 of 4.

SECTION 12 - ADDITIONAL REGULATORY DATA

| REPORTABLE COMPONENTS: FEDERAL EPA | % | SARA RQ | CERCLA RQ | RCRA NO. |
|---|----------|----------------|------------------|-----------------|
| #5 FUEL OIL | 100 | ---- | ---- | |

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