MATERIAL SAFETY DATA SHEET

SECTION 1  PRODUCT AND COMPANY IDENTIFICATION

Explorer Pipeline Company  
6846 South Canton  
P.O. Box 2650  
Tulsa, Oklahoma 74101  
FOR EMERGENCY SOURCE INFORMATION CONTACT:  
- (918) 493 - 5100  
- CHEMTREC: (800) 424-9300 (24 hour contact)  
- CANUTEC: (613) 996-6666  
- SETIQ: 91-800-00214

TRADE NAMES/SYNONYMS:  
Petroleum Naphtha, Straight Run, Refined Light Raffinate  

CHEMICAL FAMILY:  
Aliphatic Naphtha  

EPL Code: 18

This material safety data sheet represents the composite characteristics and properties of fungible petroleum hydrocarbons and other related substances transported by Explorer Pipeline Company. The information presented was compiled from one or more product shipper sources and is intended to provide health and safety guidance for these fungible products. Individual shipper and manufacturer MSDSs are available at Explorer Pipeline Company’s, Tulsa, Oklahoma, offices.

SECTION 2  HAZARDS IDENTIFICATION

Danger Flammable Liquid!!

- Colorless liquid with characteristic gasoline odor, estimated odor threshold 15 ppm;
- Harmful or fatal if swallowed, inhaled or absorbed through skin.
- May cause CNS depression.
- Can produce skin irritation upon prolonged or repeated contact.
- Keep away from heat, sparks and open flame;
- Wash thoroughly after handling;
- Contains petroleum distillates! If swallowed, do not induce vomiting since aspiration into the lungs will cause chemical pneumonia;
- Avoid breathing vapors or mist;
- Use only with adequate ventilation and;
- Obtain prompt medical attention. Keep Out of Reach of Children!

SECTION 3  COMPOSITION/INFORMATION OF INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT</th>
<th>CAS NUMBER</th>
<th>PERCENTAGE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raffinate, Straight Run Naphtha</td>
<td>8030-30-6</td>
<td>99+%</td>
</tr>
<tr>
<td>Paraffins: 40.00-70.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cycloparaffins: 20.00-40.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aromatic Hydrocarbons: 7.00-20.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Benzene</td>
<td>71-43-2</td>
<td>0.1-0.50%</td>
</tr>
</tbody>
</table>

ACUTE

SUMMARY OF ACUTE HAZARDS: May cause transient irritation to eyes and skin. Extreme exposure or aspiration into the lungs may cause chemical pneumonia. Overexposure may cause weakness, headache, nausea, confusion, blurred vision or other CNS effects. At extremely high concentrations and excessive exposure conditions some aliphatic naphtha’s may produce cardiac sensitization.

GETTING IT IN YOUR EYE...

- May cause irritation.
GETTING IT ON YOUR SKIN...
- May cause irritation.
- Prolonged or repeated liquid contact can defat the skin and lead to irritation and/or dermatitis.

SWALLOWING IT...
- May be harmful or fatal if swallowed.

BREATHING IT...
- Extreme overexposure or aspiration into the lungs may cause pneumonia. Overexposure may cause weakness, headache, nausea, confusion, blurred vision, drowsiness, and other nervous system effects.
- Inhalation of vapors can produce pulmonary irritation.

CHRONIC
- Repeated and prolonged overexposure to vapors can cause benzene toxicity to blood-forming tissues including decreases in blood cells, aplastic anemia or leukemia.
- Exposure to such high levels is not likely to be encountered in typical Naptha stream operations due to relatively low benzene concentrations.
- Chronic human health effects would not be expected as long as good personal hygiene and proper safety precautions are practiced.

CANCER, REPRODUCTIVE AND GENETIC EFFECTS
- Some components of naphtha, i.e., paraffins and olefins, have been shown to produce a species specific, sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. The exact relationship between these results and human health is not known.

See Toxicological Information (Section 11) For More Information

SECTION 4 ☀ FIRST AID MEASURES

EMERGENCY MEDICAL TREATMENT PROCEDURES: Activated charcoal slurry may be administered. To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400 mL water and mix thoroughly. Administer 5mL/kg, or 350 mL for an average adult.

EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

SKIN: In case of contact, immediately wash skin with soap and water. Wash contaminated clothing before reuse. If irritation develops, consult a physician.

INGESTION: If swallowed, do not induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Call a physician.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

NOTE TO PHYSICIAN: TREAT SYMPTOMATICALLY AND SUPPORTIVELY

SECTION 5 ☀ FIRE FIGHTING MEASURES

Class IA Flammable Liquid. Highly flammable. Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials. Do not enter enclosed or confined space without proper protective equipment including respiratory protection. May evolve hydrogen sulfide.

FLASH POINT: (Method Used) -40°F (Closed Cup) PERCENT OF AIR PERCENT OF AIR

LEL: 1.5% UEL: 7.6%

AUTOIGNITION TEMPERATURE: 531°F

EXTINGUISHING MEDIA: Foam, Dry Chemical, Carbon Dioxide

HAZARDOUS REACTIONS/DECOMPOSITION: Complete and incomplete combustion may produce nitrous oxides and oxides of carbon and sulfur. Polymerization will not occur. May produce nitrous oxides and oxides of carbon and sulfur.

SPECIAL INSTRUCTIONS: Water may be ineffective, but water should be used to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop a leak. Water spray may be used to flush spills away from exposures.
SECTION 6  ACCIDENTAL RELEASE MEASURES

- Review FIRE AND EXPLOSION HAZARDS and SAFETY PRECAUTIONS before proceeding with clean up.
- Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
- Dike spill.
- Prevent liquid from entering sewers, waterways or low areas.
- Recover free liquid for reuse or reclamation.
- Soak up with sawdust, sand, oil dry or other absorbent material.
- Remove source of heat, sparks, flame, impact, friction, and electricity including internal combustion engines and power tools.
- If equipment is used for spill cleanup, it must be explosion-proof and suitable for flammable liquid and vapors.

NOTE: Vapors released from the spill may create an explosive atmosphere.

SECTION 7  HANDLING AND STORAGE

Prior to working with this product workers should be trained on its proper handling and storage
- Store in accordance with National Fire Protection Association regulations.
- Protect against physical damage to containers.
- Separate from oxidizing materials.
- Store in cool, well ventilated area of non-combustible construction away from possible sources of ignition.

SECTION 8  EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Both local exhaust and general room ventilation are usually required in enclosed areas.

OTHER HYGIENIC AND WORK PRACTICES: Emergency eyewash fountains and safety showers should be available in the immediate vicinity of any potential direct exposure. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using the toilet facilities. Promptly remove soiled clothing. Wash thoroughly before reuse. Shower after work using plenty of soap and water.

EXPOSURE LIMITS

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL</th>
<th>ACGIH TLV (2005)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TWA</td>
<td>STEL</td>
</tr>
<tr>
<td>Naphtha Hydrocarbons (Aromatic &amp; Paraffinic)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 ppm</td>
<td>1 ppm</td>
<td>5 ppm</td>
</tr>
<tr>
<td>(Coal Tar Naphtha)</td>
<td>Not Applicable (N.A.)</td>
<td>(Rubber Solvent)</td>
</tr>
</tbody>
</table>

BENZENE

<table>
<thead>
<tr>
<th></th>
<th>TWA</th>
<th>STEL</th>
<th>TWA</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ppm</td>
<td>0.5 ppm</td>
<td>2.5 ppm</td>
<td></td>
<td></td>
</tr>
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</table>

HYDROGEN SULFIDE

<table>
<thead>
<tr>
<th></th>
<th>TWA</th>
<th>STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceiling</td>
<td>10 ppm</td>
<td>15 ppm</td>
</tr>
<tr>
<td>20 ppm</td>
<td>N.A.</td>
<td></td>
</tr>
</tbody>
</table>

PERSONAL PROTECTIVE EQUIPMENT

- EYES: Where the possibility of splashing exists, chemical goggles are recommended.
- SKIN: Neoprene or NBR recommended protective gloves, coveralls, sleeves, and/or splash aprons.
- RESPIRATORY PROTECTION: If exposure may or does exceed occupational exposure limits, use a NIOSH approved respirator to prevent overexposure. In accordance with 29 CFR 1910.134, use either a full-face, air-supplied or air-purifying respirator with organic vapor filters.

SECTION 9  PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>PERCENT VOLATILE BY VOLUME: 100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOILING POINT (760 MM HG):</td>
<td>&lt;100-435°F</td>
<td></td>
</tr>
<tr>
<td>SPECIFIC GRAVITY (H₂O = 1):</td>
<td>0.70-0.75 @ 32.9°F</td>
<td>VISCOSITY UNITS, TEMP:</td>
</tr>
<tr>
<td>EVAPORATION RATE (BuAc = 1):</td>
<td></td>
<td>VAPOR DENSITY (AIR =1): 4.0</td>
</tr>
<tr>
<td>VAPOR PRESSURE:</td>
<td>525 @ 68°F</td>
<td>SOLUBILITY IN WATER: Negligible</td>
</tr>
<tr>
<td>APPEARANCE AND ODOR:</td>
<td>Colorless liquid with characteristic gasoline odor, estimated odor threshold 15 ppm.</td>
<td></td>
</tr>
</tbody>
</table>

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SECTION 10 ▼ STABILITY AND REACTIVITY

**CHEMICAL STABILITY:** Stable

**CONDITIONS TO AVOID:** Heat, flame, sparks, strong oxidizing conditions.

**OTHER PHYSICAL AND CHEMICAL PROPERTIES:** No Data

**MATERIALS TO AVOID:** Oxidizing agents such as oxygen, chlorine, nitric acid.

**HAZARDOUS POLYMERIZATION:** Has not been reported

SECTION 11 ▼ TOXICOLOGICAL INFORMATION

**BENZENE**

Benzene is known to be a human carcinogen based on sufficient evidence in humans. Case reports and case series have reported leukemia (mostly acute myelogenous leukemia) in individuals exposed to benzene. The strongest epidemiological evidence that benzene causes cancer is from several cohort studies in various industries and geographical locations, which found that occupational exposure to benzene, increased the risk of mortality from leukemia.

**TOXICITY**

<table>
<thead>
<tr>
<th>Type Of Dose</th>
<th>Specie</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD₅₀(oral)</td>
<td>Mouse</td>
<td>4700 mg/kg</td>
</tr>
<tr>
<td>LC₅₀(inh)</td>
<td>Mouse</td>
<td>9980 ppm</td>
</tr>
<tr>
<td>TD₅₀(oral)</td>
<td>Human</td>
<td>50 mg/kg</td>
</tr>
</tbody>
</table>

**CARCINOGENICITY**

<table>
<thead>
<tr>
<th>IARC</th>
<th>Sufficient evidence in animals</th>
<th>Sufficient evidence in humans</th>
<th>Group 1: classifiable as a human carcinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTP</td>
<td>Carcinogen</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MUTAGENICITY, TERATOGENICITY AND REPRODUCTIVE EFFECTS**

Repeated or prolonged breathing of benzene vapor has been associated with the development of chromosomal damage in experimental animals and various blood diseases in humans ranging from aplastic anemia to leukemia (a form of cancer). All of these diseases can be fatal. In some individuals, benzene exposure can sensitize cardiac tissue to epinephrine which may precipitate fatal ventricular fibrillation.

No birth defects have been shown to occur in pregnant laboratory animals exposed to doses not toxic to the mother.

SECTION 12 ♦ ECOLOGICAL INFORMATION

**ACUTE EFFECTS:** No data available on product, however Benzene is considered moderately toxicity to aquatic life. Insufficient data are available to evaluate or predict the short-term effects to birds or land animals.

**CHRONIC EFFECTS:** No data available on product, however Benzene is considered moderately toxicity to aquatic life. Insufficient data are available to evaluate or predict the long-term effects to birds or land animals.

**DISTRIBUTION AND PERSISTENCE IN THE ENVIRONMENT:** No Data available.

SECTION 13 ♦ DISPOSAL CONSIDERATIONS

Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations. Do not flush to surface water or sanitary sewer system. By itself, the liquid is expected to be a RCRA ignitable hazardous waste, when disposed.

SECTION 14 ♦ TRANSPORTATION INFORMATION

Not Meant To Be All Inclusive - Check Local, State, And Federal Laws And Regulations

<table>
<thead>
<tr>
<th>Agency</th>
<th>Shipping Name</th>
<th>Packing Group</th>
<th>Hazard Class</th>
<th>UN/NA #</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. DOT</td>
<td>Naptha, Solvent</td>
<td>I, II, or III</td>
<td>Flammable Liquid</td>
<td>UN 1256</td>
</tr>
</tbody>
</table>

SECTION 15 ♦ REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>CERCLA RQ’s (40 CFR Part 302)</th>
<th>Benzene – 10 pounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>RCRA</td>
<td>Benzene - U019</td>
</tr>
</tbody>
</table>
SARA (40 CFR Part 355) TPQ’s | None of the ingredients are listed
---|---
SARA Title III Section 313 | Benzene listed
California’s Prop 65 | Benzene listed
OSHA | All ingredients are listed as hazardous under 29 CFR 1910.1200

### SECTION 16 OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA 704 LABEL:</th>
<th>2-4-0</th>
<th>HMIS LABEL:</th>
</tr>
</thead>
</table>

**MSDS REVISIONS:** Change in Format and update of Information

**MSDS CREATION DATE:** July 1997

**REVISION #1:** 07/01/05

**DISCLAIMER**

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This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, such as refined petroleum hydrocarbon mixtures, this MSDS information may not be applicable.

**MSDS DEVELOPER:** Cass Willard, CIH

**DATE:** 07/01/05