

**MURPHY**  
OIL USA, INC.

200 Peach Street (71730)  
P O Box 7000  
El Dorado, AR 71731-7000  
(870) 862-6411

## MATERIAL SAFETY DATA SHEET

---

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

#### 24 HOUR EMERGENCY ASSISTANCE

CHEMTREC: 800-424-9300 TRANSPORT  
800-441-3637 MEDICAL

#### GENERAL MSDS ASSISTANCE

MURPHY: 870-862-6411

PRODUCT NAME: Gasoline (All Grades)

SYNONYMS: Motor Gasoline, Petrol, Gas

CHEMICAL NAME: Mixture  
(C4 to C12 Hydrocarbons)

CHEMICAL FAMILY: Petroleum Hydrocarbon

EFFECTIVE DATE: June 26, 2008

---

### SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

| <u>COMPONENT</u> | <u>CAS#</u> | <u>%</u> |
|------------------|-------------|----------|
| Gasoline         | Mixture     | 90-100   |
| Benzene          | 71-43-2     | < 4      |
| Toluene          | 108-88-3    | < 6      |
| Xylene           | 1330-20-7   | < 8      |
| Ethyl Alcohol    | 64-17-5     | 0-10     |

---

### SECTION 3: HAZARDS IDENTIFICATION

**EMERGENCY OVERVIEW:** Toxic, Irritant, Potential occupational carcinogen. This product is a combustible liquid and is an explosive hazard. Keep away from heat, sparks, and flames. This material may be irritating to the skin, eyes, and respiratory tract. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Inhalation can cause headaches, dizziness, drowsiness, nausea and unconsciousness.

**PRIMARY ROUTES OF ENTRY:** Eye contact, skin contact, inhalation, and ingestion

**TARGET ORGANS:** Eyes, skin, respiratory system, central nervous system, liver, kidneys

**SIGNS AND SYMPTOMS OF EXPOSURE:** Irritation eyes, skin, mucous membrane; dermatitis; headache, lassitude (weakness, exhaustion), blurred vision, dizziness, slurred speech, confusion, convulsions; chemical pneumonitis (aspiration liquid); possible liver, kidney damage; [potential occupational carcinogen]

#### POTENTIAL HEALTH EFFECTS:

**EYE CONTACT:** Contact with the eyes may cause irritation, and possible corneal damage.

**SKIN CONTACT:** Contact may cause mild skin irritation. Prolonged or repeated contact can defat the skin, causing drying and cracking of the skin, and possibly dermatitis.

**INHALATION:** Inhalation can cause respiratory tract irritation. At high concentrations, inhalation may cause headaches, dizziness, drowsiness, nausea, and may lead to unconsciousness.

**INGESTION:** If swallowed, this material may irritate the upper respiratory tract. Symptoms may include a burning sensation of the mouth and esophagus, nausea and vomiting.

**CARCINOGEN STATUS:** This product contains benzene, which is identified as a known human carcinogen by IARC and NTP.

**CONDITIONS GENERALLY RECOGNIZED:** Pre-existing skin disease may increase the susceptibility of the skin to the effects of contact with some petroleum solvents and will also facilitate uptake by this route.

---

#### **SECTION 4: FIRST AID MEASURES**

**EYE CONTACT:** Immediately flush the eyes with large amounts of room temperature water for a minimum of 15 minutes. Hold the eyelids apart during the flushing operation. Get immediate medical attention.

**SKIN CONTACT:** Immediately flush the contaminated skin thoroughly with water, for a minimum of 15 minutes, while removing contaminated clothing and shoes. Launder clothing before wearing again. If irritation occurs, get immediate medical attention.

**INHALATION:** Remove the person from the exposure and move to fresh air. If breathing has stopped, perform artificial respiration using oxygen and a suitable mechanical device. Do not use mouth-to-mouth resuscitation. Get immediate medical attention.

**INGESTION:** Do not induce vomiting. If the exposed person is conscious and alert, give water and/or milk immediately to dilute the chemical. No more than 8 ounces in adults and 4 ounces in children is recommended to minimize the risk of vomiting. Never give anything by mouth to an unconscious person. Get immediate medical attention.

---

#### **SECTION 5: FIRE FIGHTING MEASURES**

|                                            |                 |
|--------------------------------------------|-----------------|
| <b>FLASHPOINT:</b>                         | 125°F / 52°C    |
| <b>FLAMMABLE LIMITS (% VOLUME IN AIR):</b> |                 |
| Lower Explosive Limit (LEL):               | 0.6             |
| Upper Explosive Limit (UEL):               | 7.5             |
| <b>AUTO IGNITION TEMPERATURE:</b>          | >254°F / >489°C |

**FIRE EXTINGUISHING MEDIA:** Dry chemical, carbon dioxide, water or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide inside confined spaces. Collect contaminated fire-fighting water separately.

**FIRE FIGHTING PROCEDURES:** Avoid inhalation of material or combustion by-products. Wear fire fighter's protective clothing and a NIOSH-approved self-contained breathing apparatus (SCBA).

**UNUSUAL FIRE AND EXPLOSIVE HAZARDS:** Heating material may cause toxic gases to be released into the air. Do not enter enclosed or confined space without a self contained breathing apparatus and other protective equipment.

**NFPA RATING:** Health = 0 (Normal Material)  
Fire = 2 (Below 200°F)  
Reactivity = 0 (Stable)  
Special = None

---

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

**PERSONAL PROTECTIVE EQUIPMENT:** Use the personal protective equipment recommended in Section 8.

**SPILL PROCEDURES:** Contain spill immediately in smallest possible area (ex. earthen dikes) to prevent contamination. Non-recoverable product, contaminated soil, debris and other materials should be placed in proper containers for reclamation or disposal.

**DISPOSAL:** Follow the procedures recommended in Section 13.

---

#### SECTION 7: HANDLING AND STORAGE

**HANDLING:** Wear personal protective equipment and follow the exposure control measures recommended in Section 8. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Avoid contact with eyes, skin, and clothing. Avoid breathing the gas and use only with adequate ventilation. Keep away from heat, sparks, flames and other sources of ignition.

**STORAGE:** Store in a tightly closed original container in a cool, dry, well-ventilated area. Protect from physical damage and isolate from incompatible substances. Segregate from oxidizing materials. Observe all warnings and precautions when handling empty containers that may contain product residues.

---

#### SECTION 8: EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

**EXPOSURE GUIDELINES:**

| <u>COMPONENT</u> | <u>OSHA PEL</u>                                  | <u>ACGIH TLV</u>                | <u>NIOSH IDLH</u> |
|------------------|--------------------------------------------------|---------------------------------|-------------------|
| Gasoline         | Not Established                                  | 300 ppm (TWA)<br>500 ppm (STEL) | Not Established   |
| Benzene          | 1 ppm (TWA)<br>5 ppm (STEL)                      | 0.5 ppm (TWA)<br>2.5 ppm (STEL) | 500 ppm           |
| Toluene          | 200 ppm (TWA)<br>500 ppm (STEL)<br>300 ppm (C) * | 20 ppm (TWA)                    | 500 ppm           |
| Xylene           | 100 ppm (TWA)                                    | 100 ppm (TWA)<br>150 ppm (STEL) | 900 ppm           |
| Ethyl Alcohol    | 1000 ppm (TWA)                                   | 1000 ppm (TWA)                  | 3300 ppm          |

\* Indicates a 10 minute peak value

**ENGINEERING CONTROLS:** Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Local exhaust ventilation is preferred because it is capable

of controlling contaminant emissions at the source, preventing dispersion into the general work area. For additional information on ventilation, refer to the ACGIH text, *Industrial Ventilation, a Manual of Recommended Practices*.

**EYE PROTECTION:** Wear splash-proof chemical safety goggles and/or an appropriate full-face shield. All eye protection should be selected and worn in accordance with the OSHA eye and face protection guidelines outlined in 29 CFR 1910.132 and 1910.133. An eye wash fountain and safety shower (in accordance with 29 CFR 1910.151) should be installed within the immediate work area for emergency use.

**SKIN PROTECTION:** Appropriate protective clothing, including boots, gloves, and aprons, should be worn as necessary to prevent skin contact. All PPE should be selected and worn in accordance with 29 CFR 1910.132 and 1910.138.

**RESPIRATORY PROTECTION:** Wear a NIOSH approved respirator to prevent inhalation overexposures. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator. All respirators should be selected and worn in accordance with 29 CFR 1910.132 and 1910.134.

---

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

|                      |                             |
|----------------------|-----------------------------|
| PHYSICAL STATE:      | Liquid                      |
| COLOR:               | Clear / Colorless           |
| ODOR:                | Petroleum Hydrocarbon       |
| PH:                  | Not Available               |
| BOILING POINT:       | 309 to 700°F / 154 to 371°C |
| MELTING POINT:       | Not Available               |
| WATER SOLUBILITY:    | Very Slightly Soluble       |
| SPECIFIC GRAVITY:    | 0.84                        |
| VAPOR DENSITY (AIR): | 5                           |
| VAPOR PRESSURE:      | < 2 mmHg @ 20°C             |
| MOLECULAR FORMULA:   | Not Available               |
| MOLECULAR WEIGHT:    | Not Available               |

---

#### SECTION 10: STABILITY AND REACTIVITY

|                                   |                                                                                                       |
|-----------------------------------|-------------------------------------------------------------------------------------------------------|
| STABILITY:                        | Stable at normal temperatures and pressures                                                           |
| CONDITIONS TO AVOID:              | Sources of heat and ignition                                                                          |
| INCOMPATIBLE MATERIALS:           | Avoid contact with chlorine, peroxides, nitric acid, sulfuric acid, and other strong oxidizing agents |
| HAZARDOUS DECOMPOSITION PRODUCTS: | May produce oxides of carbon                                                                          |
| HAZARDOUS POLYMERIZATION:         | Has not been reported                                                                                 |

---

#### SECTION 11: TOXICOLOGICAL INFORMATION

**TOXICITY DATA:** From skin-painting studies of petroleum distillates of similar composition and distillate range, it has been shown that these types of materials often possess wear carcinogenic activity in laboratory animals.

Long-term repeated skin exposure to similar materials has been reported to result in an increase in skin tumors in laboratory rodents.

Gasoline:

LD<sub>50</sub>, Rat, acute oral = 18.75 mL/kg  
LD<sub>50</sub>, Rat, acute oral = 14,063 mg/kg  
LD<sub>50</sub>, White rabbit, acute dermal >5 mL/kg/24hrs

Benzene:

LD<sub>50</sub>, Mouse, ip = 0.34 mL/kgML/KG  
LD<sub>50</sub>, Rat, Oral = 3306 mg/kg  
LC<sub>50</sub>, Rat, Inhalation = 10,000 ppm/7 hr  
LD<sub>50</sub>, Rat, ip = 2890 ug/kg  
LD<sub>50</sub>, Mouse, Oral = 4700 mg/kg  
LC<sub>50</sub>, Mouse, Inhalation = 9980 ppm  
LD<sub>50</sub>, Mouse, ip = 340 mg/kg  
LD<sub>50</sub>, Mouse, ip = 340 mg/kg

Toluene:

LD<sub>50</sub>, Rat, oral = 2.6 to 7.5 g/kg  
LD<sub>50</sub>, Rabbit, dermal = 14.1 ml/kg  
LD<sub>50</sub>, Rat, ip = 1.64 g/kg  
LD<sub>50</sub>, Mouse, ip = 1.15 g/kg  
LD<sub>50</sub>, Rat, oral = 5000 mg/kg  
LD<sub>50</sub>, Rat, ip = 1332 mg/kg  
LD<sub>50</sub>, Rat, iv = 1960 mg/kg  
LC<sub>50</sub>, Mouse, ihl = 400 ppm/24 hr  
LD<sub>50</sub>, Mouse, ip = 59 mg/kg  
LD<sub>50</sub>, Mouse, sc = 2250 mg/kg  
LD<sub>50</sub>, Mouse, ip = 640 mg/kg  
LD<sub>50</sub>, Rabbit, skin = 12,124 mg/kg

Xylene:

LC<sub>50</sub>, Rat, oral = 4.3 g/kg  
LC<sub>50</sub>, Rat, oral = 10 mL/kg  
LC<sub>50</sub>, Mouse, oral = 1590 mg/kg  
LC<sub>50</sub>, Rat, inhalation = 6,350 ppm/4 hr  
LC<sub>Lo</sub>, Rat, inhalation = 8,000 ppm/4 hr  
LC<sub>50</sub>, Rat, inhalation = 6,350 ppm/4 hr  
LC<sub>50</sub>, Mouse, inhalation = 3,907 ppm/6 hr  
LC<sub>50</sub>, Rat, oral = 4.3 g/kg and 10 ml/kg  
LC<sub>50</sub>, Mouse, oral = 1590 mg/kg  
LC<sub>50</sub>, Rat, oral = 29,000 mg/cu m (6670 ppm)  
LC<sub>50</sub>, Rat, oral = range from 3523 mg/kg to 8600 mg/kg.  
LC<sub>50</sub>, Mouse, oral = 5251 mg/kg (female) and 5627 mg/kg (male).  
LC<sub>50</sub>, Rabbit, dermal > 5 ml/kg (43 g/kg).

|                       |                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------|
| CARCINOGENICITY:      | This product contains benzene, which is identified as a known human carcinogen by IARC and NTP.                       |
| REPRODUCTIVE EFFECTS: | This product contains benzene which is considered fetotoxic at exposure levels that result in mild maternal toxicity. |
| MUTAGENICITY:         | Has not been reported                                                                                                 |
| TERATOGENICITY:       | Has not been reported                                                                                                 |

---

## SECTION 12: ECOLOGICAL INFORMATION

### ECOTOXICITY:

#### Gasoline:

LC<sub>50</sub>, rainbow trout (*Oncorhynchus mykiss*) = 16 mg/L/96 hr

LC<sub>50</sub>, rainbow trout (*Oncorhynchus mykiss*) = 11 mg/L/96 hr

EC<sub>50</sub> water flea (*Daphnia magna*) = 12 mg/L/48 hr

EC<sub>50</sub>, water flea (*Daphnia magna*) = 7.6 mg/L/48 hr

#### Benzene:

LC<sub>100</sub>, ciliate (*Tetrahymena pyriformis*) = 12.8 mmole/l/24 hr

LC<sub>50</sub>, grass shrimp (*Palaemonetes pugio*) = 27 ppm/96 hr

LC<sub>50</sub> crab larvae (*Cancer magister*) = 1, 108 ppm/96 hr

LC<sub>50</sub> shrimp (*Crangon franciscorum*) = 20 mg/l/96 hr

LC<sub>50</sub> bass (*Morone saxatilis*) = 5.8 to 11 mg/l/96 hr

LC<sub>50</sub> guppy (*Poecilia reticulata*) = 63 mg/l/14 days

LC<sub>50</sub> brown trout (*Salmo trutta*) = 12 mg/l/1 hr

LC<sub>50</sub> axolotl (*Ambystoma mexicanum*) = 370 mg/l/48

LC<sub>50</sub> clawed toad (species not given) = 190 mg/l/48 hr

LC<sub>50</sub> goldfish (*Carassius auratus*) = 46 mg/l/24 hr

LC<sub>50</sub> sunfish (*Lepomis macrochirus*) = 20 mg/l/24 to 48 hr

LD<sub>100</sub> sunfish (*Lepomis macrochirus*) = 60 mg/l/2 hr /

LC<sub>50</sub> Brine shrimp = 66-21 mg/l/24-48 hr

LC<sub>50</sub> fathead minnow (*Pimephales promelas*) = 35 to 33 mg/l/24 hr-96 hr (soft water)

LC<sub>50</sub> fathead minnow (*Pimephales promelas*) = 24 to 32 mg/l/24-96 hr (hard water)

#### Toluene:

LC<sub>50</sub>, grass shrimp (*Palaemonetes pugio*) = 9.5 mg/l/96 hr

LC<sub>50</sub>, crab (*Cancer magister*) = 28 mg/l/96 hr

LC<sub>50</sub>, shrimp (*Crangon franciscorum*) = 4.3 mg/l/96 hr

LC<sub>50</sub>, fathead minnow (*Pimephales promelas*) = 56-34 mg/l/24-96 hr

LC<sub>50</sub>, guppy (*Lebistes reticulatus*) = 63-59 mg/l/24-96 hr

LC<sub>50</sub>, channel catfish = 240 mg/l 96 hr

LC<sub>50</sub>, fathead minnow (*Pimephales promelas*) = 34.27 mg/l 96 hr

LC<sub>50</sub>, goldfish (*Carassius auratus*) = 57.68 mg/l 96 hr

LC<sub>50</sub>, guppy (*Lebistes reticulatus*) = 59.30 mg/l 96 hr

LC<sub>50</sub>, water flea (*Daphnia magna*) = 313 mg/l 48 hr

LC<sub>50</sub>, copepod (*Nitocra spinipes*) = 24.2-74.2 mg/l 24 hr

LC<sub>50</sub>, brine shrimp (*Artemia salina*) = 33 mg/l 24 hr

LC<sub>50</sub>, striped bass (*Morone saxatilis*) = 7.3 mg/l 96 hr

LC<sub>50</sub>, sheepshead minnow (*Cyprinodon variegatus*) = 277-485 mg/l 96 hr

LC<sub>50</sub>, mosquito larvae (*Aedes aegypti*-4th instar) = 22 mg/l

LC<sub>50</sub>, grain weevil (*Calandra granaria*) = 210 mg/l /

LC<sub>50</sub>, fathead minnows (*Pimephales promelas*) = 55-72 mg/l

LC<sub>50</sub>, fathead minnow (*Pimephales promelas*) = 14.6 mg/l/96 hr

LC<sub>50</sub>, fathead minnow (*Pimephales promelas*) = 36.2 mg/l/96 hr

#### Xylene:

LD<sub>50</sub>, Goldfish = 13 mg/l/24 hr

LC<sub>50</sub>, Rainbow trout = 13.5 mg/l/96 hr

LC<sub>50</sub>, Fathead minnow = 46 mg/l/1 hr

LC<sub>50</sub>, goldfish (*Carassius auratus*) = 16.9 ppm/96 hr

**ENVIRONMENTAL SUMMARY:** If released to soil, petroleum distillates are expected to biodegrade under both aerobic and anaerobic conditions. Some components of petroleum distillates may adsorb very strongly to soil. These materials may rapidly volatilize from both moist and dry soil although its expected strong adsorption may significantly attenuate the rate of this process. If released to water, petroleum distillates are expected to biodegrade under both aerobic and anaerobic conditions. Some components of these materials may significantly bioconcentrate in fish and aquatic organisms and strongly adsorb to sediment and suspended organic matter. The estimated half-life for volatilization of petroleum distillates from a model river is 3-6 hrs while that from a model lake is >130 days

---

#### SECTION 13: DISPOSAL CONSIDERATIONS

**WASTE DISPOSAL:** Do not dump this product into any sewers, on the ground, or into any body of water. Dispose in accordance with all applicable federal, state, and local regulations. Waste characterization and compliance with applicable laws are the responsibility of the waste generator.

RCRA P-Series: Not Listed  
RCRA U-Series: Not Listed

---

#### SECTION 14: TRANSPORTATION INFORMATION

SHIPPING NAME: Gas Oil  
DOT HAZARD CLASS: Combustible Liquid  
DOT SHIPPING ID: NA 1993  
PACKING GROUP: III

---

#### SECTION 15: REGULATORY INFORMATION

|                                                                      |                                                                                                                                                |
|----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| CERCLA Sections 102a/103 (40 CFR 302.4):                             | Not Regulated                                                                                                                                  |
| SARA Title III Section 302 (40 CFR 355.30):                          | Not Regulated                                                                                                                                  |
| SARA Title III Section 304 (40 CFR 355.40):                          | Not Regulated                                                                                                                                  |
| SARA Title III Section 313 (40 CFR 372.65):                          | Not Regulated                                                                                                                                  |
| SARA Title III Section 311/312 Hazardous Categories (40 CFR 370.21): |                                                                                                                                                |
| Acute:                                                               | Yes                                                                                                                                            |
| Chronic:                                                             | Yes                                                                                                                                            |
| Fire:                                                                | Yes                                                                                                                                            |
| Reactive:                                                            | No                                                                                                                                             |
| Sudden Release:                                                      | No                                                                                                                                             |
| California Proposition 65:                                           | No                                                                                                                                             |
| TSCA:                                                                | Listed on the Inventory                                                                                                                        |
| WHMIS (Canada):                                                      | Not Determined                                                                                                                                 |
| ESIS (Europe):                                                       |                                                                                                                                                |
| Classification:                                                      | Xn<br>R65                                                                                                                                      |
| Risk Phrases:                                                        | R65: May cause lung damage, if swallowed                                                                                                       |
| Safety Phrases:                                                      | S2: Keep away from children<br>S23: Do not breathe gas, vapor, spray<br>S24: Avoid contact with skin<br>S62: If swallowed, seek medical advice |
| Symbols:                                                             | Xn: Harmful                                                                                                                                    |

## SECTION 16: OTHER INFORMATION

THIS INFORMATION RELATES ONLY TO THE MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. ALL STATEMENTS, INFORMATION, AND DATA PROVIDED ARE BELIEVED TO BE ACCURATE AND RELIABLE, BUT ARE PRESENTED WITHOUT ANY GUARANTEE, REPRESENTATION, WARRANTY, OR RESPONSIBILITY OF ANY KIND, EXPRESSED OR IMPLIED. ANY AND ALL REPRESENTATIONS AND/OR WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE SPECIFICALLY DISCLAIMED. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS AS TO THE SUITABILITY OF THE INFORMATION OR PRODUCT FOR THEIR PARTICULAR PURPOSE. NOTHING IN THIS DOCUMENT IS INTENDED AS PERMISSION, INDUCEMENT, OR RECOMMENDATION TO VIOLATE ANY LAWS OR TO PRACTICE ANY INVENTION COVERED BY EXISTING PATENTS, COPYRIGHTS OR INVENTIONS. WE DO NOT ACCEPT LIABILITY FOR ANY LOSS OR DAMAGE THAT MAY OCCUR FROM THE USE OF THIS INFORMATION.

**PREPARED BY:** Center for Toxicology and Environmental Health, L.L.C.

**DATE OF ISSUE:** October 8, 2009

---