

MATERIAL SAFETY DATA SHEET
AROMATIC GASOLINE

ISSUED: 10/23/97
REVISED: 11/01/99

SECTION I - PRODUCT IDENTIFICATION

Westlake CA&O
2468 Industrial Parkway
P O Box 527
Calvert City, KY 42029

Telephone No.: (270) 395-4151
Transportation Emergency No.:
CHEMTREC: (800) 424-9300
Medical Emergency No.:
POISON CENTER: (216) 379-8562

Chemical Family: Aromatic Hydrocarbon

Chemical Name/Synonyms: Crude Benzene, Raw ARO gas, Raw Aromatic Gasoline,
Dripolene, Benzoyl

Trade Mark: None

Formula: (Typical Analysis, not specific)- C₄=3%, C₅=22%, C₆=51%, C₇=10%,
C₈=4%, C₉=2%, C₁₀=7.5%, C₁₁=0.5%, C₁₂=0.1%

C.A.S. Registry No.: Not Applicable

TSCA Inventory Status: All ingredients are listed on the USEPA's TSCA inventory

Canadian Domestic Substances List Status: All ingredients have been nominated or are
eligible for inclusion

Workplace Hazardous Materials Information System (WHMIS) Classification: B2, D2B

Product Use: Fuel, chemical reclamation

SARA 313 Information: This product contains a toxic chemical or chemicals subject to the
reporting requirements of section 313 of Title III of the Superfund
Amendments and Reauthorization Act of 1986 and 40 CFR part
372.

SECTION II - HAZARDOUS INGREDIENTS

Hazard Summary Statement: CAUTION! Inhalation of the material can cause dizziness,
nausea and drowsiness and chemical pneumonitis. WARNING! FLAMMABLE LIQUID.

<u>Material</u>	<u>C.A.S Number</u>	<u>Amount in Product</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>
Benzene ^{1,2,3,4,5,6}	71-43-2	38-50%	0.5 ppm (Skin) 2.5 ppm (STEL)	1 ppm 5 ppm short term exposure limit (STEL)
<u>Material</u>	<u>C.A.S Number</u>	<u>Amount in Product</u>	<u>ACGIH TLV-TWA</u>	<u>OSHA PEL-TWA</u>

Styrene ^{1,2,4,5,6}	100-42-5	< 5%	20 ppm (Skin) 40 ppm (STEL)	100 ppm
Dicyclopentadiene ^{1,2,5,6}	77-73-6	< 15%	5 ppm	N.E.
1,3-Butadiene ^{1,2,3,4,5,6}	106-99-0	< 2%	2 ppm	1 ppm 5 ppm (STEL)
Pentene ^{2,4}	109-67-1	< 2%	N.E.	N.E.
1,3-Cyclopentadiene ^{2,4,5,6}	542-92-7	0-8%	75 ppm	75 ppm
Cyclopentene ^{2,4,6}	142-29-0	< 5%	N.E	N.E
1,3-Pentadiene ^{2,4,6}	504-60-9	< 2%	N.E	N.E
2-Methyl- 1,3-Butadiene ^{2,3,4,5,6}	78-79-5	< 5%	N.E	N.E
Methanol ^{1,2,4,5,6}	67-56-1	< 2%	200 ppm (Skin) 250 ppm (STEL)	200 ppm
Naphthalene ^{1,2,4,5,6}	91-20-3	< 2%	10 ppm 15 ppm (STEL)	10 ppm
Ethyl Benzene	100-41-4	< 1%	100 ppm 125 ppm (STEL)	100 ppm

N.A. - Not Applicable

N.E. - Not Established

Benzene is shown as an OSHA cancer suspect agent, an American Conference of Governmental Industrial Hygienists (ACGIH) human carcinogen, and a National Toxicology Program (NTP) and an International Agency for Research on Cancer (IARC) human carcinogen.

Butadiene is shown as an American Conference of Governmental Industrial Hygienists (ACGIH) suspected human carcinogen, a National Toxicology Program (NTP) anticipated human carcinogen and an International Agency for Research on Cancer (IARC) possible human carcinogen.

Styrene is shown as an International Agency for Research on Cancer (IARC) possible human carcinogen.

Legislative Footnotes

- ¹ Ingredient listed on SARA Section 313 List of Toxic Chemicals.
- ² Ingredient listed on the *Pennsylvania Hazardous Substances List*.
- ³ Ingredient listed on the California listing of *Chemicals Known to the State to Cause Cancer or Reproductive Toxicity*.
- ⁴ Ingredient listed on the *Massachusetts Substance List*.
- ⁵ *Workplace Hazardous Materials Information System* ingredient found on the Ingredient Disclosure List - Canada.
- ⁶ Ingredient listed on the *New Jersey Right to Know Hazardous Substance List*.

Notes:

TLV-TWA - Threshold Limit Value - Time Weighted Average guideline for concentration of the chemical substance in the ambient workplace air. (The *skin* notation calls attention to the skin as an additional significant route of absorption of the listed chemical.) American Conference of Governmental Industrial Hygienists (ACGIH).

OSHA PEL - OSHA Permissible Exposure Limit, 8-hour TWA. 29 CFR 1910.1000, Transitional Limits column, Table Z-1-A, Table Z-2 and Table Z-3.

SECTION III - PHYSICAL DATA

Appearance: Amber Liquid

Odor: Solvent

Percent Volatiles: 99% @ 360°F (182°C)

Solubility in Water: 0.7% @ 72°F (22°C)

Physical State: Liquid

Specific Gravity: 0.84 ± 0.02

Melting Point: N.A.

Vapor Pressure: 75 mm Hg @ 68°F (20°C)

Vapor Density: 2.7 (air=1): as benzene

SECTION IV - FIRE & EXPLOSION HAZARD DATA

Flash Point: 80°F (26°C)

Lower Explosive Limit (LEL): 2.2%

Upper Explosive Limit (UEL): 11%

Self-Ignition Temperature: 1,076°F (580°C)

Notes:

Flash Point - The lowest initial temperature of air passing around the specimen at which sufficient combustible gas is evolved to be ignited by a small external pilot flame.

Self-Ignition Temperature - The lowest initial temperature of air passing around the specimen at which, in absence of an ignition source, ignition occurs of itself, as indicated by an explosion, flame or sustained glow.

Extinguishing Media: Class IB Flammable Liquid. Use ABC dry chemical, foam or carbon dioxide. Water may be ineffective because the product is insoluble in water and has a flash point below 100°F. Water may be used to keep fire-exposed containers cool. If a spill or leak has not ignited, use a water/low expansion vapor suppressant foam to disperse the vapors and protect personnel attempting to stop leak.

Special Firefighting Procedures: Shut off leak if safe to do so. Keep upwind. Keep unnecessary personnel away. Wear positive pressure self-contained breathing apparatus (SCBA). Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source. In enclosed or poorly ventilated areas, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

Unusual Fire and Explosion Hazards: Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by flame, sparks, heaters or other ignition sources at distant locations. Vapors can form flammable mixtures in air. The emptied container may still contain residual vapors or liquid which may ignite or explode. Do not cut, puncture, or weld on or near the container. Keep container away from heat, sparks, and open flame of any sort. The product is prone to static build-up and discharge. Always bond and ground containers when transferring this chemical. Containers may explode in a fire. Vapors may explode if ignited in an enclosed space.

SECTION V - REACTIVITY

Stability: Stable

Hazardous Polymerization: Will not occur.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, and small amounts of aromatic and aliphatic hydrocarbons.

Incompatibility (Materials to Avoid): Reacts with chlorine, ozone, perchloryl fluoride, liquid oxygen and other strong oxidizing agents such as hydrogen peroxide, permanganates and perchlorates. Depending upon the amount and specific materials involved, contact can result in intense heat, boiling, flame development, explosion or toxic gas generation. Spontaneous combustion may occur in contact with sodium peroxide or potassium peroxide.

SECTION VI - HEALTH HAZARD DATA

Threshold Limit Value: None established.

Permissible Exposure Limit: None established.

Primary Routes of Exposure: Inhalation, skin and eye contact.

Effects of Overexposure: Causes eye and skin irritation. Vapors can cause dizziness, nausea and drowsiness. May cause chemical pneumonitis.

Hazardous ingredient specific medical data (if ingredient found in "pure" form):

Benzene is a severe eye and moderate skin irritant. Human systemic effects by inhalation and ingestion are: euphoria, somnolence, changes in motor activity, nausea, vomiting, reduced number of blood platelets, other unspecified blood effects, dermatitis and fever. Benzene is a human carcinogen which produces myeloid leukemia and lymphomas by inhalation. It is listed as an OSHA carcinogen, an ACGIH, NTP and IARC human carcinogen.

Toluene may cause central nervous system depression and is an ocular irritant. Inhalation and subcutaneous injections in high concentrations in rats caused high-frequency hearing loss. Toluene causes CNS narcosis; mild, transient irritation of the upper respiratory tract; hilarity; nausea; nasal discharge; drowsiness; ataxia; dizziness; cerebellar ataxia; cognitive dysfunction; metallic taste; loss of appetite; weakness; and palpitations. High concentrations are associated with CNS encephalopathy, headache, depression, and lassitude. Fetotoxicity appears at levels associated with CNS narcosis and occurs perhaps only in those with chronic toluene-induced kidney failure. Toluene does not result in the severe bone marrow depression that is characteristic of occupational benzene poisoning.

Styrene may cause central nervous system depression, headaches, fatigue, nausea, and dizziness. Sensory nerve conduction reductions can occur of reduced peripheral nerve conduction velocity and sensory amplitude that slowed reaction time and changes in worker visual ability.

Butadiene is irritating to the eyes and mucous membranes. Skin contact can result in burns or frost bite (due to rapid vaporization). Human systemic effects by inhalation are: cough, hallucinations, distorted perceptions, changes in the visual field and other unspecified eye effects. Butadiene is listed as an ACGIH suspected human carcinogen, an NTP anticipated human carcinogen and an IARC possible carcinogen.

Pentene (no known health effects could be identified).

Cyclopentadiene (no known health effects could be identified).

Cyclopentene (no known health effects could be identified).

Medical Conditions Aggravated by Exposure: blood dyscrasias

Emergency and First Aid Procedures:

Inhalation: Remove affected individual to fresh air while insuring the rescuers utilize appropriate protective equipment. If breathing has ceased, administer artificial respiration. If

no pulse is found administer cardio-pulmonary resuscitation immediately. Obtain medical attention immediately.

Eye Contact: Immediately flush eyes with lukewarm water for at least 15 minutes while lifting upper and lower eyelids. Continue to flush the eyes if there is any indication of residual chemical. Seek medical attention immediately.

Skin Contact: Remove contaminated clothing. Wash the affected area with soap and water. If irritation occurs, contact a physician. Launder contaminated clothing separately before reuse.

Ingestion: DO NOT INDUCE VOMITING! Immediately contact a physician.

SECTION VII - SPILL & LEAK PROCEDURE

Steps to be taken in case material is released or spilled: TOXIC HAZARD. FLAMMABLE LIQUID. FLAMMABLE VAPORS CAN SPREAD FROM SPILL. Remove all ignition sources. Ventilate the area. Isolate the hazard area (be prepared to evacuate unnecessary people at least 2,000 feet if there is danger of exploding large containers). Notify the Coast Guard and pollution authorities if the spill will enter navigable waters.

Do not flush chemical into public sewer or water system. Stop leaks. Contain by diking. Blanket large spills with foam to minimize fire hazard and reduce vaporization. Remove as much material as possible. Soak up large spill residue and small spills with inert absorbent. Place into closed, labeled containers and store in a safe outdoor location to await proper disposal. Wash the spill area with soap and water to remove final traces. Personal protective equipment (including respiratory protection and clothing) should be utilized by persons performing this work.

Waste disposal method: HAZARDOUS WASTE (EPA Hazardous Waste Number: D001 (Flammable Liquid)). Dispose of in a licensed hazardous waste disposal facility in accordance with all applicable Federal, State & Local health and pollution laws and regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

Ventilation: General and, when necessary, effective local explosion-proof exhaust ventilation should always be provided to draw fumes and vapors away from workers to prevent routine inhalation. Ventilation should be adequate to maintain the ambient workplace atmosphere below the limits listed in Section II.

Respiratory Protection: Wear a NIOSH/MSHA-approved respirator for organic vapors whenever exposures exceed the limits listed in Section II. Use in accordance with the manufacturer's use limitations and OSHA Standard 1910.134 (29 CFR).

Eye Protection: Chemical goggles.

Protective Equipment: Viton gloves. Wear protective clothing and full faceshield where spilling or spattering is likely.

Do not smoke or consume food or beverages in the work area. Wash thoroughly after handling the product

SECTION IX - SPECIAL PRECAUTIONS

Material Handling: Do not breathe vapors. Use under well-ventilated conditions. Utilize good personal hygiene practices, e.g., thoroughly washing after handling the product. Keep product away from heat, sparks and open flames. Avoid skin, eye and clothing contact.

Storage: Keep container closed when not in use. Do not reuse container for any purpose until commercially cleaned. Do not store in open, unlabeled or mislabeled containers.

SECTION X - HAZARD CODES

NFPA (1997)
(National Fire Protection Association)

HMIS
(Hazardous Materials Identification System)

Health: 2
Flammability: 3
Reactivity: 0
Special:

Health: 3
Flammability: 3
Reactivity: 0
Personal Protection: X*

Key:

0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme

*See MSDS for specific protection

USER'S RESPONSIBILITY

This bulletin cannot cover all possible situations the user may experience during processing. Each aspect of the user's operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained within this bulletin should be provided to the user's employees or customers. Westlake CA&O Corporation must rely upon the user to utilize this information to develop appropriate work practice guidelines and employee instructional programs for his or her operation.

DISCLAIMER OF LIABILITY

As the conditions or methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate but all statements or suggestions are

made without warranty, expressed or implied, regarding the accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user.

SHIPPING INFORMATION

IDENTIFICATION - DOMESTIC TRANSPORTATION

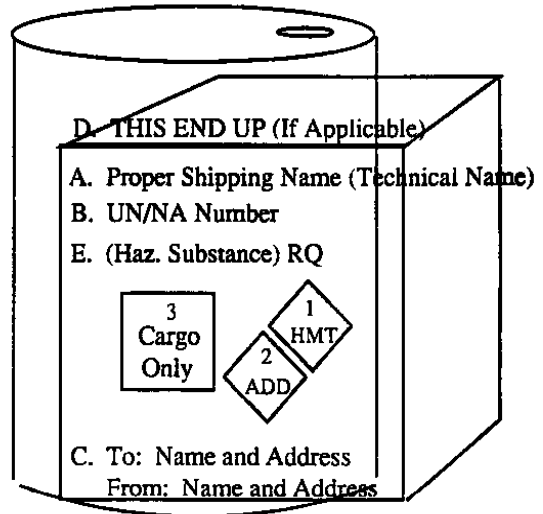
Proper Shipping Name (172.101(c)): FLAMMABLE LIQUIDS, N.O.S.
(Technical Name(s)) 172.203(k): (CONTAINS 46% BENZENE, 11% TOLUENE)
Hazard Class 172.101(d): **3** UN/NA# 172.101(e): UN 1993
Haz. Substance 171.8: BENZENE, TOLUENE
Reportable Quantity: 1,3-Butadiene-10 Lbs; Benzene-10 Lbs; 1,3-Pentadiene-100 Lbs
Naphthalene - 100 Lbs; Toluene-1,000 Lbs; Ethyl Benzene-1,000 Lbs; Styrene-1,000 Lbs;
Methanol - 5000 Lbs.
Inhalation Hazard 172.2a(b): N/A
Package Code 172.101(f): PG III Placarded: FLAMMABLE LIQUID

PACKAGING (Part 173)

- Packaging Section (172.101(i)) - Col. 8(A): 173.150, Col. 8(B): 173.203, Col. 8(C): 173.242
- General Packaging Section - General 173.24 Hazard Class: Flammable Liquid

MARKING

- A. Proper Shipping Name - 172.301(a)
(Technical Name) - 172.301(b)
- B. UN/NA Number - 172.301(a)
- C. Name & Address - 172.301(d)
- D. THIS END UP - 172.312(a)
- E. Hazardous Substance RQ (Name) (172.324)
ORM Designation - 172.316(a)
Inhalation Hazard - 172.313(a)



DOMESTIC LABELING

- 1. HMT LABELS (172.400)
- 2. Additional Subsidiary Hazard (172.402(a))

IATA 1997 Edition

Proper Shipping Name (Col. B): FLAMMABLE LIQUID, N.O.S
(46% Benzene, 11% Toluene)
Class/Division (Col. C): 3 Subsidiary Risk (Col. D): N/A
UN/ID# (Col. A): UN 1993 Other Inhalation Haz. (US 34): N/A
U.S. Haz. Substance (US 1): Same As Above
Carrier Special Provisions (Col. K): N/A

PACKAGING

- ◆ Max. Qty. Per Pkg. (Cols. H/J) - Passenger: 60 L Cargo: 220 L
- ◆ Packaging Instructions (Cols. G/I) - Passenger: 309 Cargo: 310