

rev: 11/15/1994 16113

# MATERIAL SAFETY DATA SHEET

MSDS No.  
APPC341 VER. 3



**DIESEL NO. 2**

Rev. Date  
11/15/1994

ARCO PRODUCTS COMPANY  
DIVISION OF ATLANTIC RICHFIELD COMPANY  
1055 WEST SEVENTH STREET  
LOS ANGELES, CALIFORNIA 90051

**IMPORTANT:** Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product.

<b>1. GENERAL</b>			
<b>Material Identity</b>	DIESEL NO. 2		
<b>Trade Name(s)</b>	DIESEL NO. 2, OFF-ROAD DIESEL #2, EXPORT DIESEL #2		
<b>Other Name(s)</b>	OFF-ROAD DIESEL, EXPORT DIESEL NO. 2, DIESEL FUEL OIL NO. 2, NO. 2 DIESEL, DIESEL OIL (MEDIUM), ASTM NO. 2-D GRADE DIESEL FUEL OIL (D-975).		
<b>Chemical Description</b>	THIS MATERIAL IS AN ORGANIC PETROLEUM LIQUID. THIS IS A COMPLEX (C9 TO C20) HYDROCARBON MIXTURE WHICH CONTAINS LESS THAN .5 WT% SULFUR.		
<b>CAS Number</b>	68476-34-6		
<b>US DOT Description</b>	(Proper Shipping Name, Hazard Class, ID no, Packing Group, any Add'l Description) DIESEL FUEL, 3.NA1993.PG III		
<b>Telephone Numbers</b>	<table border="1"> <tr> <td><b>EMERGENCY</b> 213 222-3212 LA POISON 800 424-9300 CHEMTREC</td> <td><b>CUSTOMER SERVICE</b> 800 322-2726 INFO ONLY</td> </tr> </table>	<b>EMERGENCY</b> 213 222-3212 LA POISON 800 424-9300 CHEMTREC	<b>CUSTOMER SERVICE</b> 800 322-2726 INFO ONLY
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<b>2. Immediate Hazards</b>			
<p><b>COMBUSTIBLE!</b> OSHA/NFPA Class-II or IIIA combustible liquid. Keep away from heat, sparks, and open flame. Avoid the "switch loading" hazard (See Section 10).</p> <p>Contains petroleum distillates! If swallowed, do not induce vomiting since aspiration into the lungs will cause chemical pneumonia. Obtain prompt medical attention.</p> <p>May cause irritation or more serious skin disorders! May be harmful if inhaled! (See Sections 5 and 6) Avoid prolonged or repeated liquid, mist and vapor contact with eyes, skin and respiratory tract. Long term tests show that similar petroleum distillates have produced kidney damage and skin tumors on laboratory animals. Wash hands thoroughly after handling.</p> <p>Respiratory irritation and reversible pulmonary effects are associated with exposure to diesel exhaust.</p>			

### 3. Components & Exposures

Component <sup>1</sup>	CAS No.	% Composition By Volume <sup>2</sup>	1992 Exposure Values			Units	Type
			ACGIH TLV	OSHA PEL	ARCO EL		
HYDROCARBONS W/BOILING PT RANGE 325 TO 698F							
	68476-34-6	EQ 100	N/AP	N/AP	N/AP		
which contains:							
NAPHTHALENE							
	91-20-3	AP 0.01 to 1	15 10	15 10	N/AP N/AP	ppm ppm	STEL TWA
Other applicable exposure guidelines:							
STODDARD SOLVENT							
	8052-41-3		100	100	N/AP	ppm	TWA

<sup>1</sup> Carcinogen displayed after Component Name. Listed by (1) NTP, (2) IARC, (3) OSHA, (4) Other

<sup>2</sup> See Abbreviations on last page

### 4. Fire and Explosion

<b>Flash Point (Method)</b> AP 125° TO 150°F (D-93) <small>See "Fire and Explosion Hazards"</small>	<b>Autoignition Temperature (Method)</b> AP 495°F (E-659) <small>Based on NFPA "Fuel Oil No. 2"</small>	<b>Flammable Limits (% Vol. in Air)</b> <small>At Normal Atmospheric Temperature and Pressure</small> Lower AP 0.6 Upper AP 7.5 <small>Based on NFPA "Fuel Oil No. 1/Gas Oil"</small>
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**Fire and Explosion Hazards** COMBUSTIBLE! When heated above the flash point, this material will release flammable vapors which, if exposed to an ignition source, can burn in the open or be explosive in confined spaces. Mists or sprays may be flammable at temperatures below the normal flash point. For "switch loading" procedures, see Section 10.

<b>Extinguishing Media</b> Foam Dry chemical Halon Carbon dioxide Water and water fog may be used to cool the fire but may not extinguish the fire.	<b>NFPA Hazard Rating:</b> 4 - Extreme 3 - High 2 - Moderate 1 - Slight 0 - Insignificant	<b>Health = 0</b> <b>Fire = 2</b> <b>Reactivity = 0</b> <b>Special =</b>
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**Special Firefighting Procedures** For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of combustion products and oxygen deficiencies. Cool tanks and containers exposed to fire with water.

### 5. Health Hazards

**Summary of Acute Health Hazards** Contact with liquid, mist, or vapor can irritate skin, and respiratory tract. Aspiration into the lungs may cause chemical pneumonia.

Routes of Exposure	Signs and Symptoms	Primary Route(s)
<b>Inhalation</b>	Vapors or mists from this material, at concentrations greater than the recommended exposure limits in Section 3, can cause irritation of the nose, throat, and lungs, headache, dizziness, loss of coordination, fatigue, nausea and labored breathing. Airborne concentrations above the recommended exposure limits are not anticipated during normal workplace or refueling activities due to the slow evaporation of this material at ambient temperatures.	✓
<b>Eye Contact</b>	Not expected to cause prolonged or significant eye irritation.	
<b>Skin Contact</b>	Moderate skin irritation may occur upon short-term exposure.	
<b>Ingestion</b>	May cause irritation of the mouth, throat and gastrointestinal tract leading to nausea, vomiting, diarrhea, and restlessness. May cause headache, dizziness, drowsiness, loss of coordination, fatigue, nausea and labored breathing.	

**Summary of Chronic Hazards and Special Health Effects** Personnel with pre-existing central nervous system disease, skin disorders, or chronic respiratory diseases should be evaluated by an appropriate health professional before exposure to this material.  
Prolonged/repeated skin exposure, inhalation or ingestion of this material may result in adverse dermal or systemic effects. Avoid prolonged or repeated exposure.



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### 6. Protective Equipment and Other Control Measures

<b>Respiratory</b>	A NIOSH/MSHA approved air-purifying respirator with an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations may exceed the exposure limits in Section 3. NOTE: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of the air-purifying respirator. Consult with a health and safety professional for guidance in respirator selection. Respirator use should follow OSHA 29 CFR 1910.134.
<b>Eyes</b>	Eye protection should be worn. If there is a potential for splashing or spraying, chemical-type goggles and, if appropriate, a face shield should be worn. If contact lenses are worn, contact an eye specialist or a safety professional for additional precautions. Suitable eye wash should be available in case of eye contact with this material.
<b>Skin</b>	Avoid skin contact with this material. If conditions or frequency of use make skin contact likely, clean impervious clothing such as gloves, apron, boots and facial protection should be worn. Nitrile, neoprene, or Viton protective clothing material is recommended.  When working around equipment or processes which may create the potential for significant skin contact, full body coverage should consist of impervious boots and oil-resistant coated Tyvek suit or other impervious jacket and pants.
<b>Engineering Controls</b>	Where possible, use adequate ventilation to keep vapor and mist concentrations of this material below the occupational exposure limits shown in Section 3. Electrical equipment should follow National Electrical Code (NEC) standards.
<b>Other Hygienic and Work Practices</b>	Use good personal hygiene practices. In case of skin contact, wash with mild soap and water or a waterless hand cleaner. Wash hands and other exposed areas thoroughly before eating, drinking or smoking.  Non-impervious clothing which becomes contaminated with this material should be immediately removed and not reworn until the material is washed thoroughly and the contamination is effectively removed from clothing. Discard soaked leather goods which cannot be effectively cleaned.

### 7. Emergency and First Aid

<b>Inhalation</b>	Immediately move personnel to area of fresh air. For respiratory distress, give oxygen, rescue breathing, or administer CPR (cardiopulmonary resuscitation), if necessary. Obtain prompt medical attention, if breathing difficulty continues.
<b>Eye Contact</b>	Flush with clean low-pressure water for at least 15 minutes. If pain or irritation persists after flushing, obtain medical attention.
<b>Skin Contact</b>	Promptly remove contaminated clothing. Thoroughly wash affected skin with soap and water. If there are signs or symptoms of irritation, obtain medical attention.
<b>Ingestion</b>	Do not induce vomiting since aspiration into the lungs may cause chemical pneumonia. If aspiration occurs, promptly obtain medical attention.
<b>Emergency Medical Treatment Procedures</b>	See above procedures.

## 8.

**Spill and Disposal****Precautions if Material is Spilled or Released**

Contain spill, evacuate non-essential personnel, and safely stop flow. On hard surfaces, spilled material may create a slipping hazard. Equip cleanup crews with proper protective equipment (as specified in Section 6) and advise of hazards. Clean up by recovering as much spilled or contaminated materials as possible and placing into closed containers. Consult with an environmental professional for the federal, state and local cleanup and reporting requirements for spills and releases.

**Waste Disposal Methods**

Maximize recovery for reuse or recycling. Consult with environmental professional to determine if state or federal regulations would classify spilled or contaminated materials as a hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Comply with all federal, state and local laws pertaining to waste management.

## 9.

**Physical and Chemical Data****Boiling Point**

AP 325° TO 698°F

**Viscosity Units, Temp. (Method)**

AP 3 TO 3.5 AT 100°F (D-445)

**Dry Point**

UK

**Freezing Point**

AP 0° TO 24°F

**Vapor Pressure, Temp. (Method)**

AP 0.04 AT 100°F (REID-PSIA)

**Volatile Characteristics**

Slight

**Specific Gravity (H<sub>2</sub>O = 1 @ 39.2°F)**

AP 0.85 TO 0.87

**Vapor Sp. Gr. (Air=1.0 @ 60°F-90°F)**

AP 6

**Solubility in Water**

Negligible

**PH**

N/AP

**Hazardous Polymerization**

Not expected to occur

**Other Chemical Reactivity**

N/AP

**Stability**

Stable

**Other Physical and Chemical Properties**

Sulfur Content = LT 0.5 wt%  
Conductivity = GT 50 ps/M  
Cetane # =40 to 57

**Appearance and Odor**

Light yellow to amber colored liquid; kerosene odor. When sold for off-road vehicle use in the United States, this material will be dyed red.

**Conditions to Avoid**

Heat and ignition sources.

**Materials to Avoid**

Strong acids, alkalis, and oxidizers such as liquid chlorine and oxygen.

**Hazardous Decomposition Products**

Burning or excessive heating may produce carbon monoxide and other harmful gases or vapors including oxides of sulfur and nitrogen.

## 10.

**Additional Precautions****Handling, Storage and Decontamination Procedures**

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when this material is loaded into tanks previously containing gasoline or other low flash point products (see API Publication 2003). **KEEP CONTAINERS CLOSED AND AWAY FROM HEAT AND IGNITION SOURCES!** All electrical equipment in areas where product is stored/handled should be installed in accordance with applicable requirements of the National Electric Code, N.E.C. Do not use this product as a cleaning agent. Empty containers retain some liquid and vapor residues and hazard precautions must be observed when handling empty containers. **WARNING:** Use of any hydrocarbon fuel in spaces without adequate ventilation may result in generation of hazardous levels of combustion products and inadequate oxygen levels for breathing.

**General Comments**

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the mixture itself.



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### Supplemental Toxicology Information

**Inhalation:** Toxicity studies on this material resulted in LC50 values greater than 5 mg/l indicating a low potency. However, during exposure the material caused labored breathing, reduced activity and nasal discharge.

Exposure to diesel exhaust may result in reversible symptoms, such as respiratory tract irritation (wheezing, chest tightness), mucous membrane irritation, central nervous system effects (headache and light headedness), nausea, vomiting and heartburn.

**Eye Contact:** Animal studies have been performed on this material with minimal to no irritation being reported. Ten minute exposures to diesel oil aerosols ( 166 ppm ) have been reported to be non-irritating in humans.

**Skin Contact:** Animal studies with this material have resulted in moderate skin irritation following short term exposure or prolonged/repeated exposure. This material appears to be non-sensitizing. The acute dermal toxicity tests indicate LD50 values greater than 2.0 g/kg indicating a low potency.

**Ingestion:** The acute oral toxicity tests indicate LD50 values greater than 5.0 g/kg indicating a low potency. In young children, ingested diesel fuel produced symptoms of cough, dyspnea (labored breathing), pneumonia, tachycardia (rapid heart beat), somnolence (drowsiness), cardiac dilation, vomiting, fever and breath and vomitus of a characteristic odor. Aspiration can result in a fatal chemical pneumonia.

**Prolonged/Repeated Exposures:** This product contains petroleum distillates similar to those shown to produce skin tumors and kidney damage in laboratory animals.

Lifetime exposure to whole diesel exhaust has been shown to produce lung tumors in laboratory animals. The exact relationship between these findings and possible human effects is not known.

Twenty eight day dermal toxicity studies with this material resulted in moderate skin irritation, decreased body weights and decreased renal function.

## 11.

### Regulatory Information

#### SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA), TITLE III

Section 311/312 Hazard Categories:

Immediate (acute) health hazard  
Delayed (chronic) health hazard  
Fire hazard

#### SECTION 313 :

This product contains the following chemicals subject to the reporting requirements established by SARA Title III

Component Name

NAPHTHALENE

#### TOXIC SUBSTANCES CONTROL ACT (TSCA)

All components of this product are listed on the TSCA Inventory.

#### COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)

This material is covered by CERCLA's PETROLEUM EXEMPTION.  
(Refer to 40 CFR 307.14)

#### CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - PROPOSITION 65

This product may contain trace amounts of the following chemical(s) listed by the state of California as "Known to cause cancer" or "birth defects or other reproductive harm".

Component Name

BENZENE  
TOLUENE

--- Note ---	Abbreviations:	EQ = Equal	AP = Approximately	N/P = No Applicable Information Found
		LT = Less Than	UK = Unknown	N/AP = Not Applicable
		GT = Greater Than	TR = Trace	N/DA = No Data Available

**Disclaimer of Liability**

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