

U. S. OIL & REFINING CO.

M A T E R I A L   S A F E T Y   D A T A   S H E E T

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**LOW SULFUR DIESEL, OFF ROAD**

MSDS No. 312300

Revised 5/7/99

U. S. OIL & REFINING CO.  
3001 Marshall Ave.  
Tacoma, WA 98421

EMERGENCY ASSISTANCE:  
COMPANY: (253) 383-1651  
CHEMTREC: (800) 424-9300

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

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**1. GENERAL**  
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**Product Name:** LOW SULFUR DIESEL, OFF ROAD  
**Other Names:** HEATING OIL #2, #2 FUEL OIL, DIESEL

**Chemical Family:** HYDROCARBON  
**Generic Name:** PETROLEUM DISTILLATE FUEL  
**DOT Shipping Name:** FUEL OIL, 3, NA/UN1993, III

**NFPA Hazard Rating:** HEALTH: 0  
FIRE: 2  
REACTIVITY: 0  
SPECIAL:

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**2. PRODUCT COMPONENTS**  
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Component	CAS Number	Percent
HYDROCARBONS WITH A BOILING POINT RANGE OF 176°C TO 365°C	68476-34-6	100 (AP)

CONTAINS RED DYE TO MEET IRS REQUIREMENTS FOR TAX EXEMPT DIESEL FUEL. NO  
DATA ARE AVAILABLE ON POTENTIAL DETRIMENTAL EFFECTS OF THE DYE ON PRODUCT  
PERFORMANCE.

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**3. OCCUPATIONAL EXPOSURE LIMITS**  
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Substance	Value	Time/Type	Date	Source
STODDARD SOLVENT	100 PPM	8 Hr PEL	1989	OSHA
(SEE SECTION 11)	200 PPM	15 Min STEL	1980	ACGIH

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**4. HEALTH INFORMATION**

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**Summary:** LIQUID, MIST OR VAPORS CAN CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. INGESTION OF LIQUID AND ASPIRATION INTO THE LUNGS CAN RESULT IN CHEMICAL PNEUMONIA.

**Routes of Exposure****Signs and Symptoms****Inhalation**

VAPORS OR MISTS FROM THIS MATERIAL CAN IRRITATE THE NOSE, THROAT, AND LUNGS, AND CAN CAUSE SIGNS AND SYMPTOMS OF CENTRAL NERVOUS SYSTEM DEPRESSION, DEPENDING ON THE CONCENTRATION AND DURATION OF EXPOSURE.

**Eye Contact**

EYE IRRITATION MAY RESULT FROM CONTACT WITH LIQUID, MISTS, AND/OR VAPORS.

**Skin Contact**

SKIN IRRITATION LEADING TO DERMATITIS MAY OCCUR UPON PROLONGED OR REPEATED CONTACT.

**Ingestion**

THIS MATERIAL CAN IRRITATE THE MOUTH, THROAT, STOMACH, AND CAUSE NAUSEA, VOMITING, DIARRHEA AND RESTLESSNESS. ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA.

**Supplemental Information:**

THIS PRODUCT CONTAINS PETROLEUM DISTILLATES SIMILAR TO THOSE SHOWN TO PRODUCE SKIN TUMORS ON LABORATORY ANIMALS. AVOID PROLONGED OR REPEATED SKIN CONTACT.

CAUTION IS RECOMMENDED FOR PRE-EXISTING CENTRAL NERVOUS SYSTEM DISEASES. PERSONNEL WITH PR-EXISTING CENTRAL NERVOUS SYSTEM DISEASE, SKIN DISORDERS, OR CHRONIC RESPIRATORY DISEASES SHOULD AVOID EXPOSURE TO THIS PRODUCT.

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**5. FIRE AND EXPLOSION**

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**Flash Point (Method):** AP 57°C (D-93)

**Autoignition Temperature (Method):** AP 257°C (E-659)

**Flammable Limits (% Vol. in air)** LOWER: AP 0.6  
**at Normal Atmospheric Temperature** UPPER: AP 7.5  
**and Pressure**

**Unusual Fire and Explosion Hazards:**

MODERATELY COMBUSTIBLE! WHEN HEATED ABOVE 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.

**Extinguishing Media:**

DRY CHEMICAL, FOAM, CARBON DIOXIDE, HALON. WATER FOG OR WATER SPRAY ARE OF VALUE FOR COOLING, BUT MAY NOT ACHIEVE EXTINGUISHMENT.

**Special Firefighting Procedures:**

FOR FIRES INVOLVING THIS MATERIAL, DO NOT ENTER ANY ENCLOSED FIRE SPACE WITHOUT PROPER PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS. COOL TANKS AND CONTAINERS EXPOSED TO FIRE WITH WATER.

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**6. EMPLOYEE PROTECTION**  
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**Respiratory:** THIS MATERIAL IS NOT EXPECTED TO PRESENT A RESPIRATORY HAZARD BECAUSE OF ITS LOW VAPOR PRESSURE. BUT, IF EXCESSIVE MIST OR VAPORS RESULT FROM CONDITIONS OF USE, WEAR PROPER NIOSH/MSHA-APPROVED RESPIRATORY EQUIPMENT.

**Ventilation:** USE ADEQUATE VENTILATION TO KEEP VAPOR CONCENTRATIONS OF THIS MATERIAL BELOW THE OCCUPATIONAL EXPOSURE LIMITS.

**Eye:** EYE PROTECTION (CHEMICAL-TYPE GOGGLES AND/OR FACE SHIELD) SHOULD BE WORN WHENEVER THERE IS A LIKELIHOOD OF SPLASHING OR SPRAYING LIQUID. CONTACT LENSES SHOULD NOT BE WORN. EYE WASH WATER SHOULD BE PROVIDED.

**Skin:** AVOID PROLONGED OR REPEATED SKIN CONTACT. IF CONDITIONS OR FREQUENCY OF USE PRESENT DANGER OF EXPOSURE, CLEAN AND IMPERVIOUS PROTECTIVE CLOTHING SUCH AS GLOVES, APRON, BOOTS, AND FACIAL PROTECTION SHOULD BE WORN.

**Other:** USE GOOD PERSONAL HYGIENE PRACTICES. IN CASE OF SKIN CONTACT, WASH WITH MILD SOAP AND WATER OR A WATERLESS HAND CLEANER. IMMEDIATELY REMOVE SOILED CLOTHING AND WASH THOROUGHLY BEFORE REUSE. DISCARD CONTAMINATED SHOES.

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**7. EMERGENCY AND FIRST AID**

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- Inhalation:** IMMEDIATELY REMOVE FROM CONTAMINATED AREA TO FRESH AIR. FOR RESPIRATORY DISTRESS, GIVE OXYGEN OR ADMINISTER CPR (CARDIOPULMONARY RESUSCITATION), IF NECESSARY. OBTAIN PROMPT MEDICAL ATTENTION.
- Eye Contact:** FLUSH WITH CLEAN LOW-PRESSURE WATER FOR AT LEAST 15 MINUTES. IF IRRITATION PERSISTS, OBTAIN MEDICAL ATTENTION.
- Skin Contact:** IMMEDIATELY REMOVE CONTAMINATED CLOTHING. WASH AFFECTED AREA THOROUGHLY WITH SOAP AND WATER. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION. WASH CLOTHING THOROUGHLY BEFORE REUSE, BUT DISCARD CONTAMINATED LEATHER GOODS.
- Ingestion:** DO NOT INDUCE VOMITING, SINCE ASPIRATION INTO THE LUNGS WILL CAUSE CHEMICAL PNEUMONIA. MUST OBTAIN MEDICAL ATTENTION PROMPTLY.

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**8. SPILL AND DISPOSAL**

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**Actions if Material is Spilled or Leaked:**

CONTAIN SPILL. REMOVE ALL IGNITION SOURCES AND SAFELY STOP FLOW OF SPILL. IN URBAN AREAS, CLEANUP ASAP; IN NATURAL ENVIRONMENTS, SEEK ADVICE FROM ECOLOGISTS. EVACUATE ALL NON-ESSENTIAL PERSONNEL. USE PROPER PROTECTIVE EQUIPMENT. PADS/ABSORBENT MATERIAL CAN BE USED. JET FUEL WILL FLOAT ON WATER. NOTIFY THE NATIONAL RESPONSE CENTER (800/424-8802) AND COMPLY WITH ALL APPLICABLE LAWS. THE SPILLED MATERIAL AND ANY CONTAMINATED MATERIALS MAY BE HAZARDOUS TO ANIMAL/AQUATIC LIFE.

**Waste Disposal Methods:**

MAXIMIZE PRODUCT RECOVERY FOR REUSE OR RECYCLING. UNUSED LIQUID PRODUCT IS LIKELY AN EPA "IGNITABLE HAZARDOUS WASTE" (D001). USE APPROVED TREATMENT, TRANSPORTERS, AND DISPOSAL SITES IN COMPLIANCE WITH ALL APPLICABLE LAWS. IF SPILL IS INTRODUCED INTO A WASTEWATER SYSTEM, THE CHEMICAL AND BIOLOGICAL OXYGEN DEMAND WILL LIKELY INCREASE. POTENTIAL TREATMENT AND DISPOSAL METHODS INCLUDE LAND FARMING, INCINERATION AND LAND DISPOSAL, IF PERMITTED.

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9. PHYSICAL AND CHEMICAL DATA  
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Specific Gravity (H<sub>2</sub>O = 1 @ 39.2°F): 0.84 - .88

Viscosity Units, Temp. (Method): AP 4 CST AT 50° C (D-445)

Volatile Characteristics: NA

Stability: STABLE

Other Physical and Chemical Properties: SULFUR CONTENT LT 0.05 %,  
AROMATICS CONTENT LT 25 VOL %,  
OLEFINS CONTENT LT 5 VOL%.

Appearance and Odor: WATER WHITE TO LIGHT AMBER COLORED LIQUID; KEROSENE  
ODOR.

Conditions to Avoid: HEAT, SPARKS, AND OPEN FLAME

Materials to Avoid: REACTS WITH STRONG ACIDS AND STRONG OXIDIZING  
MATERIALS

Hazardous Decomposition Products: BURNING OR EXCESSIVE HEATING MAY  
PRODUCE CARBON MONOXIDE AND OTHER HARMFUL GASES AND VAPORS INCLUDING  
OXIDES AND/OR OTHER COMPOUNDS OF SULFUR.

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10. SARA TITLE III  
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Extremely Hazardous Substances for Emergency Response and Planning:

Component	CAS Number	Percent	TPQ(lbs)	RQ(lbs)
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NONE

Toxic Chemicals for Emission Reporting

Component	CAS Number	Percent (Typical)
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NONE

EPA Hazard Classification:

Acute Health Hazard:  
Chronic Health Hazard: X  
Fire Hazard: X  
Pressure Hazard:  
Reactive Hazard:  
Not Applicable:

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**11. ADDITIONAL PRECAUTIONS**  
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**Handling & Storage:**

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 PRODUCT. (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.F.P.A. 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.

**General Comments:**

MATERIALS SIMILAR TO SOME COMPONENTS IN THIS PRODUCT WERE FOUND TO BE MUTAGENIC IN "IN VITRO" TESTS. THE EXACT RELATIONSHIP BETWEEN THESE RESULTS AND POSSIBLE HUMAN EFFECTS IS NOT KNOWN.

"PETROLEUM DISTILLATE"--16 CFR 1500.14(B)(3). USE SPECIAL FEDERAL LABELING IF INTENDED, OR PACKAGED, FOR USE IN THE HOUSEHOLD OR BY CHILDREN.

SPECIFIC EXPOSURE STANDARDS FOR THIS MATERIAL HAVE NOT BEEN AGREED UPON; THEREFORE, ACGIH TLV GUIDELINES (SEE SECTION 3) ARE SUGGESTED FOR INTERIM USE UNTIL SPECIFIC STANDARDS ARE ADOPTED.

SOME OF THE INFORMATION PRESENT AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE MIXTURE ITSELF.

-----**NOTE**-----Qualifications

<b>EQ</b> = Equal	<b>AP</b> = Approximately	<b>N/AV</b> = Not Available
<b>LT</b> = Less Than	<b>UK</b> = Unknown	<b>N/AP</b> = Not Applicable
<b>GT</b> = Greater than	<b>TR</b> = Trace	<b>N/DA</b> = No Data Available

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