



# MATERIAL SAFETY DATA SHEET

## 1 CHEMICAL PRODUCT & COMPANY IDENTIFICATION

TRADE NAME  
CAS NUMBER  
MSDS NUMBER  
PRODUCT CODE  
SYNONYM(S)

### FUEL OIL NO. 2 (LOW SULFUR)

68476-30-2

5465

ND

2 OIL, NO. 2 LOW SULFUR DIESEL, NO. 2 LOW SULFUR FUEL,  
HEATING OIL, PREMIUM DIESEL (LOW SULFUR),  
DIESEL FUEL, ARCTIC DIESEL, DIESEL FUEL NO. 2,  
DIESEL OIL, D-GRADE FUEL OIL, RAILROAD DIESEL, VIRGIN DIESEL  
KOCH PERFORMANCE GOLD DIESEL  
KOCH PERFORMANCE GOLD 50 DIESEL FUELS  
U.S. SOY FIELD DIESEL

APPLICABLE TO ALL GRADES

MANUFACTURER

Koch Petroleum Group, LP.

PO Box 2256

Wichita, KS

67201

### TELEPHONE NUMBERS - 24 HOUR EMERGENCY ASSISTANCE

Chemtrec: 800-424-9300

Koch Security: 316-828-6777

### TELEPHONE NUMBERS - GENERAL ASSISTANCE

8-5 (M-F) 316-828-6777

8-5 (M-F, CST) MSDS Assistance 316-828-8488

## 2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
C9-C16 HYDROCARBONS PRODUCED BY THE DISTILLATION OF CRUDE OIL	68476-30-2	99 - 100 %	ND
1,2,4-TRIMETHYLBENZENE	95-63-6	0 - 0.6 %	25 ppm 8-Hour TWA (ACGIH)
BIPHENYL	92-52-4	0 - 0.3 %	0.2 ppm 8-Hour TWA (OSHA) 0.2 ppm 8-Hour TWA (ACGIH)
NAPHTHALENE	91-20-3	0 - 0.2 %	10 ppm 8-Hour TWA (OSHA) 10 ppm 8-Hour TWA (ACGIH) 15 ppm 15-Min STEL (ACGIH)
XYLENES	1330-20-7	0 - 0.2 %	100 ppm 8-Hour TWA (OSHA) 100 ppm 8-Hour TWA (ACGIH) 150 ppm 15-Min STEL (ACGIH)
CUMENE	98-82-8	Trace	50 ppm 8-Hour TWA (OSHA) 50 ppm 8-Hour TWA (ACGIH)

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Ingredient Name	CAS Number	Concentration*	Exposure Limits / Health Hazards
TOLUENE	108-88-3	Trace	200 ppm 8-Hour TWA (OSHA) 50 ppm 8-Hour TWA (ACGIH)

\*Values do not reflect absolute minimums and maximums; these values are typical which may vary from time to time.

This Material Safety Data Sheet is intended to communicate potential health hazards and potential physical hazards associated with the product(s) covered by this sheet, and is not intended to communicate product specification information. For product specification information, contact your Koch Petroleum Group, LP.

### 3 HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

##### HEALTH HAZARDS

##### WARNING!

MAY BE IRRITATING TO THE SKIN, EYES AND RESPIRATORY TRACT  
OVEREXPOSURE MAY CAUSE CNS DEPRESSION  
ASPIRATION HAZARD IF SWALLOWED-CAN ENTER LUNGS AND CAUSE DAMAGE  
POTENTIAL REPRODUCTIVE HAZARD  
SKIN CANCER HAZARD BASED ON TESTS WITH LABORATORY ANIMALS

##### FLAMMABILITY HAZARDS

##### COMBUSTIBLE

PER OSHA GUIDELINES, 29 CFR 1910.1200(c)

##### REACTIVITY HAZARDS

##### STABLE

#### POTENTIAL HEALTH EFFECTS, SKIN

MODERATELY IRRITATING. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking.

No significant effects are expected to occur following short term exposure. Repeated or prolonged contact with large amounts of this material may result in absorption through the skin to produce toxic effects.

Contact with heated material may cause thermal burns.

#### POTENTIAL HEALTH EFFECTS, EYE

SLIGHTLY IRRITATING. Exposure to vapors, fumes or mists may cause irritation. May cause slight transient irritation, lacrimation (tears) and a burning sensation in the eyes. Prolonged or repeated exposure may cause irritation and conjunctivitis.

Contact with heated material may cause thermal burns.

#### POTENTIAL HEALTH EFFECTS, INHALATION

Petroleum mists at high exposure levels may be irritating to the nose, throat and lungs.

May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

Overexposure to this material may cause systemic damage including target organ effects listed under "Special Toxic Effects."

Other specific symptoms of exposure are listed under "Special Toxic Effects."

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**POTENTIAL HEALTH EFFECTS, INGESTION**

PRACTICALLY NON-TOXIC. Ingestion of large amounts may cause gastrointestinal disturbances. May cause irritation of the mouth, throat and gastrointestinal tract. Symptoms may include salivation, pain, nausea, vomiting and diarrhea.

Aspiration into lungs may cause chemical pneumonia and lung damage.

Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation" (see Inhalation section).

Overexposure to this material may cause systemic damage including target organ effects listed under "Special Toxic Effects."

Other specific symptoms of exposure are listed under "Special Toxic Effects."

**SPECIAL TOXIC EFFECTS**

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: liver and kidney.

Exposure to components of this material may cause the following specific symptoms, depending on the concentration and duration of exposure: irritation of the hair follicles and blockage of the sebaceous glands.

This product contains C9 aromatics which may cause adverse reproductive and/or developmental effects.

IARC has determined that there is limited evidence for the carcinogenicity of fuel oil no. 2 in experimental animals and inadequate evidence in humans.

Lifetime exposure to whole diesel exhaust has been shown to cause cancer in laboratory animals. NIOSH recommends that whole diesel exhaust be regarded as a potential occupational carcinogen.

Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as solvent or painter's syndrome). Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

Pre-existing medical conditions which may be aggravated by exposure include disorders of the skin, eye and respiratory system.

This product has not been tested as a whole for all potential health effects.

**WARNING:** The use of any hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of combustion products and inadequate oxygen levels.

## 4 FIRST AID MEASURES

**SKIN**

Immediately wash skin with plenty of soap and water while removing contaminated clothing and shoes. GET IMMEDIATE MEDICAL ATTENTION.

Place contaminated clothing in closed container for storage until laundered or discarded. If clothing is to be laundered, inform person performing operation of contaminant's hazardous properties. Discard contaminated leather goods.

**EYE**

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.

**INHALATION**

Remove to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure airway is clear and give oxygen.

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

**INGESTION**

Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs keep head below hips to prevent aspiration and monitor for breathing difficulty. Gastric lavage should be performed only by qualified medical personnel.

Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

**NOTES TO PHYSICIAN**

Gastric lavage may be indicated if ingested. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

**5 FIRE FIGHTING MEASURES****HAZARDOUS COMBUSTION PRODUCTS**

Combustion may produce COx, NOx, SOx, reactive hydrocarbons, irritating vapors and hydrogen sulfide.

**EXTINGUISHING MEDIA**

Use water spray, dry chemical, alcohol foam, all purpose AFFF or carbon dioxide to extinguish fire.

**BASIC FIRE FIGHTING PROCEDURES**

Evacuate area and fight fire from a safe distance. If leak or spill has not ignited, ventilate area and use water spray to disperse gas or vapor and to protect personnel attempting to stop a leak.

Use water spray to cool adjacent structures and to protect personnel. Shut off source of flow if possible. Stay away from storage tank ends. Withdraw immediately in case of rising sound from venting safety device or any discoloration of storage tank due to fire.

Firefighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.

**UNUSUAL FIRE & EXPLOSION HAZARDS**

Vapors may form explosive mixture with air. Vapors can travel to a source of ignition and flash back.

Explosion hazard if exposed to extreme heat or to physical or thermal shock.

Fires involving this product may release COx, NOx, SOx, reactive hydrocarbons, irritating vapors and hydrogen sulfide.

Flash Point

> 125 F (> 52 C) PENSKY-MARTENS  
CLOSED CUP

Autoignition Temperature

494 F (257 C)

Flammability Limits in Air, Lower, % by Volume

0.6 %

Flammability Limits in Air, Upper, % by Volume

7.5 %

**6 ACCIDENTAL RELEASE MEASURES****EMERGENCY ACTION**

Eliminate and/or shut off ignition sources and keep ignition sources out of the area. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind. Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in release. Evacuate area endangered by release as required. (See Personal Protection Information Section.)

**ENVIRONMENTAL PRECAUTIONS**

Eliminate all sources of ignition. Isolate hazard area and deny entry.

If product is released to the environment, take immediate steps to stop and contain release. Caution should be exercised regarding personnel safety and exposure to the released product. Notify local authorities and the National Response Center, if required.

**SPILL OR LEAK PROCEDURE**

Keep ignition sources out of area and shut off all ignition sources. Absorb spill with inert material (e. g. dry sand or earth) then place in a chemical waste container. Large Spills: Dike far ahead of liquid spill for later disposal. Stop leak when safe to do so.

See Exposure Controls/Personal Protection (Section 8).

## 7 HANDLING & STORAGE

### HANDLING

Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Use non-sparking tools. Do not cut, grind, drill, weld or reuse containers unless adequate precautions are taken against these hazards.

Do not eat, drink or smoke in areas of use or storage.

### STORAGE

Store in tightly closed containers in a cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles. Avoid contact with strong oxidizers.

Empty containers may contain product residue. Do not reuse without adequate precautions.

Do not eat, drink or smoke in areas of use or storage.

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### ENGINEERING CONTROLS

Ventilation and other forms of engineering controls are the preferred means for controlling exposures.

### EYE PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Wear chemical safety goggles and face shield. Have eye washing facilities readily available where eye contact can occur.

### SKIN PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

Avoid skin contact with this material. Use appropriate chemical protective gloves when handling.

Use good personal hygiene.

### RESPIRATORY PROTECTION: PERSONAL PROTECTION EQUIPMENT (PPE)

A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

## 9 PHYSICAL & CHEMICAL PROPERTIES

### ODOR AND APPEARANCE

CRYSTAL CLEAR TO PALE YELLOW OR GREEN COLORED LIQUID WITH HYDROCARBON ODOR; FOR TAX EXEMPT PURPOSES, THIS FUEL MAY CONTAIN RED DYE

Boiling Point	325 - 700 F (163-371 C)
Specific Gravity	0.835 - 0.9
Melting Point	-20 F (-29 C)
Percent Volatile	100 %
Vapor Pressure	2.6 mmHg AT 122 F (50 C)
Vapor Density	8
Bulk Density	ND
Solubility in Water	INSOLUBLE
Octanol/Water Partn	ND
Volatile Organic	ND
Pour Point	-20 TO 10 F (-29 TO -12 C) [ARCTIC DIESEL < -50 F (< -45 C)]
pH Value	ND
Freezing Point	ND
Viscosity	32.6 - 40.1 SSU AT 100 F (38 C)
Evaporation Rate	0.01

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Molecular Formula NA  
Molecular Weight ND  
Chemical Family HYDROCARBON MIXTURE  
Odor Threshold ND

## 10 STABILITY & REACTIVITY

### STABILITY/INCOMPATIBILITY

Incompatible with oxidizing agents. See precautions under Handling & Storage (Section 7).

### HAZARDOUS REACTIONS/DECOMPOSITION PRODUCTS

Combustion may produce COx, NOx, SOx, reactive hydrocarbons, irritating vapors and hydrogen sulfide.

## 11 TOXICOLOGICAL INFORMATION

### TOXICOLOGICAL DATA

See Special Toxic Effects (Section 3).

## 12 ECOLOGICAL INFORMATION

### ECOTOXICOLOGICAL INFORMATION

ND

## 13 DISPOSAL CONSIDERATIONS

### WASTE DISPOSAL

This product, as supplied, when discarded or disposed of, is a hazardous waste according to Federal Regulations (40 CFR 261) due to its ignitability. Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine, at the time of disposal, whether the material is a hazardous waste subject to RCRA.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, 268 and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

## 14 TRANSPORT INFORMATION

### BILL OF LADING - BULK (U. S. DOT)

Fuel Oil ( No. 2 ), Combustible Liquid, NA1993, PG III

### U. S. Department of Transportation (DOT) Requirements

#### General Transportation Information for Bulk Shipments

Proper Shipping Name	Fuel Oil (No. 2)		
Hazard Class	Combustible Liquid	UN/NA Code	NA1993
Packaging Group	PG III		
Labels Required	None		
Placards Required	Combustible Liquid, NA1993		
Reportable Quantity	See Regulatory Information (Section 15)		

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**General Transportation Information for Non-Bulk Shipments**

Proper Shipping Name	Non-Regulated		
Hazard Class	NA	UN/NA Code	NA
Packaging Group	NA		
Labels Required	NA		
Placards Required	NA		
Reportable Quantity	NA		

Non-bulk shipments of this product are non-regulated for domestic ground transportation when they meet the requirements of 49 CFR 173.150(f).

**15 REGULATORY INFORMATION****FEDERAL REGULATIONS**

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

A release of this product, as supplied, is exempt from reporting under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) by the petroleum exclusion. Releases may be reportable to the National Response Center (800-424-8802) under the Clean Water Act, 33 U.S.C. 1321(b)(3) and (5). Check state and local regulations for any additional requirements as these may be more restrictive than federal laws and regulations. Failure to report may result in substantial civil and criminal penalties.

This product does not contain toxic chemicals (in excess of the applicable de minimis concentration) that are subject to the annual toxic chemical release reporting requirements of the Superfund Amendments and Reauthorization Act (SARA) Section 313 (40 CFR 372).

This product contains one or more components designated as hazardous substances or toxic pollutants pursuant to the Federal Clean Water Act (40 CFR 116.4 Table A; 40 CFR 401.15). Any unpermitted introduction of this product into a facility stormwater or wastewater discharge may constitute a violation of the Clean Water Act. Facilities must notify the appropriate permitting agency prior to introducing this product into the aforementioned discharges.

This product contains one or more substances listed as hazardous, toxic or flammable air pollutants under Section 112 of the Clean Air Act.

There may be specific regulations at the local, regional or state/provincial level that pertain to this product.

**STATE REGULATIONS**

**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**SARA TITLE III RATINGS**

Immediate Hazard: X	Delayed Hazard: X	Fire Hazard: X	Pressure Hazard: -
Reactivity Hazard: -			

**NFPA RATINGS**

Health	1	Flammability	2	Reactivity	0	Special Hazards	.
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**HMIS RATINGS**

Health	2*	Flammability	2	Reactivity	0
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**Following ingredients of this product are listed in SARA313**

SARA Listed Ingredient Name	CAS Number	Maximum %
XYLENES	1330-20-7	0.2

**16 OTHER INFORMATION**

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**DISCLAIMER**

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, MSDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

Current Revision Date 29-Mar-1999

Replaces Sheet Dated

23-Dec-1998

Completed By Safety &amp; Emergency Response, Koch Industries, Inc.

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