



Safety Data Sheet

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name

- **Ultra Low Sulfur Diesel**

Synonyms

- ASTM No. 2-D Grade Diesel Fuel (defined by ASTM D-975); Burner Fuel No. 2; Diesel Oil (Medium); Fuel Oil No. 2 (defined by ASTM D-396); Furnace Oil; Home Medium Oil; No. 2 Diesel; No. 2 Distillate Fuel; No. 2 Heating Oil

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Relevant identified use(s)**
- Diesel Fuel

1.3 Details of the supplier of the safety data sheet

Manufacturer

- Delek Refining, Ltd.
425 McMurrey Drive
Tyler, TX 75702
United States
www.delekus.com

Telephone (General) • 903-579-3400

1.4 Emergency telephone number

Manufacturer

- (800) 424-9300 - 24 Hour CHEMTREC - National

Manufacturer

- (703) 527-3887 - 24 Hour CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]

According to: EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP

- Flammable Liquids 3 - H226
Carcinogenicity 2 - H351
Hazardous to the aquatic environment Chronic 3 - H412

DSD/DPD

- Flammable
Carcinogenic Substances - Category 3
R10, R40, R52, R53

2.2 Label Elements

CLP

WARNING



- Hazard statements** • H226 - Flammable liquid and vapour
 H351 - Suspected of causing cancer.
 H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

- Prevention** • P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P210 - Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
 P233 - Keep container tightly closed.
 P240 - Ground and/or bond container and receiving equipment.
 P241 - Use explosion-proof electrical/ventilating/lighting/equipment.
 P242 - Use only non-sparking tools.
 P243 - Take precautionary measures against static discharge.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P281 - Use personal protective equipment as required.
- Response** • P370+P378 - In case of fire: Use appropriate media for extinction.
 P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P308+P313 - IF exposed or concerned: Get medical advice/attention.
- Storage/Disposal** • P403+P235 - Store in a well-ventilated place. Keep cool.
 P405 - Store locked up.
 P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD



- Risk phrases** • R10 - Flammable.
 R40 - Limited evidence of a carcinogenic effect.
 R52 - Harmful to aquatic organisms.
 R53 - May cause long-term adverse effects in the aquatic environment.
- Safety phrases** • S36 - Wear suitable protective clothing.
 S37 - Wear suitable gloves.
 S53 - Avoid exposure - obtain special instructions before use.

2.3 Other Hazards

- CLP** • According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.
- DSD/DPD** • According to European Directive 1999/45/EC this material is considered dangerous.

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

- OSHA HCS 2012** • Flammable Liquids 3
 Aspiration 1
 Skin Irritation 2
 Eye Irritation 2
 Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects
 Carcinogenicity 2

2.2 Label elements

OSHA HCS 2012

DANGER



- Hazard statements** • Flammable liquid and vapour
 May be fatal if swallowed and enters airways
 Causes skin irritation
 Causes serious eye irritation
 May cause drowsiness or dizziness
 Suspected of causing cancer.

Precautionary statements

- Prevention** • Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking.
 Keep container tightly closed.
 Ground and/or bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting/equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing mists, vapours, and/or spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
- Response** • IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 Call a POISON CENTER or doctor/physician if you feel unwell.
 In case of fire: Use appropriate media for extinction.
 If on skin: Wash with plenty of water .
 Specific treatment, see supplemental first aid information.
 Take off contaminated clothing and wash before reuse.
 If skin irritation occurs: Get medical advice/attention.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If eye irritation persists: Get medical advice/attention.
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 Do NOT induce vomiting.
 IF exposed or concerned: Get medical advice/attention.
- Storage/Disposal** • Store in a well-ventilated place. Keep container tightly closed.
 Keep cool.
 Store locked up.
 Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

2.3 Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Canada

According to: WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Combustible Liquids - B3
- Other Toxic Effects - D2A
- Other Toxic Effects - D2B

2.2 Label elements

WHMIS



- Combustible Liquids - B3
- Other Toxic Effects - D2A
- Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Fuels, diesel, No. 2	CAS: 68476-34-6 EC Number: 270-676-1 EU Index: 649-227-00-2	100%	NDA	EU DSD/DPD: Annex VI, Table 3.2: Carc. Cat. 3, R40; R10; R52-R53 EU CLP: Annex VI, Table 3.1: Carc. 2, H351; Flam. Liq. 3, H226; Aquatic Chronic 3, H412 OSHA HCS 2012: Flam. Liq. 3; Eye Irrit. 2; Skin Irrit. 2; Asp. Tox. 1; Carc. 2; STOT SE 3: Narc.	NDA
Fuel oil, No.2	CAS: 68476-30-2 EC Number: 270-671-4 EU Index: 649-225-00-1	100%	Ingestion/Oral-Rat LD50 • 12 g/kg Skin-Rabbit LD50 • 4720 µL/kg	EU DSD/DPD: Annex VI, Table 3.2: Carc. Cat. 3, R40; R10; R52-R53 EU CLP: Annex VI, Table 3.1: Carc. 2, H351; Flam. Liq. 3, H226; Aquatic Chronic 3, H412 OSHA HCS 2012: Flam. Liq. 3; Eye Irrit. 2; Skin Irrit. 2; Asp. Tox. 1; Carc. 2; STOT SE 3: Narc.	NDA
Naphthalene	CAS: 91-20-3 EC Number: 202-049-5 EU Index: 601-052-00-2	< 1%	Skin-Rabbit LD50 • >20 g/kg Ingestion/Oral-Rat LD50 • 490 mg/kg	EU DSD/DPD: Annex VI, Table 3.2: Carc. Cat. 3, R40; Xn, R22; N, R50, R53 EU CLP: Annex VI, Table 3.1: Acute Tox. 4, H302; Carc. 2, H351; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 OSHA HCS 2012: Flam. Sol. 2; Acute Tox. 4 (Orl); Skin Irrit. 2; Muta. 2; Carc. 2; Repr. 2; STOT SE 3: Narc.; STOT RE 1 (Blood, Eyes; Orl, Inhl)	NDA
Mixture of additives	NDA	< 1%	NDA	EU DSD/DPD: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified	NDA
Benzene, trimethyl-	CAS: 25551-13-7 EC Number: 247-099-9	< 1%	Ingestion/Oral-Rat LD50 • 8970 mg/kg	EU DSD/DPD: R10; Xi; R38; R67; Xn; R65; N; R51-R53 EU CLP: Flam. Liq. 3, H226; Skin Irrit. 2, H315; STOT SE 3: Narc., H336; Asp. Tox. 1, H304; Aquatic Chronic 2, H411 OSHA HCS 2012: Flam. Liq. 3; Eye Irrit. 2; Skin Irrit. 2; STOT SE 3: Narc.; Asp. Tox. 1	NDA
				EU DSD/DPD: Annex VI, Table 3.2: R10; Xn, R20; Xi,	

1,2,4-Trimethylbenzene	CAS: 95-63-6 EC Number: 202-436-9 EU Index: 601-043-00-3	< 1%	Ingestion/Oral-Rat LD50 • 5 g/kg Inhalation-Rat LC50 • 18000 mg/m ³ 4 Hour (s)	R36/37/38; N, R51, R53 EU CLP: Annex VI, Table 3.1: Flam. Liq. 3, H226; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3: Resp. Irrit. (Inhl), H335; Aquatic Chronic 2, H411 OSHA HCS 2012: Flam. Liq. 3; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3: Narc; STOT SE 3: Resp. Irrit. (Inhl); Asp. Tox. 1	NDA
1,1'-Biphenyl	CAS: 92-52-4 EC Number: 202-163-5 EU Index: 601-042-00-8	< 1%	Ingestion/Oral-Rat LD50 • 2140 mg/kg Skin-Rabbit LD50 • >5010 mg/kg	EU DSD/DPD: Annex VI, Table 3.2: Xi, R36/37/38; N, R50, R53 EU CLP: Annex VI, Table 3.1: Eye Irrit. 2, H319; STOT SE 3: Resp. Irrit., H335; Skin Irrit. 2, H315; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 OSHA HCS 2012: Skin Irrit. 2; Eye Irrit. 2; STOT RE 1 (PNS, CNS, Liver)	NDA

See Section 16 for full text of H-statements and R-phrases.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin

- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing. Wash skin with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion

- Do NOT induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Obtain medical attention immediately if ingested.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media • Use foam, water fog, dry chemical, CO₂.

Unsuitable Extinguishing Media • Do not use straight water stream as it will scatter the fire.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards

- Containers may explode when heated.
Vapor explosion hazard indoors, outdoors or in sewers.
HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames.
Many liquids are lighter than water.
Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks).
Runoff to sewer may create fire or explosion hazard.
Vapors may form explosive mixtures with air.
Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

- Burning or excessive heating may produce smoke, carbon monoxide, carbon dioxide, or other harmful gasses/vapors.

5.3 Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA). Move containers from fire area if you can do it without risk. LARGE FIRES: Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures**6.1 Personal precautions, protective equipment and emergency procedures****Personal Precautions**

- Ventilate enclosed areas. Do not walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Emergency Procedures

- As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet) ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep unauthorized personnel away. Stay upwind. Keep out of low areas.

6.2 Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

6.3 Methods and material for containment and cleaning up**Containment/Clean-up Measures**

- Stop leak if you can do it without risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. A vapor suppressing foam may be used to reduce vapors. All equipment used when handling the product must be grounded. LARGE SPILLS: Dike far ahead of liquid spill for later disposal. LARGE SPILLS: Water spray may reduce vapor; but may not prevent ignition in closed spaces.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage**7.1 Precautions for safe handling****Handling**

- Use only in well ventilated areas. Keep away from heat, sparks, and flame – No Smoking. Take precautionary measures against static charges. Use only non-sparking tools. All equipment used when handling the product must be grounded. Avoid contact with skin, eyes or clothing. Avoid breathing mist, vapours and/or spray. Wear appropriate personal protective equipment, avoid direct contact. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

7.2 Conditions for safe storage, including any incompatibilities**Storage**

- Store in a cool/low-temperature, well-ventilated dry place away from heat and ignition sources. Store only in approved containers. Store locked up. Keep container tightly closed. Containers should be clearly labeled. Keep away from incompatible materials.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines				
	Result	ACGIH	NIOSH	OSHA
1,1'-Biphenyl (92-52-4)	TWAs	0.2 ppm TWA	0.2 ppm TWA; 1 mg/m ³ TWA	0.2 ppm TWA; 1 mg/m ³ TWA
Naphthalene (91-20-3)	TWAs	10 ppm TWA	10 ppm TWA; 50 mg/m ³ TWA	10 ppm TWA; 50 mg/m ³ TWA
	STELs	Not established	15 ppm STEL; 75 mg/m ³ STEL	Not established
Benzene, trimethyl- (25551-13-7)	TWAs	25 ppm TWA	Not established	Not established
1,2,4- Trimethylbenzene (95-63-6)	TWAs	Not established	25 ppm TWA; 125 mg/m ³ TWA	Not established
Fuels, diesel, No. 2 (68476-34-6)	TWAs	100 mg/m ³ TWA (inhalable fraction and vapor, as total hydrocarbons, listed under Diesel fuel)	Not established	Not established
Fuel oil, No.2 (68476-30-2)	TWAs	100 mg/m ³ TWA (inhalable fraction and vapor, as total hydrocarbons, listed under Diesel fuel)	Not established	Not established

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof electrical/ventilating/lighting/equipment.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear chemical splash safety goggles.

Skin/Body

- Wear appropriate gloves.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

ACGIH = American Conference of Governmental Industrial Hygiene

NIOSH = National Institute of Occupational Safety and Health

OSHA = Occupational Safety and Health Administration

STEL = Short Term Exposure Limits are based on 15-minute exposures

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Straw-colored to dyed red liquid with an aromatic (petroleum like) odor.
Color	Straw-colored to dyed red.	Odor	Aromatic Odor (Petroleum Characteristics)

Odor Threshold	Data lacking		
General Properties			
Boiling Point	330 to 380 F(165.5556 to 193.3333 C)	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	Data lacking
Specific Gravity/Relative Density	0.81 to 0.88 Water=1	Density	6.7595 to 7.3436 lbs/gal
Water Solubility	Negligible < 0.1 %	Viscosity	1.9 to 4.1 Centistoke (cSt, cS) or mm2/sec
Explosive Properties	Data lacking	Oxidizing Properties:	Data lacking
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	125 to 140 F(51.6667 to 60 C)	UEL	10 %
LEL	0.3 %	Autoignition	340 to 500 F(171.1111 to 260 C)
Flammability (solid, gas)	Data lacking		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Excess heat, sparks, open flame.

10.5 Incompatible materials

- Strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, etc.

10.6 Hazardous decomposition products

- The use of hydrocarbon fuels in an area without adequate ventilation may result in hazardous levels of combustion products (e.g., oxides of carbon, sulfur, and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components		
Fuel oil, No.2 (100%)	68476-30-2	Acute Toxicity: Ingestion/Oral-Rat LD50 • 12 g/kg; Skin-Rabbit LD50 • 4720 µL/kg; <i>Lungs, Thorax, or Respiration:Other changes; Skin and Appendages:After systemic exposure:Dermatitis, other;</i> Irritation: Eye-Rabbit • 100 mg 30 Second(s) • Mild irritation; Skin-Rabbit • 500 µL 24 Hour(s) • Moderate irritation; Tumorigen / Carcinogen: Skin-Mouse TDLo • 243 g/kg 97 Week(s)-Intermittent; <i>Tumorigenic:Carcinogenic by</i>

		RTECS criteria; Skin and Appendages:Other:Tumors
Fuels, diesel, No. 2 (100%)	68476-34-6	Tumorigen / Carcinogen: Skin-Mouse TDLo • 312 mL/kg 78 Week(s)-Intermittent; Tumorigenic:Carcinogenic by RTECS criteria; Skin and Appendages:Other:Tumors
1,1'-Biphenyl (< 1%)	92-52-4	Acute Toxicity: Ingestion/Oral-Rat LD50 • 2140 mg/kg; Behavioral:Somnolence (general depressed activity); Behavioral:Muscle weakness; Gastrointestinal:Alteration in gastric secretion; Skin-Rabbit LD50 • >5010 mg/kg; Irritation: Eye-Rabbit • 100 mg • Mild irritation; Skin-Rabbit • 500 µL 24 Hour(s) • Severe irritation; Multi-dose Toxicity: Inhalation-Mouse TCLo • 5 mg/m³ 7 Hour(s) 92 Day(s)-Intermittent; Lungs, Thorax, or Respiration:Emphysema; Lungs, Thorax, or Respiration:Chronic pulmonary edema; Related to Chronic Data:Death in the Other Multiple Dose data type field; Mutagen: DNA damage • Ingestion/Oral-Mouse • 100 mg/kg; Unscheduled DNA synthesis • Ingestion/Oral-Rat • 8400 mg/kg 4 Week(s)-Continuous; Tumorigen / Carcinogen: Ingestion/Oral-Mouse TDLo • 56 g/kg; Tumorigenic:Equivocal tumorigenic agent by RTECS criteria; Lungs, Thorax, or Respiration:Tumors; Blood:Tumors
1,2,4-Trimethylbenzene (< 1%)	95-63-6	Acute Toxicity: Ingestion/Oral-Rat LD50 • 5 g/kg; Inhalation-Rat LC50 • 18000 mg/m³ 4 Hour(s); Multi-dose Toxicity: Inhalation-Rat TCLo • 20 mg/m³ 16 Week(s)-Continuous; Kidney, Ureter, and Bladder:Other changes in urine composition; Inhalation-Rat TCLo • 100 ppm 6 Hour(s) 20 Day(s)-Intermittent; Behavioral:Changes in motor activity (specific assay); Behavioral:Analgesia; Behavioral:Alteration of operant conditioning
Benzene, trimethyl- (< 1%)	25551-13-7	Acute Toxicity: Ingestion/Oral-Rat LD50 • 8970 mg/kg; Irritation: Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Moderate irritation
Naphthalene (< 1%)	91-20-3	Acute Toxicity: Ingestion/Oral-Rat LD50 • 490 mg/kg; Ingestion/Oral-Mouse TDLo • 158 mg/kg; Brain and Coverings:Other degenerative changes; Liver:Other changes; Biochemical:Metabolism (intermediary):Lipids, including transport; Inhalation-Human TCLo • 250 mg/m³; Sense Organs and Special Senses:Eye:Lacrimation; Behavioral:Headache; Skin-Rabbit LD50 • >20 g/kg; Unreported-Guinea Pig LD50 • 1200 mg/kg; Behavioral:Somnolence (general depressed activity); Irritation: Skin-Rabbit • 0.05 mL 24 Hour(s) • Severe irritation; Multi-dose Toxicity: Ingestion/Oral-Rat TDLo • 500 mg/kg 10 Day(s)-Intermittent; Behavioral:Sleep; Lungs, Thorax, or Respiration:Dyspnea; Ingestion/Oral-Rat TDLo • 4500 mg/kg 10 Day(s)-Intermittent; Brain and Coverings:Other degenerative changes; Mutagen: Specific locus test • Inhalation-Rat • 30 ppm 13 Week(s)-Intermittent; Micronucleus test • Unreported Route-Human • Lymphocyte (Somatic cell) • 30 mg/L; Reproductive: Ingestion/Oral-Mouse TDLo • 2400 mg/kg (7-14D preg); Reproductive Effects:Effects on Newborn:Live birth index; Reproductive Effects:Effects on Newborn:Viability index (e.g., # alive at day 4 per # born alive); Ingestion/Oral-Rat TDLo • 4500 mg/kg (6-15D preg); Reproductive Effects:Effects on Embryo or Fetus:Fetotoxicity (except death, e.g., stunted fetus); Reproductive Effects:Specific Developmental Abnormalities:Other developmental abnormalities; Tumorigen / Carcinogen: Inhalation-Mouse TCLo • 30 ppm 6 Hour(s) 2 Year(s)-Intermittent; Tumorigenic:Neoplastic by RTECS criteria; Lungs, Thorax, or Respiration:Tumors; Inhalation-Rat TCLo • 60 ppm 6 Hour(s) 105 Week(s)-Intermittent; Tumorigenic:Carcinogenic by RTECS criteria; Sense Organs and Special Senses:Olfaction:Tumors; Inhalation-Rat TCLo • 1575 mg/kg 105 Week(s)-Intermittent; Tumorigenic:Carcinogenic by RTECS criteria; Sense Organs and Special Senses:Olfaction:Tumors

GHS Properties	Classification
Respiratory sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Serious eye damage/Irritation	EU/CLP • Data lacking OSHA HCS 2012 • Eye Irritation 2
Acute toxicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Aspiration Hazard	EU/CLP • Data lacking OSHA HCS 2012 • Aspiration 1

Carcinogenicity	EU/CLP • Carcinogenicity 2 OSHA HCS 2012 • Carcinogenicity 2
Skin corrosion/Irritation	EU/CLP • Data lacking OSHA HCS 2012 • Skin Irritation 2
Skin sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-RE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-SE	EU/CLP • Data lacking OSHA HCS 2012 • Specific Target Organ Toxicity Single Exposure 3: Narcotic Effects
Toxicity for Reproduction	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Germ Cell Mutagenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking

Potential Health Effects

Inhalation

- Acute (Immediate)**
 - May affect the central nervous system. Symptoms may include dizziness, drowsiness, lethargy, coma and death.
- Chronic (Delayed)**
 - No data available.

Skin

- Acute (Immediate)**
 - Causes skin irritation.
- Chronic (Delayed)**
 - No data available.

Eye

- Acute (Immediate)**
 - Causes serious eye irritation.
- Chronic (Delayed)**
 - No data available.

Ingestion

- Acute (Immediate)**
 - Material may be aspirated into lungs during ingestion and/or subsequent vomiting. Aspiration of this material will cause severe lung injury, chemical pneumonitis, pulmonary edema or death.
- Chronic (Delayed)**
 - No data available.

- Carcinogenic Effects**
 - Repeated and prolonged exposure may cause cancer.

Carcinogenic Effects			
	CAS	IARC	NTP
Naphthalene	91-20-3	Group 2B-Possible Carcinogen	Reasonably Anticipated to be Human Carcinogen

Key to abbreviations

LC = Lethal Concentration

LD = Lethal Dose

TC = Toxic Concentration

TD = Toxic Dose

Section 12 - Ecological Information

12.1 Toxicity

	CAS	
		Aquatic Toxicity-Fish: 96 Hour(s) LC50 <i>Melanotaeni a fluviatilis</i> (Chrimson-Spotted Rainbowfish) 0.213 mg/L Comments: Naphthalene (91-20-3)

Ultra Low Sulfur Diesel	NDA	<p>96 Hour(s) LC50 <i>Pimephales promelas</i> (Fathead Minnow) 7.72 mg/L Comments: 1,2,4-Trimethylbenzene (95-63-6)</p> <p>Aquatic Toxicity-Crustacea: 48 Hour(s) EC50 Water Flea <i>Daphnia magna</i> 3.6063 mg/L Comments: 1,2,4-Trimethylbenzene (95-63-6)</p> <p><i>Daggerblade Grass Shrimp</i> 5.6 mg/L Comments: Benzene, trimethyl- (25551-13-7)</p> <p>48 Hour(s) EC50 Water Flea <i>Daphnia magna</i> 136 mg/L Comments: Naphthalene (91-20-3)</p> <p>48 Hour(s) NOEC Water Flea <i>Daphnia magna</i> 1 mg/L Comments: Naphthalene (91-20-3)</p> <p>Aquatic Toxicity-Algae and Other Aquatic Plant(s): 7 Day(s) NOEC Algae <i>Scenedesmus subspicatus</i> 4.15 mg/L Comments: Naphthalene (91-20-3)</p>
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12.2 Persistence and degradability

- Material Data Lacking.

12.3 Bioaccumulative potential

- Not expected to bioaccumulate through food chains in the environment.

12.4 Mobility in Soil

- Spillages may penetrate the soil causing ground water contamination. Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

12.5 Results of PBT and vPvB assessment

- PBT and vPvB assessment has not been conducted for this material.

12.6 Other adverse effects

Potential Environmental Effects

- Harmful to aquatic life with long lasting effects.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste

- This material, if discarded as produced, would be a RCRA "characteristic" hazardous waste due to the characteristic(s) of ignitability (D001) and benzene (D018). If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this material, once it becomes a waste, is subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult state and local regulations to determine whether they are more stringent than the federal requirements.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. Empty drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	UN1993	Flammable liquids, n.o.s.	3	III	NDA
TDG	UN1993	FLAMMABLE LIQUID, N.O.S.	3	III	NDA
IMO/IMDG	UN1993	FLAMMABLE LIQUID, N.O.S.	3	III	NDA
IATA/ICAO	UN1993	Flammable liquids, n.o.s.	3	III	NDA

14.6 Special precautions for user

- None specified.

14.7 Transport in bulk

- Data lacking.

according to Annex II of
**MARPOL 73/78 and the IBC
 Code**

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Chronic, Fire

Inventory						
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS	TSCA
1,1'-Biphenyl	92-52-4	Yes	No	Yes	No	Yes
1,2,4-Trimethylbenzene	95-63-6	Yes	No	Yes	No	Yes
Benzene, trimethyl-	25551-13-7	Yes	No	Yes	No	Yes
Fuel oil, No.2	68476-30-2	Yes	No	Yes	No	Yes
Fuels, diesel, No. 2	68476-34-6	Yes	No	Yes	No	Yes
Naphthalene	91-20-3	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	D2B
• Naphthalene	91-20-3	B4, D2A
• Benzene, trimethyl-	25551-13-7	B3
• 1,2,4-Trimethylbenzene	95-63-6	B3

Canada - WHMIS - Ingredient Disclosure List

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	1 %
• Naphthalene	91-20-3	1 %
• Benzene, trimethyl-	25551-13-7	1 %
• 1,2,4-Trimethylbenzene	95-63-6	0.1 %

Environment

Canada - CEPA - Priority Substances List

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

Other Agency Information

Other

AIHA - Emergency Response Planning Guidelines - ERPG-1 Values

• Fuels, diesel, No. 2	68476-34-6	Not Listed
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• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	
• Naphthalene	91-20-3	
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Flammable Substances

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - CAA (Clean Air Act) - Accidental Release Prevention - Toxic Substances

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed

• 1,1'-Biphenyl	92-52-4	100 lb final RQ; 45.4 kg final RQ
• Naphthalene	91-20-3	100 lb final RQ; 45.4 kg final RQ
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	1.0 % de minimis concentration
• Naphthalene	91-20-3	0.1 % de minimis concentration
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	1.0 % de minimis concentration

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Fuels, diesel, No. 2	68476-34-6	Not Listed
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• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	carcinogen, initial date 4/19/02
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	5.8 µg/day NSRL
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Fuels, diesel, No. 2	68476-34-6	Not Listed
• Fuel oil, No.2	68476-30-2	Not Listed
• 1,1'-Biphenyl	92-52-4	Not Listed
• Naphthalene	91-20-3	Not Listed
• Benzene, trimethyl-	25551-13-7	Not Listed
• 1,2,4-Trimethylbenzene	95-63-6	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

15.3 Other Information

- WARNING: This product contains a chemical known to the State of California to cause cancer.

Section 16 - Other Information

Relevant Phrases (code & full text)

- H302 - Harmful if swallowed
- H304 - May be fatal if swallowed and enters airways
- H315 - Causes skin irritation
- H319 - Causes serious eye irritation
- H332 - Harmful if inhaled
- H335 - May cause respiratory irritation
- H336 - May cause drowsiness or dizziness
- H400 - Very toxic to aquatic life
- H410 - Very toxic to aquatic life with long lasting effects
- H411 - Toxic to aquatic life with long lasting effects
- R20 - Harmful by inhalation.
- R22 - Harmful if swallowed.
- R36/37/38 - Irritating to eyes, respiratory system and skin.
- R38 - Irritating to skin.
- R50 - Very toxic to aquatic organisms.
- R51 - Toxic to aquatic organisms.
- R65 - Harmful: may cause lung damage if swallowed.
- R67 - Vapours may cause drowsiness and dizziness.

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- 04/November/2015

Preparation Date

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Key to abbreviations

NDA = No data available
