

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: Low Sulfur Marine Diesel

Formula: C16 - C22

Chemical Name: Petroleum Distillate

Chemical Family: Petroleum Hydrocarbon

1.2. Intended Use of the Product

Use of the substance/mixture: No use is specified.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Continental Refining Company

300 Refinery Rd.

Somerset, KY 42501

T: (606) 679-6301

1.4. Emergency Telephone Number

Emergency Number : CHEMTREC: 1-800-424-9300

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Flam. Liq. 4 H227

Acute Tox. 4 H332

(Inhalation:vapor)

Skin Irrit. 2 H315

Carc. 2 H351

STOT SE 3 H335

STOT RE 2 H373

Asp. Tox. 1 H304

Aquatic Acute 2 H401

Aquatic Chronic 2 H411

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: H227 - Combustible liquid.
 H304 - May be fatal if swallowed and enters airways.
 H315 - Causes skin irritation.
 H332 - Harmful if inhaled.
 H335 - May cause respiratory irritation.
 H351 - Suspected of causing cancer.
 H373 - May cause damage to organs through prolonged or repeated exposure (thymus, liver).
 H401 - Toxic to aquatic life.
 H411 - Toxic to aquatic life with long lasting effects.

: P201 - Obtain special instructions before use.
 P202 - Do not handle until all safety precautions have been read and understood.
 P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.
 P260 - Do not breathe vapors, mist, or spray.
 P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
 P271 - Use only outdoors or in a well-ventilated area.

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, and eye protection.
P301+P310 - IF SWALLOWED: Immediately call a poison center or doctor.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P311 - Call a poison center or doctor.
P312 - Call a poison center or doctor if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P321 - Specific treatment (see section 4 on this SDS).
P331 - Do NOT induce vomiting.
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P235 - Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Flammable vapors can accumulate in head space of closed systems. A significant portion of the mixture consists of a substance capable of producing an aspiration hazard. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure, and even death. Product may release hydrogen sulfide: a specific assessment of inhalation risks from the presence of hydrogen sulfide in tank headspaces, confined spaces, product residue, tank waste and waste water, and unintentional releases should be made to help determine controls appropriate to local circumstances.

2.4. Unknown Acute Toxicity (GHS-US)

Less than 1.2% consists of components of unknown acute toxicity.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Fuel oil No. 2	(CAS No) 68476-30-2	70	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapor), H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411
Fuel oil No. 4	(CAS No) 68476-31-3	30	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Contains	Product Identifier	%	Classification (GHS-US)
Fuels, diesel, no. 2	(CAS No) 68476-34-6	> 75	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 3, H402 Aquatic Chronic 2, H411
Biphenyl	(CAS No) 92-52-4	0.4 - 1.2	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Hydrogen sulfide	(CAS No) 7783-06-4	0 - 1	Flam. Gas 1, H220 Liquefied gas, H280 Acute Tox. 2 (Inhalation:gas), H330 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400
Naphthalene	(CAS No) 91-20-3	0.1 - 0.5	Flam. Sol. 2, H228 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Carc. 2, H351 STOT SE 1, H370 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Xylenes (o-, m-, p- isomers)	(CAS No) 1330-20-7	0.1 - 0.5	Flam. Liq. 3, H226 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation:vapor), H332 Skin Irrit. 2, H315 Asp. Tox. 1, H304 Aquatic Acute 2, H401

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible). IF exposed or concerned: Get medical advice/attention.

First-aid Measures After Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid Measures After Skin Contact: Remove contaminated clothing. Gently wash with plenty of soap and water followed by rinsing with water for at least 15 minutes. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.

First-aid Measures After Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. Continue rinsing. Obtain medical attention if irritation persists.

First-aid Measures After Ingestion: Rinse mouth thoroughly with water. Do NOT induce vomiting. Seek medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: May be fatal if swallowed and enters airways. Causes skin irritation. Harmful if inhaled. May cause respiratory irritation. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure (thymus, liver).

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Symptoms/Injuries After Inhalation: Harmful if inhaled. May cause respiratory irritation. Symptoms may include: Olfactory paralysis, excitement, coughing, headache, sneezing, nausea, irritation of the respiratory tract, diarrhea, pulmonary edema, dizziness, respiratory arrest, confusion, brain damage, staggering gait, photophobia, and cardiac arrest. **WARNING:** irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm, continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Direct contact with the eyes is likely irritating.

Symptoms/Injuries After Ingestion: May be harmful if swallowed and enters airways. The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death. Ingestion may cause nausea, vomiting and diarrhea. Swallowing a small quantity of this material will result in serious health hazard.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice (show the label where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Alcohol foam, carbon dioxide, dry chemical.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Combustible liquid.

Explosion Hazard: May form flammable/explosive vapor-air mixture.

Reactivity: Reacts with (strong) oxidizers: (increased) risk of fire.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Firefighters must use full bunker gear including NIOSH-approved positive-pressure self-contained breathing apparatus to protect against potential hazardous combustion and decomposition products.

Other Information: Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid breathing (vapor, mist, spray). Avoid all contact with skin, eyes, or clothing. No flames, no sparks. Eliminate all sources of ignition.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Stop leak if safe to do so. Eliminate ignition sources.

6.2. Environmental Precautions

Notify Safety and Environmental personnel. Plan ahead for handling spills. Wear appropriate personal protective. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not allow to enter drains or water courses. Contact competent authorities after a spill.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Absorb and/or contain spill with inert material. Collect absorbed material and place into a sealed, labeled container for proper disposal. Do not take up in combustible material such as: saw dust or cellulosic material. Use only non-sparking tools.

6.4. Reference to Other Sections

For further information refer to section 13. See heading 8, Exposure Controls and Personal Protection.

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. Handle empty containers with care because residual vapors are flammable. Hot organic chemical vapors or mists are susceptible to spontaneous combustion when mixed with air, ignition may occur below auto ignition temperature. Ignition temperatures will decrease with increasing vapor volumes, vapor air contact time, and pressure changes. Ignition may occur at elevated-temperature process conditions, especially under a vacuum. Contains a small amount of hydrogen sulfide. Hydrogen sulfide is a fatal and highly flammable gas with a rotten egg odor that quickly causes odor fatigue. Heating of this product and storage under elevated temperatures or over long periods of time may release higher amounts of hydrogen sulfide. Hydrogen sulfide is also an asphyxiant.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Ground/bond container and receiving equipment. Use explosion-proof ventilating, lighting, electrical equipment.

Storage Conditions: Store in a cool, dry, well-ventilated place. Keep containers tightly closed. Do not store near heat, flame, or other potential ignition sources. Do not store with oxidizers. Do not store in unlabeled containers. Ground all equipment containing this material. Store and transport in accordance with all applicable laws. Detached outside storage is preferable.

Incompatible Products: Strong acids, strong bases, strong oxidizers, heat sources.

7.3. Specific End Use(s)

No use is specified.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Fuel oil No. 2 (68476-30-2)		
USA ACGIH	ACGIH TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans
Fuel oil No. 4 (68476-31-3)		
USA ACGIH	ACGIH TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans
Fuels, diesel, no. 2 (68476-34-6)		
USA ACGIH	ACGIH TWA (mg/m ³)	100 mg/m ³ (inhalable fraction and vapor)
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans
Biphenyl (92-52-4)		
USA ACGIH	ACGIH TWA (ppm)	0.2 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	0.2 ppm
USA IDLH	US IDLH (mg/m ³)	100 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	0.2 ppm
Naphthalene (91-20-3)		
USA ACGIH	ACGIH TWA (ppm)	10 ppm
USA ACGIH	ACGIH chemical category	Skin - potential significant contribution to overall exposure by the cutaneous route, Confirmed Animal Carcinogen with Unknown Relevance to Humans
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	50 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	10 ppm

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

USA NIOSH	NIOSH REL (STEL) (mg/m ³)	75 mg/m ³
USA NIOSH	NIOSH REL (STEL) (ppm)	15 ppm
USA IDLH	US IDLH (ppm)	250 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	50 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm
Xylenes (o-, m-, p- isomers) (1330-20-7)		
USA ACGIH	ACGIH TWA (ppm)	100 ppm
USA ACGIH	ACGIH STEL (ppm)	150 ppm
USA ACGIH	ACGIH chemical category	Not Classifiable as a Human Carcinogen
USA OSHA	OSHA PEL (TWA) (mg/m ³)	435 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm
Hydrogen sulfide (7783-06-4)		
USA ACGIH	ACGIH TWA (ppm)	1 ppm
USA ACGIH	ACGIH STEL (ppm)	5 ppm
USA NIOSH	NIOSH REL (ceiling) (mg/m ³)	15 mg/m ³
USA NIOSH	NIOSH REL (ceiling) (ppm)	10 ppm
USA IDLH	US IDLH (ppm)	100 ppm
USA OSHA	OSHA PEL (Ceiling) (ppm)	20 ppm

8.2. Exposure Controls

Appropriate Engineering Controls

: Gas detectors should be used when flammable gases/vapors may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Oxygen detectors should be used when asphyxiating gases may be released. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Full protective flameproof clothing. Insufficient ventilation: wear respiratory protection. Protective goggles. Gloves.



Materials for Protective Clothing

: Wear suitable protective clothing.

Hand Protection

: Impermeable protective gloves.

Eye Protection

: Safety glasses with side shields, or goggles, are recommended.

Skin and Body Protection

: Wear suitable protective clothing. Chemical resistant suit. Rubber apron, boots.

Respiratory Protection

: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental Exposure Controls

: Do not allow the product to be released into the environment.

Consumer Exposure Controls

: Do not eat, drink or smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State

: Liquid

Appearance

: Black to golden brown liquid

Odor

: Petroleum

Odor Threshold

: ≈ 500 ppm

pH

: No data available

Evaporation Rate

: < 1

Melting Point

: Not Applicable

Freezing Point

: No data available

Boiling Point

: 330 - 760 °F (166 - 404 °C)

Flash Point

: > 140 °F (> 60 °C) PMCC (ASTM D-93)

Auto-ignition Temperature

: > 490 °F (> 254.44 °C)

Decomposition Temperature

: No data available

Flammability (solid, gas)

: No data available

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: > 4
Specific Gravity	: 0.84 API Gravity - 34 @ 60 °F
Solubility	: Negligible
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: 5 cSt @ 40 °F
Lower Flammable Limit	: 0.4 %
Upper Flammable Limit	: 7.5 %

9.2. Other Information

VOC content : 100 %

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Reacts with (strong) oxidizers: (increased) risk of fire.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.
- 10.5. Incompatible Materials:** Strong acids, strong bases, strong oxidizers, heat sources.
- 10.6. Hazardous Decomposition Products:** Dense smoke may be generated while burning. Products of combustion may contain carbon monoxide, carbon dioxide and other toxic materials.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Inhalation: Harmful if inhaled.

Low Sulfur Marine Diesel	
ATE (Vapors)	5.28 mg/l/4h
Fuel oil No. 2 (68476-30-2)	
LD50 Dermal Rabbit	4720 µl/kg
LC50 Inhalation Rat	4.6 mg/l/4h
ATE (Vapors)	4.60 mg/l/4h
ATE (Dust/Mist)	4.60 mg/l/4h
Fuel oil No. 4 (68476-31-3)	
LD50 Oral Rat	≈ 7600 mg/kg
LD50 Dermal Rabbit	> 4300 mg/kg
ATE (Gases)	4,500.00 ppmV/4h
ATE (Vapors)	11.00 mg/l/4h
ATE (Dust/Mist)	1.50 mg/l/4h
Fuels, diesel, no. 2 (68476-34-6)	
LD50 Oral Rat	18.7 - 24.9 ml/kg
LD50 Dermal Rabbit	> 4300 mg/kg
ATE (Dust/Mist)	3.60 mg/l/4h
Naphthalene (91-20-3)	
LD50 Oral Rat	533 - 710 mg/kg
LD50 Dermal Rabbit	1120 mg/kg
LC50 Inhalation Rat	> 340 mg/m ³ (Exposure time: 1 h)
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LD50 Oral Rat	> 5000 mg/kg
LC50 Inhalation Rat	6247 ppm/4h (species: Sprague-Dawley)
ATE (Dermal)	1,100.00 mg/kg body weight
ATE (Vapors)	11.00 mg/l/4h
Hydrogen sulfide (7783-06-4)	
LC50 Inhalation Rat	0.99 mg/l (Exposure time: 1 h)
LC50 Inhalation Rat	444 ppm/4h

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Suspected of causing cancer.

Fuel oil No. 4 (68476-31-3)	
IARC group	2B
Naphthalene (91-20-3)	
IARC group	2B
National Toxicology Program (NTP) Status	Evidence of Carcinogenicity, Reasonably anticipated to be Human Carcinogen.
Xylenes (o-, m-, p- isomers) (1330-20-7)	
IARC group	3

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Specific Target Organ Toxicity (Repeated Exposure): May cause damage to organs through prolonged or repeated exposure.

Aspiration Hazard: May be fatal if swallowed and enters airways.

Symptoms/Injuries After Inhalation: Harmful if inhaled. May cause respiratory irritation. Symptoms may include: Olfactory paralysis, excitement, coughing, headache, sneezing, nausea, irritation of the respiratory tract, diarrhea, pulmonary edema, dizziness, respiratory arrest, confusion, brain damage, staggering gait, photophobia, and cardiac arrest. **WARNING:** irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm, continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 ppm can cause headache, nausea, and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500ppm can cause rapid unconsciousness and death if not promptly revived.

Symptoms/Injuries After Skin Contact: Causes skin irritation. Symptoms may include: Redness, pain, swelling, itching, burning, dryness, and dermatitis.

Symptoms/Injuries After Eye Contact: Direct contact with the eyes is likely irritating.

Symptoms/Injuries After Ingestion: May be harmful if swallowed and enters airways. The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death. Ingestion may cause nausea, vomiting and diarrhea. Swallowing a small quantity of this material will result in serious health hazard.

Chronic Symptoms: May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Fuel oil No. 2 (68476-30-2)	
LC50 Fish 1	35 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
Fuel oil No. 4 (68476-31-3)	
LC50 Fish 1	35 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
Fuels, diesel, no. 2 (68476-34-6)	
LC50 Fish 1	57 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
Biphenyl (92-52-4)	
LC50 Fish 1	1.65 - 2.29 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.63 - 0.85 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC 50 Fish 2	1.17 - 1.81 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
Naphthalene (91-20-3)	
LC50 Fish 1	5.74 - 6.44 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	2.16 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	1.6 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 2	1.96 mg/l (Exposure time: 48 h - Species: Daphnia magna [Flow through])
Xylenes (o-, m-, p- isomers) (1330-20-7)	
LC50 Fish 1	3.3 mg/l
EC50 Daphnia 1	3.82 mg/l (Exposure time: 48 h - Species: water flea)
LC 50 Fish 2	2.661 (2.661 - 4.093) mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])
Hydrogen sulfide (7783-06-4)	
LC50 Fish 1	0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

LC 50 Fish 2	0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
--------------	--

12.2. Persistence and Degradability

No additional information available

12.3. Bioaccumulative Potential

Biphenyl (92-52-4)	
Log Pow	4.09
Naphthalene (91-20-3)	
BCF fish 1	30 - 430
Log Pow	3.3 (at 20 °C)
Xylenes (o-, m-, p- isomers) (1330-20-7)	
BCF fish 1	0.6 (0.6 - 15)
Log Pow	2.77 - 3.15
Hydrogen sulfide (7783-06-4)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	0.45 (at 25 °C)

12.4. Mobility in Soil

No additional information available

12.5. Other Adverse Effects

Avoid release to environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: Do not dispose of waste into sewer. Do not empty into drains; dispose of this material and its container in a safe way.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.

Additional Information: Empty containers may have traces of flammable residue. Do not expose containers to heat, flames, or ignition sources.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : DIESEL FUEL
Identification Number : NA1993
Packing Group : III
Marine Pollutant : Marine pollutant
ERG Number : 128

14.2. In Accordance with IMDG

Proper Shipping Name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (#2 Diesel Fuel, Fuel Oil #2)
Hazard Class : 9
Identification Number : UN3082
Packing Group : III
Label Codes : 9
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-F
Marine Pollutant : Marine pollutant
MFAG Number : 130



14.3. In Accordance with IATA

Proper Shipping Name : DIESEL FUEL
Packing Group : III
Identification Number : UN1202
Hazard Class : 3
Label Codes : 3
ERG Code (IATA) : 3L



Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Low Sulfur Marine Diesel	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
Fuel oil No. 2 (68476-30-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Fuel oil No. 4 (68476-31-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Fuels, diesel, no. 2 (68476-34-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Biphenyl (92-52-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
SARA Section 313 - Emission Reporting	1.0 %
Naphthalene (91-20-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 313 - Emission Reporting	0.1 %
Xylenes (o-, m-, p- isomers) (1330-20-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Fire hazard Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	1.0 %
Hydrogen sulfide (7783-06-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on United States SARA Section 313	
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 313 - Emission Reporting	1.0 %

15.2 US State Regulations

Naphthalene (91-20-3)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.
Fuels, diesel, no. 2 (68476-34-6)	
U.S. - New Jersey - Right to Know Hazardous Substance List	
Biphenyl (92-52-4)	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List	
Naphthalene (91-20-3)	
U.S. - Massachusetts - Right To Know List	

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
 U.S. - Pennsylvania - RTK (Right to Know) List

Xylenes (o-, m-, p- isomers) (1330-20-7)

U.S. - Massachusetts - Right To Know List
 U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
 U.S. - Pennsylvania - RTK (Right to Know) List

Hydrogen sulfide (7783-06-4)

U.S. - Massachusetts - Right To Know List
 U.S. - New Jersey - Right to Know Hazardous Substance List
 U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
 U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 07/28/2015
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 2 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 2
Acute Tox. 3 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Inhalation:vapor)	Acute toxicity (inhalation:vapor) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Acute 2	Hazardous to the aquatic environment - Acute Hazard Category 2
Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 2	Carcinogenicity Category 2
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 3	Flammable liquids Category 3
Flam. Liq. 4	Flammable liquids Category 4
Flam. Sol. 2	Flammable solids Category 2
Liquefied gas	Gases under pressure Liquefied gas
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 1	Specific target organ toxicity (single exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H226	Flammable liquid and vapor
H227	Combustible liquid
H228	Flammable solid
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation

Low Sulfur Marine Diesel

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H370	Causes damage to organs
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H401	Toxic to aquatic life
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)