

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: #6 Fuel Oil

Formula: C20 - C80

Chemical Name: Petroleum Residual Mixture

Chemical Family: Petroleum

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)

Carc. 1A H350

Repr. 2 H361

STOT RE 2 H373

Aquatic Acute 1 H400

Aquatic Chronic 1 H410

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.

H332 - Harmful if inhaled.

H350 - May cause cancer.

H361 - Suspected of damaging fertility or the unborn child.

H373 - May cause damage to organs (thymus, liver) through prolonged or repeated exposure.

H400 - Very toxic to aquatic life.

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary Statements (GHS-US)

: 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.

P271 - Use only outdoors or in a well-ventilated area.

P273 - Avoid release to the environment.

P280 - Wear protective gloves, protective clothing, and eye protection.

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.

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P312 - Call a poison center or doctor if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P370+P378 - In case of fire: Use appropriate media (see section 5) to extinguish.
P391 - Collect spillage.
P403+P235 - Store in a well-ventilated place. 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. 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. This mixture may contain benzene, a regulated human carcinogen. Benzene has the potential to cause anemia and other blood diseases, including leukemia, after repeated and prolonged exposure.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%	Classification (GHS-US)
Fuel oil, no. 6	(CAS No) 68553-00-4	100	Acute Tox. 4 (Inhalation), H332 Carc. 1B, H350 Repr. 2, H361 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Contains	Product Identifier	%	Classification (GHS-US)
Clarified oils, petroleum, catalytic cracked	(CAS No) 64741-62-4	5 - 50	Acute Tox. 4 (Inhalation:dust,mist), H332 Carc. 1A, H350 Repr. 2, H361 STOT RE 2, H373 Asp. Tox. 1, H304 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

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.

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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 cause damage to organs (liver, thymus). Suspected of damaging fertility. Suspected of damaging the unborn child. May cause cancer. Harmful if inhaled.

Symptoms/Injuries After Inhalation: Harmful if inhaled. 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: Repeated or prolonged exposure is likely to cause irritation.

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

Symptoms/Injuries After Ingestion: 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. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child.

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.

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6.4. Reference to Other Sections

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

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.

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).

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. Ensure all national/local regulations are observed. Oxygen detectors should be used when asphyxiating gases may be released.

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.

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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 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	: 400 - 1000 °F (204 - 537 °C)
Flash Point	: 160 °F (71.1 °C) (PMCC ASTM D-93)
Auto-ignition Temperature	: > 490 °F (> 254.4 °C)
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: < 1 mm Hg @ 77 °F
Relative Vapor Density at 20 °C	: > 4
Specific Gravity	: 0.9 - 0.95
Solubility	: Negligible
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: 742 cSt @ 122 °F
Lower Flammable Limit	: 3.9 %
Upper Flammable Limit	: 20.1 %

9.2. Other Information

VOC content : 0 %

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, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.
- 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, oxides of sulfur and other toxic materials. Sulfur oxides are toxic.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Inhalation:vapor: Harmful if inhaled.

#6 Fuel Oil	
ATE (Vapors)	11.00 mg/l/4h
Fuel oil, no. 6 (68553-00-4)	
LD50 Oral Rat	4320 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
ATE (Gases)	4,500.00 ppmV/4h
ATE (Vapors)	11.00 mg/l/4h
ATE (Dust/Mist)	1.50 mg/l/4h
Clarified oils, petroleum, catalytic cracked (64741-62-4)	
LD50 Oral Rat	4320 mg/kg
LD50 Dermal Rabbit	> 2000 mg/kg
ATE (Dust/Mist)	4.10 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: Not classified

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Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): Not classified

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

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Harmful if inhaled. 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: Repeated or prolonged exposure is likely to cause irritation.

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

Symptoms/Injuries After Ingestion: 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. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

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

Fuel oil, no. 6 (68553-00-4)	
LC50 Fish 1	48 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])
Clarified oils, petroleum, catalytic cracked (64741-62-4)	
LC50 Fish 1	48 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [semi-static])
Hydrogen sulfide (7783-06-4)	
LC50 Fish 1	0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through])
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

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

Do not release to the 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.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : FUEL OIL (No. 1, 2, 4, 5, or 6)

Hazard Class : 3

Identification Number : NA1993



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Label Codes : 3
 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., (Fuel Oil #6)
 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 : GAS OIL
 Packing Group : III
 Identification Number : UN1202
 Hazard Class : 3
 Label Codes : 3
 ERG Code (IATA) : 3L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

#6 Fuel Oil	
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
Fuel oil, no. 6 (68553-00-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Clarified oils, petroleum, catalytic cracked (64741-62-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
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

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. 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

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Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1A	Carcinogenicity Category 1A
Carc. 1B	Carcinogenicity Category 1B
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Flam. Gas 1	Flammable gases Category 1
Flam. Liq. 4	Flammable liquids Category 4
Liquefied gas	Gases under pressure Liquefied gas
Repr. 2	Reproductive toxicity Category 2
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H220	Extremely flammable gas
H227	Combustible liquid
H280	Contains gas under pressure; may explode if heated
H304	May be fatal if swallowed and enters airways
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H350	May cause cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very 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)