SLAWSON
exploration company, inc.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Name : Produced Water
Product Name : Produced Water
CAS Number : Mixture
Synonyms : Crude Oil Separated Water
Salt Water Brine
Salt Water
Formation Water

Company Name : Slawson Exploration Company, Inc.
1675 Broadway #1600
Denver, CO 80202
303.592.8880

Emergency Contacts : Chemtrec 800.424.9300

Validation Date : 12/31/2013

2. HAZARD IDENTIFICATION

Classification
Carcinogen : Category 1B

Label
Symbol

Signal Word : Danger

Hazard Statements

Physical
Health H350: May cause cancer

Precautionary Statements

Prevention P201: Obtain special instructions before use
P202: Do not handle until all safety precautions have been read and understood
P280: Wear protective gloves/protective clothing/eye protection/face protection

Response P308+313: IF exposed or concerned: Get medical advice/attention

Storage Keep stored in container with limited access.

Disposal P501: Dispose of contents and container in accordance with local regulations

SECI_CWA308-0435

Contains Water
Sodium chloride
Calcium chloride
May contain up to 1% diesel range organics

Physical/Chemical Hazards

This product may contain a small amount of hydrocarbons which may generate flammable and/or explosive vapors. NOTE: vapor generation may be enhanced in a closed container, such as a tank.

Health Hazards

Causes eye irritation. Prolonged or repeated skin contact may cause irritation. No inhalation hazard under normal conditions. If misting occurs: may cause mild mucous membrane irritation of the nose, throat, and upper respiratory tract. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May contain diesel range organics which may cause elevation of liver enzymes.

Environmental Hazards

Not expected to be harmful to aquatic organisms.

3. COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS No.	Concentration*	GHS Hazard Codes
Water	7732-18-5	80% - 95%	
Sodium Chloride	7647-14-5	5% - 10%	H303
Calcium Chloride	10043-52-4	5% - 20%	H319, H316, H302
May contain up to 1% diesel range organics		<1%	H226, H315, H341, H350, H335, H336, H300, H402

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

4. FIRST-AID MEASURES

Eye Contact

In case of contact, immediately flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Get medical attention if irritation persists.

Skin Contact

Remove contaminated clothing and shoes. Wash affected area with mild soap and water. Get medical attention if irritation develops and persists.

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Ingestion

Rinse mouth thoroughly. Get medical attention if discomfort occurs.

SECI_CWA308-0436

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Dry chemical powder. Foam. Carbon dioxide (CO_2).

Fire Fighting Measures

A fire would be associated with vapors related to oil floating on the surface of the produced water. Water maybe ineffective on flames and may even spread the fire but should be used to cool containers in the fire.

Water maybe ineffective on flames and may even spread the fire but should be used to cool containers in the fire.

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with full face-piece operated in positive pressure mode. Use approved gas detectors in confined spaces.

Promptly isolate the scene by removing persons from the vicinity of the incident if there is a fire. Do not extinguish flames at leak because of the possibility of a uncontrolled re-ignition exists. If it is safe to do so, cut off fuel supply and/or allow fire to burn out. The fire should burn out fairly rapidly depending on the amount of oil floating on the surface of the produced water. If leak or spill has not ignited, water spray or ventilation can be used to disperse the vapors.

Hazardous combustion products Sodium oxides. Carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY'S SPCC, SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.

Keep away from sources of ignition. No smoking in area of release. The vapors should dissipate fairly rapidly depending on the amount of oil floating on the surface of the produced water. Stay upwind. Keep unnecessary personnel away. See Section 8 of the SDS for Personal Protective Equipment. Prevent further leakage or spillage if safe to do so. Do not allow to enter drains, sewers or watercourses. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas. Recover by pumping (use an explosion-proof motor or hand pump) or by sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Where feasible and appropriate, remove contaminated soil or flush with fresh water. On water spills utilize absorbent material to remove oil and natural gas liquid from the surface of the water. Avoid excess skin contact with spilled material.

Local, state, and / or Federal notification may be required if this material is released to the environment (see S i 15 f ddi i l i f i)

7. HANDLING AND STORAGE

Handling

Handle as a flammable liquid. Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, discharging and sampling from storage tanks. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion. Keep away from heat, sparks, and open flame. Electrical equipment should be approved for classified area. Wear appropriate personal protective equipment (see section 8). Smoking, eating or drinking should be prohibited when working with the equipment. Workers should wash thoroughly with soap and water and discard contaminated clothing after entering or handling the equipment. Workers should wash hands and face before eating, drinking and smoking.

Storage

Keep containers in well-ventilated area away from flame, sparks, excessive temperatures and open flames. Keep the containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition. Do not enter storage areas and confined spaces without adequate ventilation. Use appropriate respiratory protection if there is the potential to exceed the exposure limit(s).

SECI_CWA308-0437

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit values

Occupational exposure limits do not exist for identified components.

Engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protection

Eye / face protection

If eye contact is likely, safety glasses with side shields or chemical type goggles should be worn.

Skin protection

No special garments required. Wash contaminated clothing prior to reuse. Avoid unnecessary skin contamination with material. Use of chemical resistant gloves is advised to prevent skin contact.

Respiratory protection

Wear approved respiratory protection when working with this material unless ventilation is adequate to keep airborne concentrations below recommended exposure standards.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Physical state	: Liquid
Color	: Varies from clear to dark brown
Odor	: Faint, Hydrocarbon-like
Odor threshold	: NA

Important health, safety, and environmental information

Melting point	: NA
pH	: 4.9 to 8.5
Freezing point	: <32°F (<0°C)
Boiling point	: 212°F (100°C)
Flash point	: Variable, organic oil and dissolved gases are flammable
Evaporation rate	: 0.36
Vapor pressure	: 13.6 mmHg @ 68°F (20°C)
Vapor density	: <1
Specific gravity	: 1.1 @ 68°F (20°C)
Solubility (water)	: Complete

SECI_CWA308-0438

10. STABILITY AND REACTIVITY

Stability

Stable

Conditions to avoid

Keep away from heat, sparks and open flame.

Materials to avoid

Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous decomposition products

Carbon Dioxide, Water vapor. May produce oxides of sulfur. Incomplete combustion may generate carbon monoxide.

Possibility of hazardous reactions

Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Components Test Results

Calcium Chloride (10043-52-4)	Acute Oral	Toxicity (Rat)	LD50 1000 mg/Kg
	Acute Other	Toxicity (Mouse)	LD50> 42 mg/Kg
	Acute Other	Daphnia magna	EC50> 52 mg/L 48 hr.
	Acute Other	Pimephales promelas	LC50> 5 mg/L 96 hr.
Sodium Chloride (7647-14-5)	Acute Other	Toxicity (Anguilla rostrata)	LC50> 0-27260 mg/L 96 hr.
	Acute Other	Toxicity (Coregonus clupeaformis)	LC50> 0.002 mg/L 96 hr.

12. ECOLOGICAL INFORMATION

Not evaluated.

Ecotoxicity

No information available.

Mobility

No information available.

Persistence and degradability

No information available.

Bioaccumulation potential

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal

Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.

14. TRANSPORT INFORMATION

Land (ADR)

Not regulated.

Sea (IMDG)

Not regulated.

Air (IATA)

Not regulated.

15. REGULATORY INFORMATION

US federal, state and/or local regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Some components may be on the U.S. EPA TSCA Inventory List.

SARA Section 302 Extremely Hazardous Substances
This material does not contain chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

SARA Section 311/312 - Hazardous Chemical
This material is subject to the reporting requirements of Section 311-312 of the Emergency Planning and Community Right to Know Act (EPCRA) if stored at quantities in excess of 10,000 pounds at any one time.

SARA Section 313 - Supplier Notification
This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

Drug Enforcement Agency (DEA)
Not controlled

SECI_CWA308-0440

16. OTHER INFORMATION

National Fire Protection Hazard Diamond

Key/Legend

NA = Not available

This Safety Data Sheet contains the following revisions

12/31/2013 - Updates made in accordance with implementation of GHS requirements.

SLAWSON
exploration company, inc.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical Name : Crude Oil
Product Name : Crude Oil
CAS Number : 8002-05-9
Synonyms : Earth Oil
Petroleum Oil
Rock Oil

Company Name : Slawson Exploration Company, Inc.
1675 Broadway #1600
Denver, CO 80202
303.592.8880

Emergency Contacts : Chemtrec 800.424.9300

Validation Date : 12/31/2013

2. HAZARD IDENTIFICATION

Classification

Flammable liquid	: Category 2
Carcinogen	: Category 1B
Target organ toxicant (central nervous system)	: Category 3
Target organ toxicant (repeated exposure)	: Category 2
Aspiration toxicant	: Category 1
Chronic aquatic toxicant	: Category 3

Label
Symbol

Signal Word : Danger

Hazard Statements

Physical H225: Highly flammable liquid and vapour
Health H350: May cause cancer
H336: May cause drowsiness or dizziness
H373: May cause damage to organs through prolonged or repeated exposure.
H304: May be fatal if swallowed and enters airways
H402: Harmful to aquatic life

SECI_CWA308-0442

Health Hazards

High-pressure injection under skin may cause serious damage. Hydrogen sulfide, a highly toxic gas, is expected to be present. Signs and symptoms of overexposure to hydrogen sulfide include respiratory and eye irritation, dizziness, nausea, coughing, a sensation of dryness and pain in the nose, and loss of consciousness. Odor does not provide a reliable indicator of the presence of hazardous levels in the atmosphere. Repeated exposure may cause skin dryness or cracking. Excessive exposure may result in eye, skin, or respiratory irritation. May cause central nervous system depression. Prolonged and repeated exposure to benzene may cause serious injury to blood forming organs and is associated with anemia and to the later development of acute myelogenous leukemia (AML).

Environmental Hazards

No additional hazards

3. COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a complex substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS No.	Concentration*	GHS Hazard Codes
Crude Oil (Petroleum Distillates)	8002-05-9	100%	H225, H304, H336, H350(1B), H373, H402
Benzene	71-43-2	<1%	H225, H303, H304, H336, H340(1B), H350(1A), H315, H319(2A), H372
n-Hexane	110-54-3	<10%	H225, H304, H336, H361(F), H315, H372, H411
1,2,4-Trimethylbenzene	95-63-6	<1%	H224, H313, H315, H332, H335, H336
Xylene (mixed isomers)	108-38-3	<1%	H226, H303, H304, H333, H335, H336, H316, H320(2B), H373
Cyclohexane	110-82-7	<1%	H225, H304, H336, H315, H410
n-Pentane	109-66-0	<10%	H225, H304, H320, H335, H336, H401
n-Butane	106-97-8	<10%	H220, H280

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

4. FIRST-AID MEASURES

Eye Contact

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 minutes. Hold eyelids open to ensure adequate flushing. Seek medical attention

Skin Contact

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water. If irritation or redness develops, seek medical attention.

Inhalation

If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

SECI_CWA308-0443

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/hot surfaces – No smoking

P233: Keep container tightly closed

P240: Ground/bond container and receiving equipment

P241: Use explosion-proof electrical/ventilating/light/.../equipment

P242: Use only non-sparking tools

P243: Take precautionary measures against static discharge

P260: Do not breathe dust/fume/gas/mist/vapours/spray

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

P273: Avoid release to the environment

P280: Wear protective gloves/protective clothing/eye protection/face protection

P281: Use personal protective equipment as required

Response P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P308+313: IF exposed or concerned: Get medical advice/attention

P312: Call a POISON CENTER or doctor/physician if you feel unwell

P331: Do NOT induce vomiting

P370+378: In case of fire: Use water spray or foam for extinction

Storage P403+233: Store in a well ventilated place. Keep container tightly closed

P403+235: Store in a well ventilated place. Keep cool

Keep stored in container with limited access.

Disposal P501: Dispose of contents and container in accordance with local regulations

Contains Crude Oil (Petroleum Distillates)

Benzene

n-Hexane

1,2,-Trimethylbenzene

Xylene (mixed isomers)

Cyclohexane

n-Pentane

n-Butane

Physical/Chemical Hazards

Material can accumulate static charges which may cause an incendiary electrical discharge. Material can release vapors that readily form flammable mixtures. Vapor accumulation could flash and/or explode if ignited.

SECI_CWA308-0444

Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material, which enter the mouth, should be rinsed out until the taste is dissipated. Never give anything by mouth to an unconscious person. Get medical attention.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, carbon dioxide, firefighting foam, or Halon. Use water spray to cool exposed materials. LARGE FIRES: Fog or firefighting foam recommended. Water spray may be ineffective for fighting fires, but may be used to cool fire-exposed materials and structures. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Fire Fighting Measures

This product is an OSHA and NFPA Class 1B Flammable Liquid. Vapors may ignite rapidly when exposed to heat, spark, open flame or other source of ignition. When mixed with air and exposed to an ignition source, vapors can burn in the open or explode in confined spaces. Vapors may travel long distances to an ignition source and flashback. Vapors are heavier than air and may accumulate in low areas. Runoff to sewer may lead to fire or explosion hazard.

Protective equipment and precautions for firefighters - Water maybe ineffective on flames and may even spread the fire but should be used to cool containers in the fire.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full face piece and full protective clothing.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Incipient stage fires may be extinguished using handheld portable fire extinguishers and other firefighting equipment. Isolate area surrounding fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For large fires, the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied firefighting foam.

Hazardous combustion products Sodium oxides. Carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

ACTIVATE FACILITY'S SPCC, SPILL CONTINGENCY OR EMERGENCY RESPONSE PLAN.

Evacuate nonessential personnel and remove or secure all ignition sources. Stay upwind and, when possible, uphill. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Do not touch or walkthrough spilled material. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact. Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking or using absorbents/ absorbent booms. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of firefighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection. Take up with dry earth, sand or other non-combustible, inert oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container with clean, non-sparking tools for reclamation or disposal. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 11). Local, state, and / or Federal notification may be required if this material is released to the environment (see Section 15 for additional information).

SECI_CWA308-0445

7. HANDLING AND STORAGE

Handling Comply with all EPA, OSHA, DOT, NFPA and consistent state and local requirements. Handle as a flammable liquid. Keep away from heat, sparks, and open flame. Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce potential for static-initiated fire or explosion. Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as gasoline) is loaded into tanks previously containing low flash point products - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents.

Storage Keep away from flame, sparks, and excessive temperatures. Use approved vented containers. Keep containers closed and clearly labeled. Label all secondary containers with the chemical name and associated hazard(s). Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat or weld containers. Do not expose containers to sources of ignition. Ground all drums and vessels when handling. All electrical equipment in storage and/or handling areas should be installed in accordance with applicable requirements of the National Electrical Code (NEC). Store in a well-ventilated area. Protect containers from damage and vehicular traffic. Post "No Smoking" signs in product storage areas. Storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks in Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit values

Name	CAS No.	Standard	Limit	
Crude Oil (Petroleum Distillates)	8002-05-9	OSHA PEL	500	ppm
Benzene	71-43-2	OSHA STEL	10	ppm
n-Hexane	110-54-3	OSHA PEL	500	ppm
1,2,-Trimethylbenzene	95-63-6	OSHA PEL	None	
Xylene (mixed isomers)	108-38-3	OSHA PEL	100	ppm
Cyclohexane	110-82-7	OSHA PEL	300	ppm
n-Pentane	109-66-0	OSHA PEL	1000	ppm
n-Butane	106-97-8	OSHA PEL	None	

Engineering controls

Use adequate local or general ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits. Electrical equipment should comply with National Electrical Code (NEC) standards.

Personal protection

Eye / face protection

Avoid contact with eyes. Safety glasses with side shields or goggles or face shield are recommended where there is a possibility of splashing or spraying. If contact lenses are worn, consult an eye specialist or a safety professional for additional precautions. Suitable eye wash water should be available in case of eye contact with this material.

Skin protection

Gloves constructed of nitrile, neoprene, or PVC are recommended. Chemical protective clothing such as DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The breakthrough performance of materials may vary between products, based on degree of exposure. Consult manufacturer specifications for further information.

SECI_CWA308-0446

11. TOXICOLOGICAL INFORMATION

Components Test Results

Crude Oil (8002-05-9)	Acute Oral	Toxicity (Rat)	LD50> 5 g/Kg
Crude Oil (8002-05-9)	Acute Other	Toxicity (Rabbit)	LD50> 2 ml/Kg

12. ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

Ecotoxicity

Expected to be harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment. Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

TEST & SPECIES	CONDITIONS		
Crude Oil (Petroleum Distillates 8002-05-9)			
96 Hr. LC50 Salmo gairdneri	258	mg/L	[static]
24 Hr. EC50 Daphnia magna	36	mg/L	
48 Hr. EC50 Daphnia magna	<0.26	mg/L	[static]
Benzene (71-43-2)			
96 Hr. LC50 Pimephales promelas	10.7-14.7	mg/L	[flow-through]
96 Hr. LC50 Oncorhynchus mykiss	5.3	mg/L	[flow-through]
96 Hr. LC50 Lepomis macrochirus	22.49	mg/L	[static]
96 Hr. LC50 Poecilia reticulata	28.6	mg/L	[static]
96 Hr. LC50 Pimephales promelas	22330-41160	µg/L	[static]
96 Hr. LC50 Lepomis macrochirus	70000-142000	µg/L	[static]
72 Hr. EC50 Pseudokirchneriella subcapitata	29	mg/L	
48 Hr. EC50 Daphnia magna	8.76-15.6	mg/L	[static]
48 Hr. EC50 Daphnia magna	10	mg/L	

Mobility

No information available.

Persistence and degradability

No information available.

Bioaccumulation potential

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal

Although this material does not specifically meet the definition of a RCRA hazardous waste, it may be considered hazardous for disposal, as it displays a characteristic of hazardous waste. Consult federal, state and local waste regulations to determine appropriate disposal options. Do not allow this material to drain into sewers/water supplies.

Respiratory protection

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges/ canisters should be used where airborne concentrations are, or may be expected to be, above exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the respirator manufacturer for additional guidance on respiratory protection selection. Self-contained breathing apparatus should be used for fire fighting. Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Physical state	: Liquid
Color	: Amber to black viscous liquid
Odor	: Hydrocarbon odor
Odor threshold	: NA

Important health, safety, and environmental information

Melting point	: NA
Freezing point	: NA
Boiling range	: 100 - 1000
Flash point	: Variable <73°F, organic oil and dissolved gases are flammable
Explosive limit	: 0.4% (LEL) – 15% (UEL)
Evaporation rate	: Slow, varies with conditions
Vapor pressure	: 10.8 - 556.8 mmHg
Vapor density	: 1.5 - 3.0
Specific gravity	: 0.8 - 1.0
Solubility (water)	: 0.01 - 0.05

10. STABILITY AND REACTIVITY

Stability

Stable under normal ambient conditions. Hazardous polymerization will not occur under normal conditions of

Conditions to avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Materials to avoid

Keep away from oxidizing materials; such as nitrates, chlorates, peroxides.

Hazardous decomposition products

Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.

Possibility of hazardous reactions

Hazardous polymerization does not occur.

SECI_CWA308-0448

14. TRANSPORT INFORMATION

Land (ADR)

Proper shipping name	: Petroleum crude oil
Hazard class	: 3
UN number	: 1267
Packing group	: I
Emergency response guidebook number	: 128
Label(s) / Mark(s)	Flammable liquid

Sea (IMDG)

Proper shipping name	: Petroleum crude oil
Hazard class	: 3
UN number	: 1267
Packing group	: I
Emergency response guidebook number	: 128
Marine Pollutant	: No
Transport Document Name	: Petroleum crude oil , 3, UN1267, PG I, (21°C c.c.)
Label(s) / Mark(s)	Flammable liquid

Air (IATA)

Proper shipping name	: Petroleum crude oil
Hazard class	: 3
UN number	: 1267
Packing group	: I
Emergency response guidebook number	: 128
Transport Document Name	: Petroleum crude oil , 3, UN1267, PG I
Label(s) / Mark(s)	Flammable liquid

15. REGULATORY INFORMATION

US federal, state and/or local regulations

RCRA Information

This product may be recycled. If disposed, this product is considered an ignitable hazardous waste. Consult federal, state and local waste regulations to determine appropriate disposal options.

Clean Water Act (Oil Spills)

Any spill or release of this product to "navigable waters" (essentially any surface water, including certain wetlands) or adjoining shorelines sufficient to cause a visible sheen or deposit of a sludge or emulsion must be reported immediately to the National Response Center (1-800-424-8802) or, if not practical, the U.S. Coast Guard with follow-up to the National Response Center, as required by U.S. Federal Law. Also contact appropriate state and local regulatory agencies as required.

CERCLA Section 103 And Sara Section 304 (Release To The Environment)

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause that exempts crude oil, refined and unrefined petroleum products, and any indigenous components of such. However, other federal reporting requirements (e.g., SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA Section 302 Extremely Hazardous Substances

This material does not contain chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

SARA Section 311/312 - Hazard Categories: Acute Health Chronic Health Fire Sudden Release of Pressure Reactive Immediate Delayed X

This material is subject to the reporting requirements of Section 311-312 of the Emergency Planning and Community Right to Know Act (EPCRA) if stored at quantities in excess of 10,000 pounds at any one time.

SECI_CWA308-0449

SARA Section 313 - Supplier Notification
This product contains the following toxic substances subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372. See Section 2 for composition, CAS numbers, and exposure limit information.

EPA Notification (Oil Spills)
If the there is a discharge of more than 1,000-gallons of oil into or upon navigable waters of the United States, or if it is the second spill event of 42 gallons or more of oil into water within a twelve (12) month period, a written report must be submitted to the Regional Administrator of the EPA within sixty days of the event

Drug Enforcement Agency (DEA)
Not controlled

16. OTHER INFORMATION

National Fire Protection Hazard Diamond

Key/Legend
NA = Not available

This Safety Data Sheet contains the following revisions
12/31/2013 - Updates made in accordance with implementation of GHS requirements.