

**Section 1: IDENTIFICATION**

**Product Name:** Produced Salt Water, Sour (Canada)  
**Synonyms:** Produced Brine; Produced Water.  
**SDS Number:** 776012  
**Product Use:** Waste stream.  
**Restrictions on Use:** Not available.  
**Manufacturer/Supplier:** ConocoPhillips Canada Limited or its Affiliates  
PO Box 130, 401 9th Ave. SW  
Calgary, Alberta T2P 2H7  
Canada  
**Phone Number:** Customer Service & Technical Information: 403-233-4000  
SDS Information: 855-244-0762  
**Emergency Phone:** Chemtrec: 800-424-9300 (24 Hours)  
CANUTEC (613) 996-6666  
**Date of Preparation of SDS:** November 6, 2015

**Section 2: HAZARD(S) IDENTIFICATION****GHS INFORMATION**

**Classification:** Acute Toxicity - Inhalation, Category 2  
Eye Irritation, Category 2A

**LABEL ELEMENTS****Hazard****Pictogram(s):****Signal Word:** Danger

**Hazard Statements:** Fatal if inhaled.  
Causes serious eye irritation.

**Precautionary Statements**

**Prevention:** Do not breathe mist, vapours, or spray.  
Wash thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Wear protective gloves, protective clothing and eye protection.  
Wear respiratory protection.

**Response:** IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER or doctor.  
If eye irritation persists: Get medical advice/attention.

**Storage:** Store in a well-ventilated place. Keep container tightly closed.  
Store locked up.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is considered hazardous by the Hazardous Products Regulations, 2015.

**Section 3: COMPOSITION / INFORMATION ON INGREDIENTS**

| Ingredient(s)                       | Common name / Synonyms | CAS No.   | % wt./wt. |
|-------------------------------------|------------------------|-----------|-----------|
| Water                               | Not available.         | 7732-18-5 | 90 - 100  |
| Sodium chloride (NaCl)              | Sodium chloride        | 7647-14-5 | 1 - 5     |
| Hydrogen sulfide (H <sub>2</sub> S) | Hydrogen sulphide      | 7783-06-4 | variable  |
| Petroleum                           | Not available.         | 8002-05-9 | < 0.1     |

**Section 4: FIRST-AID MEASURES**

**Inhalation:** If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor.

**Acute and delayed symptoms and effects:** Fatal if inhaled. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. This product contains Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within 1 to 4 hours of continuous exposure. At 500 ppm the respiratory system is paralyzed, the victim collapses almost instantaneously, and death can occur after exposure of only 30 to 60 minutes. Above 500 ppm Hydrogen sulphide may cause immediate loss of consciousness; death is rapid, and possibly immediate.

**Eye Contact:** If in eyes: Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

**Acute and delayed symptoms and effects:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H<sub>2</sub>S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

**Skin Contact:** If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.

**Acute and delayed symptoms and effects:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

**Note to Physicians:** Symptoms may not appear immediately. For inhalation of Hydrogen Sulphide, consider oxygen.

### Section 5: FIRE-FIGHTING MEASURES

#### FLAMMABILITY AND EXPLOSION INFORMATION

Not flammable or combustible by OSHA/WHMIS criteria. When heated, this material may evolve toxic and flammable Hydrogen sulphide. The trace hydrocarbon may burn if product is involved in a fire.

**Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.

**Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

#### MEANS OF EXTINCTION

**Suitable Extinguishing Media:** Small Fire: Dry chemical, CO<sub>2</sub>, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of carbon. Oxides of sulphur. Aldehydes. Sodium oxide. Chlorine.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Hydrogen sulphide is heavier than air and may collect in low lying areas and confined spaces. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

### Section 6: ACCIDENTAL RELEASE MEASURES

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

**Personal Precautions:** Do not touch or walk through spilled material. Use personal protection recommended in Section 8. Don full-face, positive pressure, self-contained breathing apparatus.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Stop leak if without risk. Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

**Other Information:** See Section 13 for disposal considerations.

### Section 7: HANDLING AND STORAGE

**Handling:**

Do not swallow. Do not breathe mist, vapours, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Harmful concentrations of hydrogen sulfide (H<sub>2</sub>S) gas can accumulate in excavations and low-lying areas as well as the vapour space of storage and bulk transport compartments. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Limit quantity of material in storage. Restrict access to storage area. Post appropriate warning signs. Keep storage area separate from populated work areas. Consider leak detection and alarm systems, as required. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. Head spaces in storage containers may contain toxic hydrogen sulphide gas. Structural materials and lighting and ventilation systems should be corrosion resistant.

### Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**

**Component**

Water [CAS No. 7732-18-5]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

Sodium chloride [CAS No. 7647-14-5]

**ACGIH:** No TLV established.

**OSHA:** No PEL established.

Hydrogen sulphide [CAS No. 7783-06-4]

**ACGIH:** 1 ppm (TWA); 5 ppm (STEL); (2009);

**OSHA:** 20 ppm (C); 50 ppm (Peak) (Maximum duration: 10 mins. once only if no other meas. exp. occurs.)

10 ppm (TWA); 15 ppm (STEL) [Vacated];

Petroleum [CAS No. 8002-05-9]

**ACGIH:** No TLV established.

**OSHA:** 500 ppm (TWA), 2000 mg/m<sup>3</sup> (TWA);  
400 ppm (TWA) [Vacated];

**PEL:** Permissible Exposure Limit

**TLV:** Threshold Limit Value

**TWA:** Time-Weighted Average

**STEL:** Short-Term Exposure Limit

**C:** Ceiling

**Engineering Controls:** Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



- Eye/Face Protection:** Wear safety glasses. Ensure that eyewash stations are close to the workstation location. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.
- Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.
- Skin and Body Protection:** Wear protective clothing.
- Respiratory Protection:** Wear respiratory protection. If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.
- General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

- Appearance:** Colourless to grey to dark brown liquid.
- Colour:** Colourless to grey to dark brown.
- Odour:** Rotten eggs.
- Odour Threshold:** 0.0047 ppm, (Hydrogen sulphide)
- Physical State:** Liquid.
- pH:** 6.9
- Melting Point / Freezing Point:** 0 °C (32 °F) (Water)
- Initial Boiling Point:** Not available.
- Boiling Range:** 100 °C (212 °F) (Water)
- Flash Point:** Not available.
- Evaporation Rate:** 0.36 (n-BuAc = 1)
- Flammability (solid, gas):** Not applicable.

## SAFETY DATA SHEET

|   |                                  |
|---|----------------------------------|
| <b>Lower Flammability Limit:</b>                    | Not available.                   |
| <b>Upper Flammability Limit:</b>                    | Not available.                   |
| <b>Vapor Pressure:</b>                              | 13.6 mmHg at 20 °C (68 °F)       |
| <b>Vapor Density:</b>                               | < 1 (Air = 1)                    |
| <b>Relative Density:</b>                            | 1.1 (Water = 1) at 20 °C (68 °F) |
| <b>Solubilities:</b>                                | Soluble in water.                |
| <b>Partition Coefficient: n-<br/>Octanol/Water:</b> | Not available.                   |
| <b>Auto-ignition Temperature:</b>                   | Not available.                   |
| <b>Decomposition<br/>Temperature:</b>               | Not available.                   |
| <b>Viscosity:</b>                                   | Not available.                   |
| <b>Percent Volatile, wt. %:</b>                     | Not available.                   |
| <b>VOC content, wt. %:</b>                          | Not available.                   |
| <b>Density:</b>                                     | Not available.                   |
| <b>Coefficient of Water/Oil<br/>Distribution:</b>   | Not available.                   |

**Section 10: STABILITY AND REACTIVITY**

|  |  |
|--|--|
| <b>Reactivity:</b>                             | Contact with incompatible materials. Sources of ignition. Exposure to heat.                |
| <b>Chemical Stability:</b>                     | Stable under normal storage conditions.  |
| <b>Possibility of Hazardous<br/>Reactions:</b> | None known.  |
| <b>Conditions to Avoid:</b>                    | Contact with incompatible materials. Sources of ignition. Exposure to heat.                |
| <b>Incompatible Materials:</b>                 | Strong oxidizers.  |
| <b>Hazardous Decomposition Products:</b>       | Hazardous sulphur dioxide, and related oxides of sulphur may be generated upon combustion. |

**Section 11: TOXICOLOGICAL INFORMATION****EFFECTS OF ACUTE EXPOSURE****Product Toxicity**

|                    |                |
|--------------------|----------------|
| <b>Oral:</b>       | Not available. |
| <b>Dermal:</b>     | Not available. |
| <b>Inhalation:</b> | Not available. |

**Component Toxicity**

| Component         | CAS No.   | LD <sub>50</sub> oral | LD <sub>50</sub> dermal | LC <sub>50</sub>                    |
|-------------------|-----------|-----------------------|-------------------------|-------------------------------------|
| Water             | 7732-18-5 | > 90 mL/kg (rat)      | Not available.          | Not available.                      |
| Sodium chloride   | 7647-14-5 | 3000 mg/kg (rat)      | > 10000 mg/kg (rabbit)  | > 42000 mg/m <sup>3</sup> (rat); 1H |
| Hydrogen sulphide | 7783-06-4 | Not available.        | Not available.          | 444 ppm (rat); 4H                   |
| Petroleum         | 8002-05-9 | 4300 mg/kg (rat)      | Not available.          | Not available.                      |

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion. Skin absorption.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Liver. Reproductive system. Central nervous system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** Fatal if inhaled. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. This product contains Hydrogen sulphide which may accumulate in confined spaces. Inhalation of Hydrogen sulphide may cause loss of sense of smell, major irritation of the respiratory tract, headache, nausea, vomiting, dizziness, and fluid buildup in the lungs (pulmonary edema), which can be fatal. At 300 ppm unconsciousness may occur after 20 minutes. From 300 to 500 ppm, death can occur within 1 to 4 hours of continuous exposure. At 500 ppm the respiratory system is paralyzed, the victim collapses almost instantaneously, and death can occur after exposure of only 30 to 60 minutes. Above 500 ppm Hydrogen sulphide may cause immediate loss of consciousness; death is rapid, and possibly immediate.

**Eye:** Causes serious eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hydrogen sulphide may cause eye irritation at 1-20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H<sub>2</sub>S, eye irritation may include symptoms of redness, severe swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.

**Skin:** May cause skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Cardiovascular system. Bone marrow. Liver. Reproductive system. Central nervous system.

**Chronic Effects:** Prolonged or repeated contact may dry skin and cause irritation. Hydrogen sulphide may reduce lung function; cause neurological



effects such as headaches, nausea, depression and personality changes; eye and mucous membrane irritation; and damage to cardiovascular system. Repeated dermal application of crude oils in rats produced systemic toxicity in blood, liver, thymus and bone marrow.

**Carcinogenicity:** Product is not classified as a carcinogen. See Component Carcinogenicity table below for information on individual components. Lifetime skin painting studies in animals with whole crude oils and crude oil fractions have produced tumours in animals following prolonged and repeated skin contact.

**Component Carcinogenicity**

| Component | ACGIH       | IARC    | NTP         | OSHA             | Prop 65     |
|-----------|-------------|---------|-------------|------------------|-------------|
| Petroleum | Not listed. | Group 3 | Not listed. | OSHA Carcinogen. | Not listed. |

**Mutagenicity:** Not available.

**Reproductive Effects:** Studies exist which report a link to crude oil and reproductive effects including menstrual disorders.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Repeated dermal application of crude oils to pregnant rats produced maternal toxicity and fetal developmental toxicity and fetal tumours.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.



**SAFETY DATA SHEET**

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.  
**Class:** Not applicable.  
**UN Number:** Not applicable.  
**Packing Group:** Not applicable.  
**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

| Component         | Section 302 (EHS) TPQ (lbs.) | Section 304 EHS RQ (lbs.) | CERCLA RQ (lbs.) | Section 313 | RCRA CODE | CAA 112(r) TQ (lbs.) |
|-------------------|------------------------------|---------------------------|------------------|-------------|-----------|----------------------|
| Hydrogen sulphide | 500                          | 100                       | 100              | 313         | U135      | 10000                |

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

| Component         | CAS No.   | RTK List |
|-------------------|-----------|----------|
| Hydrogen sulphide | 7783-06-4 | E        |
| Petroleum         | 8002-05-9 | Listed.  |

**Note:** E = Extraordinarily Hazardous Substance

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

| Component         | CAS No.   | RTK List |
|-------------------|-----------|----------|
| Hydrogen sulphide | 7783-06-4 | SHHS     |
| Petroleum         | 8002-05-9 | SHHS     |

**Note:** SHHS = Special Health Hazard Substance

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

| Component         | CAS No.   | RTK List |
|-------------------|-----------|----------|
| Hydrogen sulphide | 7783-06-4 | E        |
| Petroleum         | 8002-05-9 | Listed.  |

**Note:** E = Environmental Hazard**California****California Prop 65:** This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.**Section 16: OTHER INFORMATION****Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

**Date of Preparation of SDS:** November 6, 2015**Version:** 1.0**GHS SDS Prepared by:** Deerfoot Consulting Inc.**Phone:** (403) 720-3700