

Safety Data Sheet (CANADA)

1. Identification




Product Identifier: Condensate, Sweet
Other Means of Identification: Condensate, NGL Natural Gas Liquid
Product use: Feedstock for refineries and petrochemical industries
Restrictions on use: Do not use for purposes other than those listed above


Manufacturer: Keyera and Affiliates
Address: Suite 600, Sunlife Plaza West
 144 – 4th Avenue SW
 Calgary, AB, T2P 3N4

SDS Information: 1-780-449-7910
Emergency Contact (24 hours): 1-613-996-6666 (CANUTEC, Canada)
 1-800-424-9300 (CHEMTREC, U.S.)

2. Hazards Identification

GHS Hazards

| Pictogram | Classification | Hazard Statements |
|---|---|--|
|  | Flammable Liquids – Category 1 | Extremely flammable liquid and vapor. |
|  | Skin corrosion/irritation – Category 2 Eye damage/irritation – Category 2A | Causes skin irritation. Causes serious eye irritation. |
|  | Specific Target Organ Toxicity, Single Exposure – Category 1 Specific Target Organ Toxicity, Single Exposure – Category 2 Specific Target Organ Toxicity, Single Exposure – Category 3 Specific Target Organ Toxicity, Repeated Exposure – Category 1 Specific Target Organ Toxicity, Repeated Exposure – Category 2 | Causes damage to central nervous system, kidneys, liver, and respiratory system. May cause damage to heart. May cause damage to nervous system if swallowed. May cause drowsiness or dizziness. May cause respiratory irritation. Causes damage to nervous system, central nervous system, and/or respiratory system, hematopoietic system, and/or the kidneys through prolonged or repeated exposure. May cause damage to liver through prolonged or repeated exposure. |

| Pictogram | Classification | Hazard Statements |
|---|---|--|
|  | <p>Aspiration hazard – Category 1</p> <p>Carcinogenicity – Category 1A</p> <p>Germ cell mutagenicity – Category 1B</p> <p>Toxic to reproduction – Category 1A</p> | <p>May be fatal if swallowed and enters airways.</p> <p>May cause cancer.</p> <p>May cause genetic defects.</p> <p>May damage fertility or the unborn child.</p> |

Other Hazards

Repeated exposure may cause skin dryness and cracking.

Signal Word: Danger

Precautionary Statements:

Prevention

- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources – No smoking.
- Keep container tightly closed.
- Ground and bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting equipment.
- Use non-sparking tools.
- Take action to prevent static discharges.

- Do not breathe gas/vapors.
- Wash hands thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.

Response

- In case of fire: Use dry chemical, carbon dioxide, water fog or foam to extinguish.

- If inhaled: Remove person to fresh air and keep comfortable for breathing.
- Get medical advice/attention if you feel unwell.

- If on skin: wash with plenty of water
- Take off contaminated clothing and wash it before reuse.
- If skin irritation occurs: Get medical advice/attention.
- If exposed or concerned: Call a physician/doctor.

- If in eyes: Rinse cautiously with water for several minutes. Remove contact lens, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.

- If swallowed: Immediately call a doctor. Do not induce vomiting.
- Rinse mouth.

Storage

- Store in a well-ventilated place. Keep container tightly closed. Keep cool.
- Store locked up.

Disposal

- Dispose of contents/container in accordance with applicable local, provincial/state, and federal regulations.

3. Composition/Information on Ingredients

Chemical Name: Condensate, Sweet
Common Name/Synonyms: Condensate, NGL Natural Gas Liquid

Condensate (CAS# 68919-39-1) is a hydrocarbon mixture separated as a liquid from natural gas during the production process. This product represents streams from various Keyera facilities and consists mainly of C4-C9 hydrocarbons plus smaller amounts of heavier components up to ~C20. It is a liquid at normal temperature and pressure.

| Ingredient Name | Approx. Wt. % | CAS No. |
|--|---------------|------------|
| C1-C3 total | 0 - 0.4 | |
| n-Butane | 0 - 5.0 | 106-97-8 |
| Iso-Butane | 0 - 2.0 | 75-28-5 |
| n-Pentane | 4 - 40 | 109-66-0 |
| Iso-Pentane | 3 - 50 | 78-78-4 |
| C6 total (including hexanes) | 10 - 22 | |
| Benzene (C ₆ H ₆) | 0.1 - 3 | 71-43-2 |
| C7 total (including heptanes) | 2 - 25 | |
| Toluene (C ₇ H ₈) | 0.1 - 6 | 108-88-3 |
| C8 total (including octanes) | 1 - 26 | |
| Xylenes (C ₈ H ₁₀) | 0.1 - 5 | 1330-20-7 |
| Ethylbenzene (C ₈ H ₁₀) | 0.1 - 0.5 | 100-41-4 |
| C9+ total (including nonanes, decanes etc.) | 1 - 50 | |
| 1,2,4-Trimethylbenzene (C ₉ H ₁₂) | 0.01 - 1.0 | 25551-13-7 |

4. First Aid Measures

Immediate Medical Attention and Special Treatment:

Treat symptomatically and supportively. Refer also to Table below.

| First Aid: | |
|-------------------|--|
| Inhalation: | Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell. |
| Skin: | Take off immediately all contaminated clothing and wash it before reuse. Rinse skin with water/shower. If skin irritation occurs: get medical advice/attention. |
| Eyes: | Rinse cautiously with water for several minutes. Remove contact lens, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention. |
| Ingestion: | Rinse mouth. Extreme care must be used to prevent aspiration. Do not induce vomiting. Immediately call a doctor. Note to Physician: Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. |

Most Important Effects and Symptoms, Acute or Delayed:

An aspiration hazard: may enter directly into the lungs if swallowed or when vomiting the substance.

Benzene, one of the component, may cause cancer, and may cause genetic defects. Toluene and xylene are suspected to cause damage to fertility and the unborn child.

| Exposure Route | Health Effects | Symptoms of Exposure |
|-----------------------|--|--|
| Inhalation: | May cause respiratory irritation and affect the nervous system and the Central Nervous System CNS. | Coughing, itchy throat, dizziness, drowsiness. |
| Skin: | Causes irritation. Prolonged or frequently repeated contact may cause the defatting of skin. See also exposure (skin) to benzene being carcinogen. | Itchiness, redness. Prolonged or repeated exposure causes dryness and skin cracking. |
| Eyes: | Irritating to the eyes and could cause prolonged (days) impairment of your vision. The degree of the injury will depend on the amount of material that gets into the eye and effectiveness of the first aid treatment. | Pain, tears, swelling, redness, and blurred vision. Eye contact with the vapors, fumes or spray mist from this substance could also cause similar signs and symptoms. |
| Ingestion: | Because of the low viscosity of this substance, it can directly enter the lungs if it is swallowed (this is called aspiration). This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause severe injury to the lungs and death. | Signs and symptoms of aspiration may include coughing, difficulty breathing, "gurgling" lung sounds when breathing, coughing up phlegm (sputum) that is yellow or green in color or bad smelling, change in voice (hoarseness), skin turning bluish due to lack of oxygen. |

5. Fire Fighting Measures

| | |
|--|--|
| <p>Flammability: Yes. Extremely flammable liquid and vapor.</p> | <p>Hazardous Combustion Products: Carbon monoxide (CO), carbon dioxide (CO₂), and acrid smoke.</p> |
| <p>Explosion: Sensitive to impact: No</p> | <p>Sensitive to static discharge: Yes</p> |
| <p>Extinguishing Media: Small Fire: dry chemical or CO₂. Large Fire: water spray or fog.</p> | |
| <p>Unsuitable Extinguishing Media:</p> <ul style="list-style-type: none"> • Foam. • Water jet: Do not use straight streams. Water may be ineffective because it may not cool the material below the flashpoint | |
| <p>Special Protective Equipment for Firefighters:</p> <ul style="list-style-type: none"> • Wear full protective clothing and Self-Contained Breathing Apparatus SCBA with full face-piece. • Structural firefighters' protective clothing will only provide limited protection. | |
| <p>Precautions for Firefighters:</p> <ul style="list-style-type: none"> • If tank, rail car or tank truck is involved in a fire, ISOLATE and consider initial evacuation <u>in all directions</u> for 800 meters (½ mile). • Move container from fire area if you can do it without risk. • Cool fire-exposed containers with flooding quantities of water applied from as far a distance as possible, until well after fire is out. • Stay away from tanks engulfed in fire. • Containers exposed to fire may explode or vent through pressure-relief devices. • For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. • Refer to Guide 128 of the Emergency Response Guidebook (Transport Canada/US Dept. of Transportation). | |
| <p>Unusual Fire and Explosion Hazards:</p> <ul style="list-style-type: none"> • Due to low electro conductivity of the substance, liquid can accumulate or generate static charge by flow or agitation. Vapors can be ignited by static discharge. • The highly flammable vapors are heavier than air and may accumulate in low areas and /or spread along ground to distant ignition sources and flash back. • The product is not soluble in (and floats on top of) water. Using water as an extinguishment may spread the fire rapidly. • Can release vapors that form explosive mixtures with air. • Vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back to a leak or open container. | |

6. Accidental Release Measures

Protective Equipment:

| | |
|-------------|--|
| Gloves: | Recommended: neoprene and nitrile; insulating gloves (for liquefied gas). Not recommended: polyvinyl chloride PVC. |
| Clothing: | Flame-retardant coverall e.g. Nomex, Proban. Protective apron and trousers worn over coveralls for handling NGL. |
| Respirator: | NIOSH Approved Supplied-Air Respirator or SCBA where large quantities are released, and the exposure level is unknown or where an oxygen-deficient atmosphere may exist. |
| Eye: | Safety glasses with side shields, safety goggles or face shields. |

Precautions:

- Do not breathe vapors.
- The highly flammable vapors are heavier than air and may accumulate in low areas and /or spread along ground to distant ignition sources and flash back.
- Ventilate closed spaces before entering.

Emergency Procedures:

- Shut off leak source, if it can be done safely.
- Remove all sources of ignition.
- Isolate hazard area.
- Evacuate area of all unnecessary personnel.
Small spill: will evaporate.
Large spill: consider downwind evacuation of at least 300 meters (1000 feet)
If tank, rail car or tank truck is involved in a fire, ISOLATE and consider initial evacuation in all directions for 800 meters (½ mile).
- Keep unnecessary and unprotected personnel from entering.
- Emergency personnel must wear appropriate personal protective equipment.
- Ventilate area of leak or spill.

Containment and Clean-up:

- Use non-sparking tools and equipment.
- All equipment used when handling the product must be grounded and transfer of the product bonded.
- Contain and recover liquid if it can be done safely: Collect spillage with an inert material (e.g., vermiculite, dry sand, earth), and place in metal container which can be grounded.
- Do not use combustible materials, such as sawdust, as absorbent.
- If a leak or spill has not ignited, use water spray to disperse the vapors or divert vapor cloud draft. Do not direct water at spill or source of leak.
- Prevent liquid from spreading to sewers, ventilation systems, confined spaces.
- Dispose of contents/container in accordance with applicable local, provincial/state, and federal regulations.
- Refer to Guide 128 of the Emergency Response Guidebook (Transport Canada/US Dept. of Transportation).

7. Handling and Storage

Handling Precautions :

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use only outdoors or in a well-ventilated area.
- Keep away from heat/sparks/open flames/hot surfaces – No smoking.
- Keep container tightly closed.
- Do not breathe gas/vapors.
- Use non-sparking tools.
- Use explosion-proof electrical/ventilating/lighting equipment.
- Ground and bond container and receiving equipment.
- Take action to prevent static discharges.
- Wash hands thoroughly after handling this product.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/ protective clothing/ eye protection/ face protection.

Storage Precautions:

Locations

- Store in a well-ventilated place. Keep cool, away from any area of fire-hazard.
- Outside or detached storage is preferred.
- Storage and use areas should be No Smoking areas.
- Store locked-up.

Containers

- Keep container tightly closed.
- Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

Other precautions

- Separate from incompatibles like oxidizers e.g. chlorine gas and oxygen.

8. Exposure Controls / Personal Protection

EXPOSURE LIMITS

| | Authority | 15 MINS STEL or Ceiling | 8-HOURS |
|---|----------------------|---------------------------------------|---|
| Butane (all isomers) | Alberta | - | 1000 ppm (2370 mg/m ³) |
| | Ontario | - | 800 ppm (1900 mg/m ³) |
| | BC | 750 ppm (1778 mg/m ³) | 600 ppm (1422 mg/m ³) |
| Pentane (all isomers) | Alberta, Ontario | - | 600 ppm (1770 mg/m ³) |
| | BC | - | 600 ppm |
| n-Hexane (CAS 110-54-3) | Alberta | - | 50 ppm (176 mg/m ³) |
| | BC | - | 20 ppm (skin) |
| | Ontario | - | 50 ppm (skin) |
| Hexane (All isomers except n-hexane) | Alberta | 1000 ppm (3500 mg/m ³) | 500 ppm (1760 mg/m ³) |
| | BC | - | 200 ppm |
| | Ontario | 1000 ppm | 500 ppm |
| Heptane (All isomers) | Alberta | 500 ppm (2050 mg/m ³) | 400 ppm (1640 mg/m ³) |
| | BC, Ontario | 500 ppm | 400 ppm |
| Benzene (CAS 71-43-2) | Alberta | 2.5 ppm (8 mg/m ³) – skin | 0.5 ppm (1.6 mg/m ³) – skin |
| | Ontario, BC | 2.5 ppm – skin | 0.5 ppm – skin |
| Toluene (CAS 108-88-3) | Alberta | - | 50 ppm (188 mg/ m ³) |
| | Ontario, BC | - | 20 ppm (75 mg/ m ³) |
| Xylene (o-,m-,p- isomers) (CAS 1330-20-7) | Alberta | 150 ppm (650 mg/ m ³) | 100 ppm (434 mg/m ³) |
| | Ontario, BC | 150 ppm | 100 ppm |
| Ethylbenzene (CAS 100-41-4) | Alberta | 125 ppm (543 mg/ m ³) | 100 ppm (434 mg/ m ³) |
| | Ontario, BC | - | 20 ppm (87 mg/ m ³) |
| 1,2,4-Trimethylbenzene (all isomers) (CAS 25551-13-7) | Alberta, Ontario, BC | - | 25 ppm (123 mg/ m ³) |



ENGINEERING CONTROLS

- Ventilate area where product is used, stored and/or handled to maintain airborne concentrations below the LEL and OEL, especially in confined spaces.
- Exhaust/ventilate to the outside.
- Ventilation equipment must be explosion proof.
- Ventilation system should be grounded and separate from other exhaust ventilation systems. Adequate make-up air must be provided.

PERSONAL PROTECTIVE EQUIPMENT



- Gloves:** Recommended: neoprene and nitrile;
Not recommended: polyvinyl chloride PVC. latex
Use insulating gloves when handling liquefied gas.
- Clothing:** Flame-retardant coverall e.g. Nomex, Proban. Protective apron and trousers worn over coveralls for handling liquefied propane.
- Respirator:** NIOSH Approved Supplied-Air Respirator or SCBA where large concentration is anticipated, and the exposure level is unknown or where an oxygen-deficient atmosphere may exist.
- Eye:** Safety glasses with side shields, safety goggles or face shields.

9. Physical and Chemical Properties

| | | |
|---|---|--|
| Chemical Formula: Not applicable | Molecular Weight: Not available | Chemical Family: Hydrocarbon |
| Appearance: Pale yellow to brown liquid | Odor: Hydrocarbon | Odor Threshold: Not Established |
| pH: Not applicable | Melting/Freezing Point: Not available | Boiling Point: ~ 20 - 50°C (68 - 122°F) |
| Boiling Range: 20 - 500°C | Vapor Density: >1 (air=1) | Specific Gravity: ~ 0.65-0.77 |
| Flash Point: < -35°C Closed Cup | Flammability: Yes | Evaporation Rate: >1 (butyl acetate = 1) |
| Upper-Lower Explosive Limit: Not available | Vapor Pressure: ~ 40-100 kPa @ 37.8°C (100 °F) | Percent Volatile: 100 by volume |
| Soluble in water (@20°C): Insoluble (negligible solubility) | Others: Soluble in organic solvents such as acetone, chloroform, dimethylformamide, carbon tetrachloride, alcohol and ether | |
| Partition Coefficient n-octanol/water: Not available | Auto-Ignition Temperature: Not available | Decomposition Temp.: Not available |
| Viscosity: 0.3 – 1.0 cSt @10°C | Henry's Law Constant: Not available | Isobaric Heat Capacity: Not available |

10. Stability and Reactivity

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| <p>Reactivity: Avoid incompatible materials: may react violently with oxidizers. Avoid heat, sparks, open flames and other sources of ignition. Conditions to avoid: Static discharge, friction. Use only in well ventilated areas.</p> |
| <p>Chemical Stability: Stable under normal temperatures and pressures.</p> |
| <p>Possibility of Hazardous Reactions: Polymerization has not been reported to occur under normal temperature and pressure conditions.</p> |
| <p>Conditions to Avoid: Extreme temperatures and incompatible materials.</p> |
| <p>Incompatible Materials:</p> <ul style="list-style-type: none"> • Oxidizers: may react violently with oxidizers such as chlorates, nitrates, peroxides, etc. |
| <p>Hazardous Decomposition Products:</p> <ul style="list-style-type: none"> • No decomposition if stored and applied as directed. • Combustion forms carbon monoxide, carbon dioxide, irritating and toxic fumes/gases. |

11. Toxicological Information

| Exposure Route | Acute Health Effects | Symptoms of Exposure |
|--------------------|---|--|
| Inhalation: | Causes damage to nervous system, central nervous system, kidneys, liver, and respiratory system. | Coughing, itchy throat, dizziness, drowsiness. |
| Skin: | Causes irritation. | Itchiness, redness. |
| Eye: | Causes serious eye irritation. The degree of the injury will depend on the amount of material that gets into the eye and the speed and thoroughness of the first aid treatment. | Pain, tears, swelling, redness, and blurred vision. Eye contact with the vapors, fumes or spray mist from this substance could also cause similar signs and symptoms. |
| Ingestion: | Can directly enter the lungs if it is swallowed (this is called aspiration). This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause severe injury to the lungs and death. | Signs and symptoms of aspiration may include coughing, difficulty breathing, "gurgling" lung sounds when breathing, coughing up phlegm (sputum) that is yellow or green in color or bad smelling, change in voice (hoarseness), skin turning bluish due to lack of oxygen. |

Chronic Exposure:

Inhalation:

Causes damage to nervous system, central nervous system, and/or respiratory system, hematopoietic system, and/or the kidneys through prolonged or repeated exposure. May cause damage to the liver.

Skin:

Not known to be a skin-sensitizer. Chronic exposure may cause skin dryness and cracking.

Benzene, one of the component, may cause cancer, and may cause genetic defects. Benzene, toluene, ethylbenzene & xylene are suspected to cause damage to fertility and the unborn child.

Medical Conditions Aggravated by Exposure:

Possibly asthma.

| | | | | |
|---|------------------------------|---|--------------------------|----------------------------------|
| Sensitization: No | Teratogenicity: No | Mutagenicity: Yes | Irritancy: Yes | Aspiration Hazard: Yes |
| Reproductive Toxicology: Yes. Suspected of damaging fertility or the unborn child. | | | | |
| Carcinogenicity: Yes: benzene ACGIH: A1 – confirmed human carcinogen IARC: Group 1 – carcinogenic to human NIOSH: potential occupational carcinogen NTP: Known human carcinogen | | Target Organs: Single exposure: nervous system, central nervous system, kidneys, liver, heart and respiratory system. Chronic exposure: nervous system, central nervous system, and/or respiratory system, hematopoietic system, and/or the kidneys. | | |

Lethality Tests:

| Chemical Name | CAS No. | LD50 | LC50 |
|----------------------------|----------------|---|--|
| Isobutane | 75-28-5 | Not available | Rat, inhalation: 658 mg/L 4 hrs. Rat, inhalation: 570,000 ppm/15 mins Mouse, inhalation: 52 mg/L/1 hr. |
| n-Butane | 106-97-8 | Not available | Rat, inhalation: 658 mg/L 4hr Mouse, inhalation: 680 mg/L/2 hr. |
| iso-Pentane | 78-78-4 | Not available | Rat, inhalation: 280 g/m ³ 4hr |
| n-Pentane | 109-66-0 | Rabbit, dermal: 3000 mg/kg Mouse, oral: 5000 mg/kg | Rat, inhalation: 364 mg/L 4hr |
| n-Hexane | 110-54-3 | Adult rats 29700 mg/kg | Rat & Mice, inhalation: 48000 ppm 4 hr |
| Heptane | 142-82-5 | Mouse, iv 222 mg/kg | Rat inhalation: 103 g/cu m/4 hr. |
| Benzene | 71-43-2 | Rabbit, dermal:>8200 mg/kg Rat, oral: 810 mg/kg | Rat, inhalation: 44.66 mg/L 4 hr |
| Toluene | 108-88-3 | Rabbit, dermal: 12000 mg/kg Rat, oral: 2600 mg/kg | Rat, inhalation: 12.5 mg/L 4 hrs. |
| Xylene (o-,m-,p-Isomers) | 1330-20-7 | Rabbit, dermal: >4350 mg/kg Rat, oral: 3500 mg/kg | Rat, inhalation, vapor: 29.08 mg/L 4 hr |
| Ethylbenzene | 100-41-4 | Rat, oral: 3500 mg/kg Rabbit, dermal: >5000 mg/kg | Not available |
| 1, 2, 4 – Trimethylbenzene | 25551-13-7 | Rat, oral 5600-8970 mg/kg | Rat, inhalation: 10200 mg/m ³ 4hr |

12. Ecological Information

| | |
|--|---|
| Persistence & Degradability: Not expected to persist in the environment. | Bioaccumulative Potential: No. |
| Mobility: No data available. | Other Adverse Effects: See below. |

Terrestrial Fate:

- Photolysis and hydrolysis are not expected to be important in soil.
- Not expected to bioaccumulate.
- The lighter, volatile components will evaporate leaving heavier components to undergo slow biodegradation in the soil.
- Spills may contaminate groundwater depending on the level of groundwater table and local geology.

Aquatic Fate:

- As condensate is lighter than, and insoluble in water, spills will spread on the water surface and the majority of lighter components up to C5 will evaporate. The heavier components may form sediment in the water systems.
- Hydrolysis is not expected to be an important environmental fate process since the alkanes lack functional groups that hydrolyze under environmental conditions.
- Some components have been identified as hazardous to the aquatic environment under GHS (Globally Harmonized System): Acute Hazard category 2, as toxic to aquatic life: hexane, benzene, toluene, xylenes, ethylbenzene, and 1,2,4-trimethylbenzene.
- Isopentane and n-pentane have been identified as hazardous to the aquatic environment under GHS (Globally Harmonized System): Chronic Hazard category 2, as toxic to aquatic life with long-lasting effects.
- Besides being toxic to aquatic organisms, the condensate film on the water surface may affect oxygen transfer and deplete the water of oxygen necessary for aquatic life.

Atmospheric Fate:

- If released to air, the lighter components butanes & pentanes will evaporate into the atmosphere.
- The Volatile Organic Compound (VOC) components such as butanes and pentanes have the potential to partake in photochemical reactions to produce ozone pollutant.

Eco Toxicity Tests:

| Chemical Name | CAS No. | | |
|--------------------------|-----------|--------------|---|
| n-Pentane | 109-66-0 | Fish | Oncorhynchus mykiss LC50: 9.87 mg/L 96 hr. Pimephales promelas LC50: 11.59 mg/L 96 hrs. Lepomis macrochirus LC50: 9.99 mg/L 96 hrs. |
| | | Invertebrate | Daphnia magna EC50: 9.74 mg/L 48 hrs. |
| iso-Pentane | 78-78-4 | Invertebrate | Daphnia magna EC50: 2.3 mg/L 48 hrs. |
| Hexane | 110-54-3 | Fish | Pimephales promelas LC50: 96 h 2.1 - 2.98 mg/L flow-through |
| n-Heptane | 142-82-5 | Fish | Cichlid fish LC50: 96 h 375 mg/L |
| Benzene | 71-43-2 | Fish | Oncorhynchus mykiss LC50: 5.3 mg/L 96 hr. flow-through Pimephales promelas LC50: 10.7-14.7 mg/L 96 hrs. flow-through Lepomis macrochirus LC50: 22.4 mg/L 96 hrs. static Lepomis macrochirus LC50: 70000-142000 ug/L 96 hrs. static Precilla reticulata LC50: 28.6 mg/L 96 hrs. static |
| | | Algae | Pseudokirchneriella subcapitata EC50: 29 mg/L 72 hrs. |
| | | Invertebrate | Daphnia magna EC50: 8.76-15.6 mg/L 48 hrs. static Daphnia magna EC50: 10 mg/L 48 hrs. |
| Toluene | 108-88-3 | Fish | Oncorhynchus mykiss LC50: 5.89-7.81 mg/L 96 hr. flow-through Oncorhynchus mykiss LC50: 14.1-17.16 mg/L 96 hr. static Oncorhynchus mykiss LC50: 5.8 mg/L 96 hr. semi-static Pimephales promelas LC50: 15.22-19.05 mg/L 96 hrs. flow-through (1 day old) Pimephales promelas LC50: 12.6 mg/L 96 hrs. static Lepomis macrochirus LC50: 11.0-15.0 mg/L 96 hrs. static Oryzias latipes LC50: 54 mg/L 96 hrs. static Precilla reticulata LC50: 28.2 mg/L 96 hrs. semi-static Precilla reticulata LC50: 50.87-70.34 mg/L 96 hrs. static |
| | | Algae | Pseudokirchneriella subcapitata EC50: >433 mg/L 72 hrs. |
| | | Invertebrate | Daphnia magna EC50: 5.46-9.83 mg/L 48 hrs. static |
| Xylene (o-,m-,p-Isomers) | 1330-20-7 | Fish | Oncorhynchus mykiss LC50: 13.5-17.3 mg/L 96 hr. Oncorhynchus mykiss LC50: 2.661-4.093 mg/L 96 hr. static Pimephales promelas LC50: 13.4 mg/L 96 hrs. flow-through Pimephales promelas LC50: 23.53-29.97 mg/L 96 hrs. static Lepomis macrochirus LC50: 13.1-16.5 mg/L 96 hrs. flow-through Lepomis macrochirus LC50: 19 mg/L 96 hrs. Lepomis macrochirus LC50: 7.711-9.591 mg/L 96 hrs. static Cyprinus carpio LC50: 780 mg/L 96 hrs. semi-static Cyprinus carpio LC50: >780 mg/L 96 hrs. Precilla reticulata LC50: 30.26-40.75 mg/L 96 hrs. static |
| | | Invertebrate | Water flea EC50: 3.82 mg/L 48 hrs. Gammarus lacustris LC50: 0.6 mg/L 48 hrs. |

13. Disposal Considerations

Waste Disposal:

- Contaminated products such as absorbents, soil, water, etc. should be disposed of according to governmental regulations and guidelines.
- Waste can be incinerated, or recycled/reused.

14. Transport Information

TDG (CANADA) CLASSIFICATION

PROPER SHIPPING NAME: Petroleum Distillate or Petroleum Products N.O.S.
CLASS: 3 **UN NUMBER:** UN1268

PACKING GROUP:

- I (if boiling point is $\leq 35^{\circ}\text{C}$ @101.3 kPa absolute pressure and any flash point)
- II (if boiling point is $> 35^{\circ}\text{C}$ @101.3 kPa absolute pressure and flash point $< 23^{\circ}\text{C}$)
- III (if the criteria for PGI and II are not met)

LABEL/PLACARD:



TDG SPECIAL PROVISION: 92

MARINE POLLUTANT: Yes.

15. Regulatory Information

CANADA

| | Condensate | iButane | nButane | iPentane | nPentane | nHexane | nHeptane |
|------|------------|---------|----------|----------|----------|----------|----------|
| CAS | 68919-39-1 | 75-28-5 | 106-97-8 | 78-78-4 | 109-66-0 | 110-54-3 | 142-82-5 |
| DSL | no | yes | yes | yes | yes | yes | no |
| NPRI | no | yes | yes | yes | yes | yes | no |
| E2 | yes | yes | yes | yes | yes | no | no |

| | Benzene | Toluene | Xylenes | Ethylbenzene | 1,2,4-Trimethylbenzene |
|------|---------|----------|-----------|--------------|------------------------|
| CAS | 71-43-2 | 108-88-3 | 1330-20-7 | 100-41-4 | 25551-13-7 |
| DSL | yes | yes | yes | yes | yes |
| NPRI | yes | yes | yes | yes | yes |
| E2 | yes | yes | yes | yes | no |

16. Other Information

NFPA Hazard Rating:
Health 2, Flammability 4, Instability 0



Prepared for: Keyera Health and Safety
Issue Date/ Revision No: November 30, 2019/ Revision #3

| Revisions: | Dates: | Main Changes |
|-----------------------------|-------------------|----------------------------------|
| • Original: | January 3, 2011 | |
| • 1 st revision: | October 31, 2013 | Reformat |
| • 2 nd revision: | August 31, 2015 | Canada GHS format |
| • 3 rd revision: | November 30, 2019 | Condensate added to E2 Substance |

Glossary

ACGIH – American Conference of Governmental Industrial Hygiene
DOT – US Department of Transportation
DSL – Domestic Substance List (Canada)
E2 – Environmental Emergencies (Canada)
GHS – Globally Harmonized System
IARC – International Agency for Research on Cancer
IDLH – Immediately Dangerous to Life and Health
NIOSH – National Institute for Occupational Safety & Health
NPRI – National Pollutant Release Inventory (Canada)
NTP – National Toxicology Program
OSHA – Occupational Safety & Health Administration of the US Dept of Labour
PEL – Permissible Exposure Limit
SARA – Superfund Amendments and Reauthorization Act of 1986
STEL – Short Term Exposure Limit
TRI – US Toxic Release Inventory
TSCA – Toxic Substance Control Act
TWA – Time Weighed Average

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~ End of Safety Data Sheet ~