SECTION 1 – MATERIAL IDENTIFICATION AND USE

Material Name: CONDENSATE (SWEET)
Use: Process stream, fuels production
WHMIS Classification: Class B, Div. 2; Class D, Div. 2, Sub-Div. A and B
Fire: 4 **Reactivity**: 0 **Health**: 3
TDG: **UN:** 1267 **Class:** 3 **Packing Group:** II
Shipping Name: PETROLEUM CRUDE OIL
Manufacturer/Supplier: CENOVUS ENERGY INC.
500 Centre Street SE, PO Box 766
Calgary, AB T2P 0M5
Emergency Telephone: 1-877-458-8080, CANUTEC 1-613-996-6666 (Canada); CHEMTREC 1-800-424-9300
Chemical Family: C5+ aliphatic and aromatic hydrocarbons.

SECTION 2 – HAZARDOUS INGREDIENTS OF MATERIAL

Hazardous Ingredients	Approximate Concentrations (%)	C.A.S. Nos.	LD50/LC50 Specify Species & Route	Exposure Limits
Pentanes	50-60	109-66-0	LC50,rat,4 hr,364 g/m3	600 ppm (OEL,TLV)
n-Hexane	35-50	110-54-3	LD50,rat,oral,28.7 g/kg	50 ppm (OEL,TLV)
Butanes	<10	106-97-8	LC50,rat,4 hrs,658 g/m3	1000 ppm (OEL, TLV[1])
Benzene	0.1-1	71-43-2	LD50,rat,oral,930 mg/kg LC50,rat,4 hr,13200 ppm	0.5 ppm (OEL, TLV)

OEL = 8 hr. Alberta Occupational Exposure Limit; TLV = Threshold Limit Value (8 hrs) [1] As Aliphatic hydrocarbon gases

SECTION 3 – PHYSICAL DATA FOR MATERIAL

Physical State: Liquid
Specific Gravity: 0.6-0.75
Vapour Density (air=1): 2.5-3.0
Percent Volatiles, by volume: 100
pH: N**ot Available**
Coefficient of Water/Oil Distribution: <0.1
Vapour Pressure (mmHg): 600 - 830 @ 20 deg. C.
Odour Threshold (ppm): N**ot Available**
Evaporation Rate: N**ot Available**
Boiling Pt. (deg.C): 40
Freezing Pt. (deg.C): -60
Odour & Appearance: colorless/straw coloured liquid, hydrocarbon odour

SECTION 4 – FIRE AND EXPLOSION

Flammability: Yes **Conditions**: Material will ignite at normal temperatures.
Means of Extinction: Foam, CO2, dry chemical. Explosive accumulations can build up in areas of poor ventilation.
Special Procedures: Use water spray to cool fire-exposed containers, and to disperse vapors if spill has not ignited. If safe, cut off fuel and allow flame to burn out.
Flash Point (deg.C) & Method: <-40 (TCC)
Upper Explosive Limit (% by vol.): 8
Lower Explosive Limit (% by vol.): 0.6
Auto-Ignition Temp. (deg.C): 223
Sensitivity to Impact: No
Sensitivity to Static Discharge: Yes, may ignite
TDG Flammability Classification: 3
Hazardous Combustion Products: Carbon monoxide, carbon dioxide

SECTION 5 – REACTIVITY DATA

Chemical Stability: Yes **Conditions**: Heat
Incompatibility: Yes **Substances**: Oxidizing agents (e.g. chlorine)
Reactivity: Yes **Conditions**: Heat, strong sunlight
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide

SECTION 6 – TOXICOLOGICAL PROPERTIES OF PRODUCT

Routes of Entry:
Skin Absorption Yes **Skin Contact**: Yes (liquid) **Eye Contact**: Yes
Inhalation: **Acute**: Yes **Chronic**: Yes **Ingestion**: Yes
Effects of Acute Exposure: Vapour may cause irritation of eyes, nose and throat., dizziness and drowsiness. Contact with skin may cause irritation and possibly dermatitis. Absorbed through intact skin. Contact of liquid with eyes may cause severe irritation and possible damage.
Effects of Chronic Exposure: Due to presence of benzene and n-hexane, long term exposure may increase the risk of anaemia, leukaemia and nervous system damage.
Sensitization to Product: No.
Exposure Limits of Product: 0.5 ppm (OEL for benzene)
Irritancy: Yes
Synergistic Materials: None reported
Carcinogenicity: Yes **Reproductive Effects**: Possibly **Teratogenicity**: Possibly **Mutagenicity**: Possibly

SECTION 7 – PREVENTIVE MEASURES

Personal Protective Equipment: Use positive pressure self-contained breathing apparatus, supplied air breathing apparatus or cartridge air purifying respirator approved for organic vapours where concentrations may exceed exposure limits (note: cartridge respirator not suitable for oxygen deficiency or IDLH situations).
Gloves: Viton (nitrile adequate for short exposure to liquid) **Respiratory**: SCBA, SABA or cartridge APR
Eye: Splash Goggles
Footwear: As per safety policy **Clothing**: As per fire protection policy
Engineering Controls: Use only in well ventilated areas. Mechanical ventilation required in confined areas. Equipment must be explosion proof.
Leaks & Spills: Stop leak if safe to do so. Use appropriate personal protective equipment. Use water spray to cool containers. Remove all ignition sources. Provide explosion-proof clearing ventilation, if possible. Prevent from entering confined spaces. Dyke and pump into containers for recycling or disposal. Notify appropriate regulatory authorities.
Waste Disposal: Contact regulatory authorities for disposal requirements.
Handling Procedures & Equipment: Avoid contact with liquid. Avoid inhalation. Bond and ground all transfers. Avoid sparking conditions.
Storage Requirements: Store in a cool, dry, well ventilated area away from heat, strong sunlight, and ignition sources.
Special Shipping Information: Not Applicable

SECTION 8 – FIRST AID MEASURES

Skin: Flush skin with water, removing contaminated clothing. Get medical attention if irritation persists or large area of contact. Decontaminate clothing before re-use.

Eye: Immediately flush with large amounts of lukewarm water for 15 minutes, lifting upper and lower lids at intervals. Seek medical attention if irritation persists.

Inhalation: Ensure own safety. Remove victim to fresh air. Give oxygen, artificial respiration, or CPR if needed. Seek medical attention immediately.

Ingestion: Give 2-3 glasses of milk or water to drink. DO NOT INDUCE VOMITING. Keep warm and at rest. Get immediate medical attention.

SECTION 9 – PREPARATION DATE OF MSDS

Prepared By: Cenovus Energy Inc. Health and Safety
Phone Number: 1-403-766-2000
Preparation Date: March 14, 2014