

Bonnyville Emulsion

SECTION 1. IDENTIFICATION

Product Identifier	Bonnyville Emulsion
Other Means of Identification	Produced Crude & Water Emulsion
Product Family	Hydrocarbons
Recommended Use	Process feedstock.
Restrictions on Use	None known.
Manufacturer/Supplier Identifier	Devon Canada Corporation 2000, 400 - 3rd Avenue SW Calgary, Alberta T2P 4H2 (403) 232-7100
Emergency Phone No.	CANUTEC, 1-888-CAN-UTEC (226-8832), (24 hr)

SECTION 2. HAZARD IDENTIFICATION

Classification

Flammable liquid - Category 4; Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 4; Acute toxicity (Inhalation) - Category 4; Skin irritation - Category 2; Serious eye damage - Category 2; Aspiration hazard - Category 1

Label Elements



Signal Word:
Warning

Hazard Statement(s):

H227	Combustible liquid.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H316	Causes mild skin irritation.
H320	Causes eye irritation.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.

Precautionary Statement(s):

P210	Keep away from sparks and open flames.
P211	Do not spray on an open flame or other ignition source.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating, lighting, and other equipment.
P242	Use only non-sparking tools.
P261	Avoid breathing mist, vapours.

P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing.

Other Hazards

EMERGENCY OVERVIEW :

COMBUSTIBLE LIQUID. May ignite readily at elevated temperatures.

General Hygiene Comments :

Do NOT eat, drink or store food in work areas.

Remove contaminated clothing and protective equipment before entering eating areas or leaving work area.

Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers
Crude Oil	8002-05-9	100	Produced Crude
Ethane	74-84-0	< 0.01	Ethyl Hydride
Propane	74-98-6	< 0.01	Propyl Hydride
Isobutane	75-28-5	< 0.01	Isobutyl hydride
n-Butane	106-97-8	0.01 - 0.05	Butyl Hydride
Isopentane	78-78-4	0.01 - 0.05	Isopentyl hydride
n-Pentane	109-66-0	0.01 - 0.05	Pentyl hydride
Hexanes	110-54-3	0.10 - 0.10	Not available
Heptanes	142-82-5	0.05 - 0.15	Not available
Octanes	111-65-9	0.15 - 0.50	Not available
Nonanes	111-84-2	0.15 - 0.50	Not available
Decanes	124-18-5	0.25 - 0.50	Not available
Benzene	71-43-2	< 0.01	Benzol
Toluene	108-88-3	0.01 - 0.05	Methylbenzene
Ethylbenzene	100-41-4	0.01 - 0.05	Phenylethane
Xylene (mixed isomers)	1330-20-7	0.05 - 0.10	1,2/1,3/1,4-dimethylbenzene

Notes

Concentrations are expressed in % weight/weight.

Composition based on the hydrocarbon portion of the product.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Call a Poison Centre or doctor if you feel unwell.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Immediately wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 15-20 minutes. If persistent irritation occurs, obtain medical attention.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If persistent irritation occurs, obtain medical attention.

Ingestion

Rinse mouth with water. Immediately call a Poison Centre or doctor. Do not induce vomiting.

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Most Important Symptoms and Effects, Acute and Delayed

If inhaled:

Can irritate the nose and throat. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

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If in eyes:

May cause moderate to severe irritation. Symptoms include sore, red eyes, and tearing.

If swallowed:

Small amounts can irritate the mouth, throat and stomach. Large amounts may cause permanent damage to organs including the brain and heart.

Immediate Medical Attention and Special Treatment

Special Instructions

Treat symptomatically. Protect airway from aspiration of gastric contents.

Medical Conditions Aggravated by Exposure

None known.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Small fire: Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

Large fire: Water spray, fog or regular foam.

Do not use straight streams.

Move containers from fire area if you can do it without risk.

Fire involving Tanks or Car/Trailer Loads:

Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

Cool containers with flooding quantities of water until well after fire is out.

Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.

ALWAYS stay away from tanks engulfed in fire.

For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Unsuitable Extinguishing Media

Do not use water in a stream or jet.

Specific Hazards Arising from the Product

No specific information located.

Special Protective Equipment and Precautions for Fire-fighters

Fight fire from a safe distance or a protected location. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Eliminate all ignition sources. Use grounded, explosion-proof equipment.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas. Minimize the use of water to prevent environmental contamination.

Methods and Materials for Containment and Cleaning Up

Small spills or leaks: stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Do NOT use combustible materials such as sawdust. Place used absorbent into suitable, covered, labelled containers for disposal.

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Large spills or leaks: dike spilled product to prevent runoff. Do not direct water at spill or source. Knock down vapour with fog or fine water spray.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Prevent uncontrolled release of product. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Do not use near welding operations or other high energy sources. Do not weld, cut or perform hot work on empty container until all traces of product have been removed. Electrically bond and ground equipment. Ground clips must contact bare metal. Do not carry or transfer this product in an enclosed space (e.g. in an elevator or inside a vehicle). Wear personal protective equipment to avoid direct contact with this chemical. Do not puncture or incinerate container even when empty.

Conditions for Safe Storage

Store in an area that is: cool, temperature-controlled, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity), clear of combustible and flammable materials (e.g. old rags, cardboard), out of direct sunlight and away from heat and ignition sources.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Not available.

Consult local authorities for provincial exposure limits.

Appropriate Engineering Controls

Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored. If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles.

Skin Protection

Avoid repeated or prolonged skin contact. Wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

Not normally required if product is used as directed.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Milky brown - black viscous liquid.
Odour	Hydrocarbon
Odour Threshold	Not available
pH	Not applicable
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	133 °C
Flash Point	87 °C
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable (liquid).
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	1.7 kPa at 37.8°C (100°F)
Vapour Density (air = 1)	> 1 (estimated)
Relative Density (water = 1)	0.985 - 0.989 (estimated) at 15 °C (59 °F)
Solubility	Dispersible in water

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Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	2709 centistokes at 40°C (104°F) (kinematic)
Other Information	
Physical State	Liquid
Molecular Formula	Material is a mixture of water, bitumen, and minerals.
Molecular Weight	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Not sensitive to mechanical impact.

Conditions to Avoid

Heat. High temperatures. Open flames, sparks, static discharge, heat and other ignition sources. High energy sources, e.g. welding arcs. Incompatible materials.

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid).

Hazardous Decomposition Products

Hazardous decomposition products are not expected to form during normal storage. Combustion releases carbon dioxide, trace amounts of sulfur oxides, and nitrogen oxides. A lack of oxygen during combustion can produce carbon monoxide and other toxic and flammable products.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
n-Pentane	6106 ppm (rat) (4-hour exposure)	> 2000 mg/kg (rat)	Not available
Heptanes	~ 25000 ppm (rat) (4-hour exposure)	> 15000 mg/kg (rat)	Not available
Octanes	25250 ppm (rat) (4-hour exposure)	Not available	Not available
Benzene	13700 ppm (rat) (4-hour exposure)	930 mg/kg (rat)	> 8240 mg/kg (rabbit)
Ethane	Not available	Not available	Not available
Propane	> 800000 ppm (rat) (30-minute exposure)	Not applicable	Not applicable
Isobutane	368000 mg/kg (male mouse) (4-hour exposure) (vapour)	> 5000 mg/kg	> 5000 mg/kg
n-Butane	658 mg/L (rat) (4-hour exposure)	Not available	Not available

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Isopentane	140000 ppm (mouse) (2-hour exposure) (vapour)	> 2000 mg/kg (rat)	Not available
Hexanes	73680 ppm (rat) (4-hour exposure) (vapour)	32290 mg/kg (male rat)	> 3295 mg/kg (rabbit)
Nonanes	3200 ppm (rat) (4-hour exposure)	> 15000 mg/kg	Not available
Decanes	72300 mg/m3 (mouse) (2-hour exposure) (aerosol)	Not available	Not available
Toluene	7585 ppm (rat) (4-hour exposure)	5580 mg/kg (male rat)	12125 mg/kg (rabbit)
Ethylbenzene	~ 4000 ppm (rat) (4-hour exposure)	3500 mg/kg (rat)	15380 mg/kg (rabbit)
Xylene (mixed isomers)	6350 ppm (male rat) (4-hour exposure)	3523 mg/kg (rat)	> 1700 mg/kg (rabbit)

Skin Corrosion/Irritation

Contact may cause irritation to the skin and mucous membranes upon prolonged and/or repeated skin contact. Prolonged or repeated contact to petroleum oil with skin may cause defatting of the skin leading to redness, itching, inflammation, cracking, dermatitis (rash).

Serious Eye Damage/Irritation

May cause moderate to severe irritation. Symptoms include sore, red eyes, and tearing.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Not an expected route of exposure, but vapours may cause irritation of the nose and throat.

Skin Absorption

Not normally an expected route of exposure.

Ingestion

May cause gastrointestinal irritation. Symptoms may include abdominal pain, stomach upset, nausea, vomiting, and diarrhea.

If small amounts are ingested: can irritate the mouth, throat and stomach.

If large amounts are ingested: harmful.

Aspiration Hazard

May be drawn into the lungs (aspirated) if swallowed or vomited.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Material in general is not expected to cause harm. Although the material in general is not considered to have chronic effects, it may contain benzene, a listed carcinogen.

Respiratory and/or Skin Sensitization

Not a respiratory sensitizer. Not a skin sensitizer.

Carcinogenicity

Material in general is not expected to cause harm.

Reproductive Toxicity

Development of Offspring

The material in general is not expected to produce teratogenic or embryotoxic effects.

Sexual Function and Fertility

The material in general is not expected to have toxic reproductive effects.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Material in general is not expected to cause harm. Not known to be a mutagen.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

May be harmful to aquatic life.

Persistence and Degradability

Not expected to be removed rapidly from aquatic environments by evaporation.

Bioaccumulative Potential

This product and its degradation products are not expected to bioaccumulate.

Mobility in Soil

If released into the environment, this product is expected to move slowly through the soil, based on physical and chemical properties. If released into soil, this material will absorb and may biodegrade in anaerobic conditions. In water it is not expected to become volatile. Photo-oxidation products may include phenol, nitrophenols, nitrobenzene, formic acid. Contamination of groundwater could occur.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Material Disposal:

Do not discharge into areas where there is a risk of forming an explosive mixture with air. This product and its container must be disposed of as hazardous waste. Do NOT dump into any sewers, on the ground or into any body of water.

Local Legislation:

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 and must be complied with.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	1267	PETROLEUM CRUDE OIL	3	III
US DOT	1267	PETROLEUM CRUDE OIL	3	III

Environmental Hazards Potential Marine Pollutant

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Emergency Response Guide No. GUIDE 128

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

This section is not required by WHMIS.

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 1 Flammability - 1 Instability - 0

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SDS Prepared By Maxxam Analytics
Phone No. 1-800-386-7247
Date of Preparation July 28, 2015
Date of Last Revision June 14, 2016
Revision Indicators Document updated from 2015-07-28 original SDS (all sections).
Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists
OSHA = US Occupational Safety and Health Administration
RTECS® = Registry of Toxic Effects of Chemical Substances

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault
Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and
Safety (CCOHS).

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