

## Devon Canada Corporation Production Water

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Devon Canada Corporation Production Water
<b>Other Means of Identification</b>	Process Water
<b>Other Identification</b>	Formation Water, Produced Brine
<b>Product Family</b>	Produced Water
<b>Recommended Use</b>	Process water, Oilfield waste.
<b>Restrictions on Use</b>	None known.
<b>Manufacturer</b>	Devon Canada Corporation, 2000, 400 - 3rd Avenue SW, Calgary, Alberta, T2P 4H2
<b>Emergency Phone No.</b>	Devon Canada Corporation, 1-403-232-7100, (24 hr) CANUTEC, 1-613-996-6666, (24 hr)

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquid - Category 4; Acute toxicity (Oral) - Category 3; Acute toxicity (Dermal) - Category 4; Skin corrosion/irritation - Category 2; Serious eye damage/eye irritation - Category 2A

#### GHS Label Elements



Signal Word:  
Warning

H303 May be harmful if swallowed.  
H317 May cause an allergic skin reaction.

#### Other Hazards

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
Water, with dissolved mineral salts	Not applicable	100%	
Xylene (mixed isomers)	1330-20-7	Trace	

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Toluene	108-88-3	Trace	
Benzene	71-43-2	Trace	
Ethylbenzene	100-41-4	Trace	
Crude Oil and hydrocarbons	8002-05-9	Trace	
Hydrogen Sulphide	7783-06-4	Not detected	

#### Notes

Concentrations are expressed in ppm weight/volume (mg/L).  
May contain traces of hydrocarbons other than those listed above.

## SECTION 4. FIRST-AID MEASURES

### First-aid Measures

#### Inhalation

Not normally an expected route of exposure. Dissolved vapours may be an irritant if they are released.

#### Skin Contact

Wash gently and thoroughly with lukewarm, gently flowing water and mild soap for 5 minutes. If persistent irritation occurs, obtain medical attention.

#### Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open.

#### Ingestion

Rinse mouth with water. If vomiting occurs naturally, lie on your side in the recovery position. Rinse mouth with water again.

### Immediate Medical Attention and Special Treatment

#### Medical Conditions Aggravated by Exposure

None known.

## SECTION 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Material itself is NOT flammable but may contain and release flammable vapours. Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog can be used to control vapour fires.

#### Unsuitable Extinguishing Media

None known.

### Specific Hazards Arising from the Chemical

Not considered a flammable material, but may contain entrained hydrocarbon vapours that can release and could create conditions for a flash fire.

This product presents no unusual hazards in a fire situation.

### Special Protective Equipment and Precautions for Fire-fighters

Wear full protective clothing and self-contained breathing apparatus.

## 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. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Distant ignition and flashback are possible.

### Environmental Precautions

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway.

### Methods and Materials for Containment and Cleaning Up

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Small spills or leaks: stop or reduce leak if safe to do so. Ventilate the area to prevent the gas from accumulating, especially in confined spaces. Remove or eliminate any potential ignition sources.

Large spills or leaks: dike spilled product to prevent runoff. Dike and recover contaminated water for appropriate disposal. Remove or eliminate any potential ignition sources. Keep out of low areas; released vapours may be heavier than air and travel along the ground, or collect in sewers, basements, or tanks.

## SECTION 7. HANDLING AND STORAGE

### Precautions for Safe Handling

No special handling precautions are necessary. 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. If exposure to vapours is a possibility or a concern, use of NIOSH approved cartridge masks, or supplied air or self contained breathing apparatus (SCBA) may be employed.

It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Do NOT smoke in work areas. 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.

### Conditions for Safe Storage

No special requirements for storage area. Store in a well ventilated area away from all sources of ignition. Avoid storage in confined spaces or near incompatible materials, oxidizers, or materials that support combustion.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Benzene	0.5 ppm A1 Skin	2.5 ppm A1 Skin				
Toluene	20 ppm A4		200 ppm			
Ethylbenzene	100 ppm	125 ppm				
Xylene (mixed isomers)	100 ppm A4	150 ppm A4				

### Appropriate Engineering Controls

The hazard potential of this product is relatively low. General ventilation is usually adequate. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

### Individual Protection Measures

#### Eye/Face Protection

Not required but it is good practice to wear safety glasses or chemical safety goggles.

#### Skin Protection

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

#### Respiratory Protection

Not usually required when working with small quantities.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### Basic Physical and Chemical Properties

Appearance	Cloudy liquid. Particle Size: Not applicable
Odour	Faint hydrocarbon
Odour Threshold	Not available
pH	6.1 - 6.3
Melting Point/Freezing Point	~ 0 °C (melting); < 0 °C (estimated) (freezing)
Initial Boiling Point/Range	~ 100 °C

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<b>Flash Point</b>	> 100 °C (closed cup)
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper/Lower Flammability or Explosive Limit</b>	Not available (upper); Not available (lower)
<b>Vapour Pressure</b>	Not available
<b>Vapour Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	1.059 - 1.061 at 15 °C (59 °F)
<b>Solubility</b>	Soluble in all proportions in water; Not available (in other liquids)
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available (kinematic); Not available (dynamic)
<b>Other Information</b>	
<b>Physical State</b>	Liquid
<b>Molecular Formula</b>	H <sub>2</sub> O
<b>Molecular Weight</b>	18
<b>Bulk Density</b>	Not applicable
<b>Surface Tension</b>	Not available
<b>Critical Temperature</b>	Not available
<b>Electrical Conductivity</b>	112000 µS/cm
<b>Vapour Pressure at 50 deg C</b>	Not available
<b>Saturated Vapour Concentration</b>	Not available

## SECTION 10. STABILITY AND REACTIVITY

### Chemical Stability

Normally stable.

### Possibility of Hazardous Reactions

May react violently in contact with strong nitric acid.

### Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. High energy sources, e.g. welding arcs. Material is stable under normal conditions, but may contain flammable residue (i.e. dissolved gases).

### Incompatible Materials

Strong acids (e.g. hydrochloric acid), strong oxidizing agents (e.g. perchloric acid), halogens (e.g. chlorine), alkali metals.

### Hazardous Decomposition Products

None known.

## SECTION 11. TOXICOLOGICAL INFORMATION

### Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Benzene	13700 ppm (rat) (4-hour exposure)	930 mg/kg (rat)	> 8240 mg/kg (rabbit)

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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**

May be irritating to skin. Symptoms may include redness, swelling, and itching.

**Serious Eye Damage/Irritation**

May be irritating to eyes. Symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**STOT (Specific Target Organ Toxicity) - Single Exposure**

**Inhalation**

May be harmful

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

**Skin Absorption**

Not expected to be harmful.

**Ingestion**

May be harmful

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

**Respiratory and/or Skin Sensitization**

Not a respiratory sensitizer. Not a skin sensitizer.

**Carcinogenicity**

Chemical Name	IARC	ACGIH®	NTP	OSHA
Benzene	Group 1	A1	Known carcinogen	Carcinogen

Material in general is not expected to cause harm.

**Reproductive Toxicity**

**Development of Offspring**

Not hazardous according to OSHA/WHMIS criteria.

**Sexual Function and Fertility**

Not hazardous according to OSHA/WHMIS criteria.

**Germ Cell Mutagenicity**

Not hazardous according to OSHA/WHMIS criteria.

**Interactive Effects**

Not hazardous according to OSHA/WHMIS criteria.

**SECTION 12. ECOLOGICAL INFORMATION**

Contains dissolved salts, but not expected to be hazardous to the environment.

**Toxicity**

Studies were not located.

**Persistence and Degradability**

No information was located.

**Bioaccumulative Potential**

No information was located.

**Mobility in Soil**

Studies are not available.

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Water injection into approved wells is generally allowed. Avoid contact with soil and surface waterways. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

## SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	N.A.	Not Regulated (Water, with dissolved mineral salts)		
US DOT	N.A.	Not Regulated (Water, with dissolved mineral salts), or		
Canadian TDG	1267	Oilfield Wastes, N.O.S. (Oilfield Wastes, N.O.S.)		
US DOT	1267	Oilfield Wastes, N.O.S. (Oilfield Wastes, N.O.S.)		

**Special Precautions for User** Please note: TDG: N.A. IF transported in a CLEAN tank.  
TDG: UN1267 IF transported in a tank that last carried crude oil or condensate.

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

Not applicable

## SECTION 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations

#### Canada

#### WHMIS Classification



Class D2B

D2B - Toxic (Skin irritant; Eye irritant)

## SECTION 16. OTHER INFORMATION

**NFPA Rating** Health - 1 Flammability - 0 Instability - 0

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**Revision Indicators** The following MSDS content was changed on September 24, 2015:  
Section 8 - Exposure Controls/Personal Protection; Exposure Guidelines.  
The following MSDS content was changed on September 24, 2015:  
Section 11 - Toxicological Information; LC50/LD50 values.  
The following MSDS content was changed on September 28, 2015:  
Section 11 - Toxicological Information; Carcinogenicity.

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(M)SDS related sample(s) :  
Devon Production Water