

Production Water

SECTION 1. IDENTIFICATION

Product Identifier	Production Water
Other Means of Identification	Process Water
Product Family	Produced Water
Recommended Use	Process water, Oilfield waste Process stream.
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

Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 5; Serious eye damage - Category 2; Aspiration hazard - Category 2

Label Elements



Signal Word:
Warning

Hazard Statement(s):

H302 Harmful if swallowed.
H316 Causes mild skin irritation.
H320 Causes eye irritation.

Precautionary Statement(s):

P261 Avoid breathing mist, vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

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 %	Produced water, Brine
Benzene	71-43-2	Trace	Benzol
Toluene	108-88-3	Trace	Methylbenzene
Ethylbenzene	100-41-4	Trace	Phenylethane
Xylene (mixed isomers)	1330-20-7	Trace	1,2/1,3/1,4-dimethylbenzene
Crude Oil and hydrocarbons	8002-05-9	Trace	Hydrocarbons
Hydrogen Sulfide	7783-06-4	Not detected	Sulfur hydride

Notes

Concentrations are expressed in ppm weight/volume.
May contain traces of hydrocarbons other than those listed.

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.

Most Important Symptoms and Effects, Acute and Delayed

Aspiration hazard.

Immediate Medical Attention and Special Treatment

Special Instructions

Treat symptomatically.

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 Product

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.

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Chemical protective clothing (e.g. chemical splash suit) should not be necessary under normal circumstances..

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Isolate the hazard area. Shut off leaks, if possible, without personal risks. Remove all possible sources of ignition in the surrounding area.

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

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 an area that is: well-ventilated.

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

Wear safety glasses or chemical safety goggles, or other suitable eye and face protection as required.

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.

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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Cloudy liquid.
Odour	Faint hydrocarbon
Odour Threshold	Not available
pH	6.1 - 6.3
Melting Point/Freezing Point	≤ 0 °C (melting); ≤ 0 °C (freezing)
Initial Boiling Point/Range	~ 100 °C
Flash Point	> 100 °C (closed cup)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not applicable
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	1.059 - 1.061 at 15 °C (59 °F)
Solubility	Soluble in all proportions in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not applicable
Auto-ignition Temperature	Not available
Decomposition Temperature	Not applicable
Viscosity	Not available (kinematic)
Other Information	
Physical State	Liquid
Molecular Formula	H ₂ O
Molecular Weight	18
Electrical Conductivity	112000 μ S/cm

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive.

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

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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)
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.

Aspiration Hazard

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

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Not expected to be a hazard.

Respiratory and/or Skin Sensitization

Not a respiratory sensitizer. Not a skin sensitizer.

Carcinogenicity

Material might contain trace amounts of benzene (ppm level), a known 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.

Effects on or via Lactation

No information was located.

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.

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Ecotoxicity

Not expected to be harmful.

Persistence and Degradability

No ingredient of this product or its degradation products is known to be highly persistent.

Bioaccumulative Potential

This product is not known to bioaccumulate.

Mobility in Soil

If released into the environment, this product can move rapidly through the soil. Contamination of groundwater could occur.

Other Adverse Effects

There is no information 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	Not applicable	Not Regulated	Not applicable	Not applicable
US DOT	Not applicable	Not Regulated	Not applicable	Not applicable

Environmental Hazards Not applicable

Special Precautions Please note: TDG Not applicable IF transported in a CLEAN tank, or TDG Residue - Last Contained UN1267 Petroleum Crude Oil, Class 3, and appropriate Packing Group as per area classification, or TDG Residue - Last Contained UN1268 Petroleum Distillates N.O.S., Class 3, Packing Group I

SECTION 15. REGULATORY INFORMATION**Safety, Health and Environmental Regulations**

This section is not required by WHMIS 2015.

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 0 Flammability - 0 Instability - 0
SDS Prepared By Maxxam Analytics
Phone No. 1-800-386-7247
Date of Preparation June 17, 2015
Date of Last Revision June 14, 2016
Revision Indicators Document updated from 2015-06-17 original SDS (all sections).
Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists
 OSHA = US Occupational Safety and Health Administration

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References RTECS® = Registry of Toxic Effects of Chemical Substances
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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SDS representative sample(s) :
Devon Production Water