



# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

El Paso Corporation  
and its subsidiaries  
1001 Louisiana Street  
Houston, Texas 77002

Information: (713) 420-2600  
CHEMTREC: (800) 424-9300

**Product Name:** Produced Water      Last Revision: 10/19/06  
**MSDS Number:** A0133.msds      Date Prepared: 03/07/06

**Synonyms:** Formation Water, Salt Water, H2O, Oily Water  
**Product Description:** Water extracted from natural gas well production with residual mineral contents and residual hydrocarbons.

## 2. COMPOSITION & INFORMATION ON INGREDIENTS

Product	CAS No	Wt%	Occupational Exposure Limits*			Units
			OSHA PEL	ACGIH TLV	Other	
Produced Water	Mixture	N/A	N/A	N/A		
<b>Components</b>						
Water		>68**	N/A			
Mineral Variety		<32	N/A			
Gas Condensate	8002-05-9	<1	N/A	N/A		ppm
Benzene	71-43-2	<1	1.0	0.5	5 STEL	ppm
Hydrogen Sulfide	7783-06-4	<1	10#	10	15 STEL	ppm

Key: \* = 8-Hr. TWA unless otherwise specified  
\*\* = Normal composition ranges are shown. Exceptions may occur depending upon the source of the produced water.  
N/A = Not Available  
STEL = Short Term Exposure Limit; 15 minutes.  
# = Vacated 1989 PEL. The manufacturer has included this data for informational purposes since these values were vacated in 1992.

## 3. HAZARDS IDENTIFICATION

Note: This product has not been tested by El Paso Corporation to determine its specific health hazards. Therefore, the information provided in this section includes health hazard information on the product components.

**Carcinogenicity:**      **NTP**      **IARC Monographs**      **OSHA Regulated**  
Benzene      Yes      Yes      Yes

### Potential Health Effects from Overexposure:

#### Acute Effects:

- Eyes: May cause eye irritation. Eye contact with H<sub>2</sub>S gas may cause painful irritation and may be indicative of exposure above applicable H<sub>2</sub>S standards.
- Skin: Contact may cause skin irritation.
- Inhalation: Breathing the mist and vapors may be irritating to the respiratory tract. H<sub>2</sub>S is irritating and highly toxic if inhaled.
- Ingestion: Ingestion may cause irritation of the digestive tract that may result in nausea, vomiting and diarrhea. In addition, signs and symptoms of H<sub>2</sub>S toxicity may be present.

**Chronic Effects:**

Not determined.

**Additional Medical and Toxicological Information:**

Natural gas condensate and some of its fractions, which can contaminate produced water, have been shown to cause skin irritation damage and even cancers when applied directly and repeatedly to the skin. When laboratory animals inhale oil vapors at high concentration or ingest in repeated doses, various tumors have developed.

Benzene is recognized as a human carcinogen by OSHA, NTP, ACGIH and IARC. Benzene affects the blood system and can develop a form of leukemia (see 29 CFR 1910.1028 for standard).

**4. FIRST AID MEASURES**

- Eye Contact: Flush eyes with clean, low-pressure water for at least 15 minutes, occasionally lifting the eyelids. If pain or redness persists after flushing, obtain medical attention. If eye is exposed to hot liquid, cover eyes with cloth and seek medical attention immediately by calling 911.
- Skin Contact: In case of hot liquid exposure, do not remove clothing or treat – wash only unburned area and seek medical attention immediately by calling 911.
- Inhalation: Immediately remove person to area of fresh air. For respiratory distress, give oxygen, rescue breathing, or administer CPR if necessary. Obtain prompt medical attention by calling 911.
- Ingestion: Do not induce vomiting. Seek medical attention.

**Medical Providers:** Medical providers are urged to contact a Regional Poison Center at 800-222-1222.

**5. FIRE FIGHTING MEASURES**

- Flash Point: N/A
- Flammable Limits in Air, % by Volume:  
Lower: 4.0  
Upper: 46.0
- Autoignition Temperature: N/A

Extinguishing Media: Dry chemical, foam, carbon dioxide, or water spray.  
NFPA Ratings: Health: 1                      Flammability: 4                      Reactivity: 0

**General Hazard:**

May react with strong oxidizing materials and a wide variety of chemicals. Forms explosive mixtures with air.

**Fire Fighting Instructions:**

Any fire would be associated with any natural gas condensate floating on the surface of he produced water. Water may be ineffective on flames but should be used to keep fire exposed containers cool. Keep the surrounding areas cool by using water mists. Firefighters should wear self-contained breathing apparatus and full protective clothing.

**6. ACCIDENTAL RELEASE MEASURES**

Stop the source of the leak or release. Clean up the releases as soon as possible, observing precautions in Personal Protection Equipment section. Contain liquid to prevent further contamination of soil and surface water. Cleanup small spills using appropriate techniques. Where feasible and appropriate, remove contaminated soil or flush with fresh water. Follow prescribed procedures for reporting and responding to larger releases. Advise authorities and the National Response Center (800-424-8802) if the release is to a watercourse.

**7. HANDLING & STORAGE**

Store and transfer away from sources of ignition. Use only explosion proof or intrinsically safe electrical equipment where product is stored or handled. Store containers in a well ventilated area. Do not handle near food or drinking water. Wash after handling and shower at end of work period.

**8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

- Eye Protection:            Chemical goggles or face shield should be worn when handling product if the possibility of spray exists.
  
- Skin Protection:            Normal working clothes should be worn. Wash contaminated clothing prior to reuse.
  
- Inhalation:                Respiratory protection is not required for normal use. At excessive concentrations, wear a NIOSH approved air purifying respirator with organic vapor cartridges.
  
- Ventilation:                Work in well ventilated areas. Use non-sparking tools where liquids or vapors from the condensate contamination may be generated at flammable concentrations.

**9. PHYSICAL & CHEMICAL PROPERTIES**

Boiling Point @760 mmHg: 212°F  
Vapor Pressure mmHg @100°F: N/A  
% Solubility in H<sub>2</sub>O: Soluble in water  
Specific Gravity 60/60F: >1@0°C  
% Volatile by Volume: Negligible

Freezing Point: <32°F  
Vapor Density (Air=1): 1.2  
pH: N/A  
Evaporation Rate: N/A  
Odor: Slight hydrocarbon and/or rotten egg

Viscosity (method, temp.): N/A

Appearance: Clear or opaque liquid

## 10. STABILITY & REACTIVITY

**Stability:** Stable.

**Hazardous Polymerization:** Will not occur.

**Conditions to Avoid/Incompatibilities:** Keep material away from heat, sparks, open flames, and oxidizers such as chlorine.

**Hazardous Decomposition Products:** Normal combustion of H<sub>2</sub>S creates sulfur oxides.

## 11. TOXICOLOGICAL INFORMATION

Refer to Section 3.

## 12. ECOLOGICAL INFORMATION

No data available.

## 13. DISPOSAL CONSIDERATIONS

This product is not a "listed" hazardous waste. But when disposed of in containers may meet the criteria of being an "ignitable" waste. It is the responsibility of the user to determine if the material disposed of meets federal, state, or local criteria to be defined as a hazardous waste.

## 14. TRANSPORT INFORMATION

Water, liquid, DOT Number N/A

## 15. REGULATORY INFORMATION

### EPA SARA TITLE III

#### **Section 302 EPCRA Extremely Hazardous Substances (EHS)**

Product Component	CAS No.	Wt%	RQ, lb	TPQ, lb
None				

#### **Section 304 CERCLA Hazardous Substances**

Product Component	CAS No.	Wt%	RQ, lb
Benzene	71-43-2	<1	10
Hydrogen Sulfide	7783-06-4	<1	100

#### **Section 311/312 Hazard Categorization**

Acute:	Chronic:	Fire:	Pressure:	Reactive:
X	X	X		

#### **Section 313 EPCRA Toxic Substances**

Ingredient	CAS No.	Wt. %
Benzene	71-43-2	<1
Hydrogen Sulfide	7783-06-4	<1

Key RQ = Reportable Quantity

TPQ = Threshold Planning Quantity of EHS

### **CALIFORNIA PROPOSITION 65 WARNING**

Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm may be found in crude oil and petroleum products. Although it is possible to sufficiently refine a crude oil or its end products to remove the potential for cancer, we are advising that one or more of the listed chemicals may be present in some detectable quantities. Read and follow directions and use care when handling crude oil and petroleum products.

### **16. OTHER INFORMATION**

THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF THIS COMPANY'S KNOWLEDGE AND BELIEVED ACCURATE AND RELIABLE AS OF THE DATE INDICATED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MADE AS TO THE ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY THEMSELVES AS TO THE SUITABILITY AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

This is the end of MSDS A0133.msdx