

Safety Data Sheet

Section 1: Identification

Product identifier

Product Name • **Produced Water – Raton Basin**

Synonyms • Produced brine

Relevant identified uses of the substance or mixture and uses advised against

Recommended use • Consult manufacturer for recommended product use.

Details of the supplier of the safety data sheet

Manufacturer • Evergreen Natural Resources
1801 Broadway, Suite 350
• Denver, CO 80502

Telephone (General) • ((303) 298-8100

Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Section 2: Hazard Identification

United States (US)

According to: OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012 • Skin Irritation 2
Eye Irritation 2

Label elements

OSHA HCS 2012

WARNING



Hazard statements • Causes skin irritation
Causes serious eye irritation

Precautionary statements

Prevention • Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Response • If on skin: Wash with plenty of water.
Take off contaminated clothing and wash before reuse.
Specific treatment, see supplemental first aid information.
If skin irritation occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Other hazards

OSHA HCS 2012

- Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Process water	CAS:7732-18-5	70% TO 99%	Ingestion/Oral-Rat LD50 • >90 mL/kg	OSHA HCS 2012: Non-Hazardous	NDA
Sodium chloride	CAS:7647-14-5	1% TO 10%	Ingestion/Oral-Rat LD50 • 3000 mg/kg	OSHA HCS 2012: Eye Irrit. 2	NDA
Potassium chloride	CAS:7447-40-7	1% TO 10%	Ingestion/Oral-Rat LD50 • 2600 mg/kg	OSHA HCS 2012: Eye Irrit. 2	NDA
Calcium chloride	CAS:10043-52-4	1% TO 10%	Ingestion/Oral-Rat LD50 • 1 g/kg	OSHA HCS 2012: Acute Tox. 4 (orl); Skin Irrit. 2; Eye Irrit. 2	NDA

Section 4: First-Aid Measures

Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin

- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Remove and isolate contaminated clothing. Wash skin with soap and water.

Eye

- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion

- Obtain medical attention immediately if ingested.

Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media

- LARGE FIRES: Water spray, fog or alcohol-resistant foam.
- SMALL FIRES: Dry chemical, CO2, water spray or alcohol-resistant foam.

Unsuitable Extinguishing Media • No data available

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • No data available

Hazardous Combustion Products • No data available

Advice for firefighters

- Structural firefighters' protective clothing will only provide limited protection. Wear positive pressure self-contained breathing apparatus (SCBA). Move containers from fire area if you can do it without risk.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions • Ventilate enclosed areas. Do not walk through spilled material. Use appropriate Personal Protective Equipment (PPE)

Emergency Procedures • As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

Environmental precautions

- Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Containment/Clean-up Measures • Stop leak if you can do it without risk. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

Section 7 - Handling and Storage

Precautions for safe handling

Handling • Use only with adequate ventilation. Keep away from heat, sparks, and flame. Wear appropriate personal protective equipment, avoid direct contact. Avoid contact with skin, eyes, and clothing. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

Conditions for safe storage, including any incompatibilities

Storage • Store in a tightly closed container. Store in a cool/low-temperature, well-ventilated place.

Section 8 - Exposure Controls/Personal Protection

Control parameters

Exposure controls

Engineering Measures/Controls • Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory • In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face	• Wear safety goggles.
Skin/Body	• Wear appropriate gloves.
Environmental Exposure Controls	• Follow best practice for site management and disposal of waste.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Clear or cloudy liquid.
Color	Clear or cloudy.	Odor	Faint hydrocarbon.
Odor Threshold	No data available		
General Properties			
Boiling Point	> 100 °C(> 212 °F)	Melting Point/Freezing Point	No data available
Decomposition Temperature	No data available	pH	5.9 to 8.1
Specific Gravity/Relative Density	= 1.03 Water=1	Water Solubility	Appreciable 10 to 99 %
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	No data available	UEL	No data available
LEL	No data available	Autoignition	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Keep away from heat, sparks and open flame.

Incompatible materials

- No data available

Hazardous decomposition products

- Excessive heating may release harmful gases and vapors entrained in the water.

Section 11 - Toxicological Information

Information on toxicological effects

Components		
Sodium chloride (1% TO 10%)	7647-14-5	Acute Toxicity: Ingestion/Oral-Rat LD50 • 3000 mg/kg; Ingestion/Oral-Rat TDLo • 1.43 mg/kg; <i>Gastrointestinal:Ulceration or bleeding from stomach;</i> Irritation: Eye-Rabbit • 10 mg • Moderate irritation; Skin-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Mutagen: Micronucleus test • Ingestion/Oral-Rat • 2 pph 14 Day(s); Unscheduled DNA synthesis • Ingestion/Oral-Rat • 16800 mg/kg 4 Week(s)-Continuous
Potassium chloride (1% TO 10%)	7447-40-7	Acute Toxicity: Ingestion/Oral-Rat LD50 • 2600 mg/kg; Ingestion/Oral-Woman TDLo • 60 mg/kg; <i>Gastrointestinal:Nausea or vomiting; Blood:Change in clotting factors;</i> Irritation: Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Multi-dose Toxicity: Ingestion/Oral-Rat TDLo • 983 g/kg 78 Week(s)-Continuous; <i>Kidney, Ureter, and Bladder:Changes in tubules (including acute renal failure, acute tubular necrosis);</i> Ingestion/Oral-Rat TDLo • 1536 g/kg 130 Week(s)-Continuous; <i>Endocrine:Adrenal cortex hyperplasia;</i> Mutagen: Unscheduled DNA synthesis • Ingestion/Oral-Rat • 1500 µg/kg
Calcium chloride (1% TO 10%)	10043-52-4	Acute Toxicity: Ingestion/Oral-Rat LD50 • 1 g/kg; Multi-dose Toxicity: Inhalation-Mammal TCLo • 43 mg/m ³ 4 Hour(s) 17 Week(s)-Intermittent; <i>Blood:Change in clotting factors; Blood:Changes in serum composition (e.g., TP, bilirubin cholesterol);</i> <i>Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels:Catalases;</i> Tumorigen / Carcinogen: Ingestion/Oral-Rat TDLo • 112 g/kg 20 Week(s)-Continuous; <i>Tumorigenic:Equivocal tumorigenic agent by RTECS criteria; Endocrine:Thyroid tumors</i>

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • No data available
Skin corrosion/Irritation	OSHA HCS 2012 • Skin Irritation 2
Serious eye damage/Irritation	OSHA HCS 2012 • Eye Irritation 2
Skin sensitization	OSHA HCS 2012 • No data available
Respiratory sensitization	OSHA HCS 2012 • No data available
Aspiration Hazard	OSHA HCS 2012 • No data available
Carcinogenicity	OSHA HCS 2012 • No data available
Germ Cell Mutagenicity	OSHA HCS 2012 • No data available
Toxicity for Reproduction	OSHA HCS 2012 • No data available
STOT-SE	OSHA HCS 2012 • No data available
STOT-RE	OSHA HCS 2012 • No data available

Potential Health Effects

Inhalation

- Acute (Immediate)** • No data available
- Chronic (Delayed)** • No data available

Skin

- Acute (Immediate)** • Causes skin irritation.
- Chronic (Delayed)** • No data available

Eye

- Acute (Immediate)** • Causes serious eye irritation.
- Chronic (Delayed)** • No data available

Ingestion

- Acute (Immediate)** • No data available
- Chronic (Delayed)** • No data available

Key to abbreviations

LC = Lethal Concentration

LD = Lethal Dose

TC = Toxic Concentration

TD = Toxic Dose

Section 12 - Ecological Information**Toxicity**

- Non-mandatory section - information about this substance not compiled for this reason.

Persistence and degradability

- Non-mandatory section - information about this substance not compiled for this reason.

Bioaccumulative potential

- Non-mandatory section - information about this substance not compiled for this reason.

Mobility in Soil

- Non-mandatory section - information about this substance not compiled for this reason.

Other adverse effects

- Non-mandatory section - information about this substance not compiled for this reason.

Section 13 - Disposal Considerations**Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA

Special precautions for user

- None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- No data available

Section 15 - Regulatory Information**Safety, health and environmental regulations/legislation specific for the substance or mixture****SARA Hazard Classifications** • Acute

Inventory		
Component	CAS	TSCA
Calcium chloride	10043-52-4	Yes
Potassium chloride	7447-40-7	Yes
Sodium chloride	7647-14-5	Yes
Process water	7732-18-5	Yes

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

United States - California**Environment****U.S. - California - Proposition 65 - Carcinogens List**

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

• Calcium chloride	10043-52-4	Not Listed
• Potassium chloride	7447-40-7	Not Listed
• Sodium chloride	7647-14-5	Not Listed
• Process water	7732-18-5	Not Listed

Section 16 - Other Information**Revision Date**

• 20/November/2017

Last Revision Date

- 17/August/2017

Preparation Date

- 17/August/2017

Disclaimer/Statement of Liability

- The information herein is given in good faith but no warranty, expressed or implied, is made.

Key to abbreviations

NDA = No Data Available