



# **Injection Ready 60% QRS-PL™ Plus Potassium Lactate**

## **Quick Release Substrate with NutriPlus™ a Proprietary Nutrient Package For Aquifer Remediation and Conditioning SAFETY DATA SHEET**

*Effective Date: 1/1/2020*

### **1. Product Identification**

<b>Synonyms:</b>	<i>Injection Ready 60% QRS-PL™ Plus Potassium Lactate; Potassium Lactate; Propanoic acid, 2-Hydroxy Monopotassium salt; L-Lactic Acid, Potassium Salt</i>
<b>Recommended Use:</b>	Treatment of groundwater contaminated with chlorinated solvents and other anaerobically degradable compounds.
<b>Supplier:</b>	Terra Systems, Inc. 130 Hickman Road, Suite 1 Claymont, Delaware 19703 Telephone (302) 798-9553 Fax (302) 798-9554 <a href="http://www.terrasystems.net">www.terrasystems.net</a>

### **2. Hazards Identification**

#### **Emergency Overview**

<b>Caution:</b>	May cause eye irritation.
<b>Health Rating:</b>	1 - Slight
<b>Flammability Rating:</b>	0 - None
<b>Reactivity Rating:</b>	0 - None
<b>Contact Rating:</b>	1 - Slight
<b>Protective Equipment:</b>	Goggles; Proper Gloves
<b>Storage Color Code:</b>	Orange (General Storage)
<b>Potential Health Effects</b>	
<b>Inhalation:</b>	Not expected to be a health hazard
<b>Ingestion:</b>	Not expected to be a health hazard via ingestion
<b>Skin Contact:</b>	No adverse effects expected
<b>Eye Contact:</b>	May cause irritation, possible reddening
<b>Chronic Exposure:</b>	No information found
<b>Aggravation of Pre-existing</b>	



Conditions: No information found

### 3. Composition/Information on Ingredients

Ingredient	CAS#	Percent	Hazardous
Potassium Lactate	85895-78-9	60	Yes
Organic and Inorganic Nutrients	Mixture	0-5	No
Water	7732-18-5	35-40	No

Molecular Weight: No available  
Chemical Formula: Not available

The organic and inorganic nutrients mixture is a trade secret and consists of ingredients of unknown acute toxicity.

### 4. First Aid Measures

**Inhalation:** Not expected to require first aid measures. Remove to fresh air. Get medical attention for any breathing difficulty.

**Ingestion:** If large amounts were swallowed, give water to drink and get medical advice.

**Skin Contact:** Not expected to require first aid measures. Wash exposed area with soap and water. Get medical advice if irritation develops.

**Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

### 5. Fire Fighting Measures

**Fire:** Flash point: 110 C (230 F). Not considered to be a fire hazard.

**Explosion:** Not considered to be an explosion hazard.

**Fire Extinguishing Media:** Use any means suitable for extinguishing surrounding fire.

**Special Information:** In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

### 6. Accidental Release Measures

Clean-up personnel may require protective clothing. Absorb in sand, paper towels, "Oil Dry", or other inert material. Scoop up and containerize for disposal. Flush trace residues to sewer with soap and water. Containerized waste may be sent to an approved waste disposal facility.



## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Avoid long storage times. Containers of this material may be hazardous when empty since they do retain product residues (vapors, liquid). Observe all warnings and precautions listed for the product.

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## 8. Exposure Controls/Personal Protection

<b>Airborne Exposure Limits:</b>	None established.
<b>Ventilation System:</b>	Not expected to require any special ventilation.
<b>Personal Respirators (NIOSH Approved):</b>	Not expected to require personal respirator usage.
<b>Skin Protection:</b>	Wear protective gloves and clean body-covering clothing.
<b>Eye Protection:</b>	Use chemical safety goggles and/or a full face shield where splashing is possible. Provide readily accessible eye wash stations and safety showers.
<b>Slips, Trips, and Falls:</b>	Material is slippery when spilled. Clean up with sand, paper towels, or other inert material.

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## 9. Physical and Chemical Properties

<b>Appearance:</b>	Colorless to yellow liquid.
<b>Odor:</b>	Odorless
<b>Solubility:</b>	100% soluble in water.
<b>Specific Gravity (water=1):</b>	1.32. (11.01 pounds per gallon)
<b>pH:</b>	6.5-8.5
<b>% Volatiles by volume @ 21C (70F):</b>	No information found.
<b>Boiling Point:</b>	110 C (230 F)
<b>Melting Point:</b>	17 C (63 F)
<b>Flash Point (F):</b>	No information found
<b>Autoignition Temperature:</b>	No information found
<b>Decomposition Temperature:</b>	No information found.
<b>Vapor Density (Air=1):</b>	0.7
<b>Vapor Pressure (mm Hg):</b>	14 @ 20 C (68 F)
<b>Evaporation Rate (BuAc=1):</b>	No information found
<b>Viscosity @23 C (73 F):</b>	100 centipoises
<b>Partition Coefficient (octanol/water):</b>	No information found

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## 10. Stability and Reactivity

<b>Stability:</b>	Stable under ordinary conditions of use and storage.
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**Reactivity:** Not reactive under ordinary conditions.

**Hazardous Decomposition Products:** Carbon dioxide and carbon monoxide may form when heated to decomposition.

**Hazardous Polymerization:** Will not occur.

**Incompatibilities:** Strong oxidizers, acids.

**Conditions to Avoid:** Incompatibles. Isolate from heat and open flame.

## 11. Toxicological Information

Oral rat LD50: 2000 mg/Kg. Irritation Data for Potassium Lactate: (Std Draize, rabbit, eye): 100 mg - mild.

-----\Cancer Lists\-----

---NTP Carcinogen---

Ingredient	Known	Anticipated	IARC Category
Potassium Lactate (72-17-3)	No	No	None
Water (7732-18-5)	No	No	None

## 12. Ecological Information

**Environmental Fate:** Mobile with water and readily biodegradable

**Environmental Toxicity:** Ecological injuries are not known or expected under normal use; (No effect on Daphnia @ 10g/L)

**Degradability:** This product is completely biodegradable under both aerobic and anaerobic conditions.

**Soil Mobility:** This compound will move with groundwater until the adsorbed onto the soil. Degradation products may be mobile.

**Bioaccumulation Potential:** No information found.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. Transport Information

Not regulated.



# 15. Regulatory Information

## -----\Chemical Inventory Status - Part 1\-----

Ingredient TSCA EC Japan Australia

Potassium Lactate (72-17-3) Yes Yes Yes Yes  
Water (7732-18-5) Yes Yes Yes Yes

## -----\Chemical Inventory Status - Part 2\-----

--Canada--

Ingredient Korea DSL NDSL Phil.

Potassium Lactate (72-17-3) Yes Yes No Yes  
Water (7732-18-5) Yes Yes No Yes

## -----\Federal, State & International Regulations - Part 1\-----

-SARA 302- -----SARA 313-----

Ingredient RQ TPQ List Chemical Catg.

Potassium Lactate (72-17-3) No No No No  
Water (7732-18-5) No No No No

## -----\Federal, State & International Regulations - Part 2\-----

-RCRA- -TSCA-

Ingredient CERCLA 261.33 8(d)

Potassium Lactate (72-17-3) No No No  
Water (7732-18-5) No No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No  
Reactivity: No (Mixture / Liquid)



## 16. Other Information

**NFPA Ratings:** Health: **1** Flammability: **0** Reactivity: **0**  
**Date Prepared:** March 28, 2014  
**Revision Information:** SDS Section(s) changed since last revision of document include: None.  
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