



# PURITAN PRODUCTS

Effective Date: 07/01/13  
Replaces Revision: 06/22/11

NON-EMERGENCY TELEPHONE  
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE  
800-424-9300

## SDS – SAFETY DATA SHEET

### 1. Identification

**Product Identifier:** BUFFER SOLUTION, pH 0.5

**Synonyms:** Dilute Hydrochloric Acid

**Chemical Formula:** Not applicable to mixtures

**Recommended Use of the Chemical and Restrictions On Use:** Laboratory Reagent

**Manufacturer / Supplier:** Puritan Products; 2290 Avenue A, Bethlehem, PA 18017 **Phone:** 610-866-4225

**Emergency Phone Number:** 24-Hour Chemtrec Emergency Telephone 800-424-9300

### 2. Hazard(s) Identification

**Classification of the Substance or Mixture:**

Skin irritation (Category 2)

Eye irritation (Category 2A)

**Risk and Safety Phrases:**

R36/R38: Irritating to eyes and skin.

**Label Elements:**

**Trade Name:** BUFFER SOLUTION, pH 0.5

**Signal Word:** Warning



**Hazard Statements:**

H315: Causes skin irritation.

H320: Causes eye irritation.

H335: May cause respiratory irritation.

**Precautionary Statements:**

P280: Wear protective gloves / protective clothing / eye protection/ face protection.

P302 + P351: IF ON SKIN: Rinse cautiously with water for several minutes

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

### 3. Composition / Information on Ingredients

**CAS Number:** Not applicable to mixtures

**EC Number:** Not applicable to mixtures

**Index Number:** Not applicable to mixtures

**Molecular Weight:** Not applicable to mixtures

Ingredient	CAS Number	EC Number	Percent	Hazardous	Chemical Characterization
Hydrogen Chloride	7647-01-0	231-595-7	< 2%	Yes	Substance
Potassium Chloride	7447-40-7	231-211-8	< 1%	Yes	Substance
Water	7732-18-5	231-791-2	> 97%	No	Mixture

### 4. First-aid Measures

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give Oxygen. Get medical attention immediately.

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

**Skin Contact:** Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

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

### 5. Fire-fighting Measures

**Fire:** Not expected to be a fire hazard.

**Explosion:** No information found.

**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

**Personal Precautions, Protective Equipment and Emergency Procedures:** Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**Environmental Precautions and Methods and Materials for Containment and Cleaning Up:** Contain and recover liquid when possible. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust.

### 7. Handling and Storage

**Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities:** Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid.) Observe all warnings and precautions listed for the product.

## 8. Exposure Controls / Personal Protection

### Airborne Exposure Limits:

For Hydrochloric Acid:

OSHA Permissible Exposure Limit (PEL): 5 ppm (Ceiling)

ACGIH Threshold Limit Value (TLV): 2 ppm (Ceiling), A4 Not classifiable as a human carcinogen

**Ventilation System:** In general, dilution ventilation is a satisfactory health hazard control for this substance. However, if conditions of use create discomfort to the worker, a local exhaust system should be considered.

**Personal Respirators (NIOSH Approved):** Not expected to require personal respirator usage.

**Skin Protection:** Wear protective gloves and clean body-covering clothing.

**Eye Protection:** Use chemical safety goggles and / or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

## 9. Physical and Chemical Properties

**Appearance:** Clear, colorless liquid

**Odor:** Odorless

**Odor Threshold:** Not determined

**pH:** 0.5

**% Volatiles by volume @ 21C (70F):** ca. 98

**Melting Point:** Not determined

**Boiling Point / Boiling Range:** Not determined

**Flash Point:** Not determined

**Evaporation Rate (BuAC=1):** Not determined

**Flammability:** Not determined

**Upper / Lower Flammability or Explosive Limits:** Not determined

**Vapor Pressure (mm Hg):** Not determined

**Vapor Density (Air=1):** Not determined

**Relative Density:** Not determined

**Solubility:** Complete soluble in water

**Partition Coefficient: n-octanol / water:** Not determined

**Auto-ignition Temperature:** Not determined

**Decomposition Temperature:** Not determined

**Viscosity:** Not determined

## 10. Stability and Reactivity

**Reactivity and / or Chemical Stability:** Stable under ordinary conditions of use and storage.

**Possibility of Hazardous Reactions and Conditions to Avoid:** No information found.

**Incompatible Materials:** No information found.

**Hazardous Decomposition Products:** No information found.

## 11. Toxicological Information

**Emergency Overview:** CAUTION! MAY CAUSE IRRITATION TO SKIN AND EYES.

### Potential Health Effects:

**Inhalation:** Not expected to be an inhalation hazard. May cause irritation to respiratory tract because of slight acidity. Symptoms may include coughing and sore throat.

**Ingestion:** Large doses may produce nausea, vomiting, and abnormal sensations in hands and feet. Because of slight acidity, causes irritation to the mucous membranes.

**Skin Contact:** Contact may cause irritation, with redness and pain.

**Eye Contact:** May cause eye irritation.

**Chronic Exposure:** No information found.

**Aggravation of Pre-existing Conditions:** No information found.

**Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System:)** For Hydrogen Chloride: The substance or mixture is classified as specific target organ toxicant, single exposure, Category 3 with respiratory tract irritation.

**Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System:)** No data available.

**Numerical Measures of Toxicity:** Cancer Lists: NTP Carcinogen

Ingredient	Known	Anticipated	IARC Category
Hydrogen Chloride (7647-01-0)	No	No	3
Potassium Chloride (7447-40-7)	No	No	None
Water (7732-18-5)	No	No	None

**Acute Toxicity:**

Hydrochloric Acid:

Inhalation rat LC50: 3124 ppm/1H; Oral rabbit LD50: 900 mg/kg

Investigated as a tumorigen, mutagen, reproductive effecter.

Potassium Chloride

Oral rat LD50: 2600 mg/kg

## 12. Ecological Information

**Ecotoxicity:**

For Hydrochloric Acid Solutions:

This material is expected to be toxic to aquatic life. / LC50 862 mg/l (Orfe, golden (Leuciscus Idus))

For Potassium Chloride:

Toxicity to fish LC50: Pimephales promelas (fathead minnow) - 880 mg/l - 96 h

mortality NOEC: Pimephales promelas (fathead minnow) - 500 mg/l - 7 d

mortality LOEC: Pimephales promelas (fathead minnow) - 1,000 mg/l - 7 d

Toxicity to daphnia and other aquatic invertebrates EC50: Daphnia magna (Water flea) - 83 mg/l - 48 h

Harmful to aquatic life.

**Persistence and Degradability:**

For Hydrochloric Acid Solutions: When released into the soil, this material is not expected to biodegrade.

**Bioaccumulative Potential:**

No further relevant information available.

**Mobility in Soil:**

For Hydrochloric Acid Solutions: When released into the soil, this material may leach into groundwater.

**Other adverse effects:** US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

## 13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste 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

### Land Transport ADR/RID and GGVS/GGVE (Cross Border / Domestic)

Not regulated

### Maritime Transport IMDG/GGVSea

Not regulated

### Air Transport ICAO-TI and IATA-DGR

Not regulated

## 15. Regulatory Information

### Chemical Inventory Status – Part 1

Ingredient	TSCA	EC	Japan	Australia
Hydrogen Chloride (7647-01-0)	Yes	Yes	Yes	Yes
Potassium Chloride (7447-40-7)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

### Chemical Inventory Status – Part 2

Ingredient	Korea	Canada		Phil.
		DSL	NDSL	
Hydrogen Chloride (7647-01-0)	Yes	Yes	No	Yes
Potassium Chloride (7447-40-7)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

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

Ingredient	SARA 302		SARA 313	
	RQ	TPQ	List Chemical	Catg.
Hydrogen Chloride (7647-01-0)	5000	500*	Yes	No
Potassium Chloride (7447-40-7)	No	No	No	No
Water (7732-18-5)	No	No	No	No

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

Ingredient	RCRA		TSCA	
	CERCLA	261.33	8(d)	
Hydrogen Chloride (7647-01-0)	5000	No	No	
Potassium Chloride (7447-40-7)	No	No	No	
Water (7732-18-5)	No	No	No	

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

**Australian Hazchem Code:** None allocated

**Poison Schedule:** None allocated

## 16. Other Information

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