



PURITAN PRODUCTS

Effective Date: 10/10/15

Replaces Revision: 07/01/13, 03/28/13

NON-EMERGENCY TELEPHONE
610-866-4225

24-HOUR CHEMTREC EMERGENCY TELEPHONE
800-424-9300

SDS – SAFETY DATA SHEET

1. Identification

Product Identifier: BUFFER SOLUTION (HYDROXIDE) pH 12.47

Synonyms: None

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

The following information is for higher concentrations.

Classification of the Substance or Mixture:

Acute toxicity, oral (Category 3)

Skin corrosion (Category 1A)

Eye irritation (Category 2A)

Acute aquatic toxicity (Category 3)

Risk Phrases:

R22: Harmful if swallowed.

R35: Causes severe burns.

R36: Irritating to eyes.

Label Elements:

Trade Name: BUFFER SOLUTION (HYDROXIDE) pH 12.47

Signal Word: Danger



Hazard Statements:

H301: Toxic if swallowed.

H314: Causes severe skin burns and eye damage.

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H402: Harmful to aquatic life.

Precautionary Statements:

P280: Wear protective gloves / protective clothing.

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor / physician.

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

P307 + P311: IF exposed: Call a POISON CENTER or doctor / physician.

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
Potassium Hydroxide	1310-58-3	215-181-3	< 1%	Yes	Substance
Potassium Chloride	7447-40-7	231-211-8	< 1%	Yes	Substance
Water	7732-18-5	231-791-2	> 99%	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: DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact: In case of 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 immediately.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

5. Fire-fighting Measures

Fire: Not considered to be a fire hazard.

Explosion: Sealed containers may rupture when heated.

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. Do not let product enter drains. 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. Do not flush to sewer! 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.

7. Handling and Storage

Precautions for Safe Handling and Conditions for Safe Storage, Including Any Incompatibilities: Keep in a tightly closed container. Store in a cool, dry, ventilated area. Protect against physical damage. Separate from acids and alkalis. Protect from freezing. 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:

Potassium Hydroxide (1310-58-3):

OSHA Permissible Exposure Limit (PEL): 2 mg/m³ Ceiling

ACGIH Threshold Limit value (TLV): 2 mg/m³ Ceiling

Potassium Chloride (7447-40-7): None listed

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 impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

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: 12.47

% Volatiles by volume @ 21C (70F): ca. 99 (as water)

Melting Point: No information found

Boiling Point / Boiling Range: No information found

Flash Point: Not determined

Evaporation Rate (BuAC=1): No information found

Flammability: Not flammable

Upper / Lower Flammability or Explosive Limits: Not applicable

Vapor Pressure (mm Hg): No information found

Vapor Density (Air=1): No information found

Relative Density: No information found

Solubility: Completely soluble in water

Partition Coefficient: n-octanol / water: No information found

Auto-ignition Temperature: Not applicable

Decomposition Temperature: No information found

Viscosity: No information found

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: Incompatibles.

Incompatible Materials: Acids.

Hazardous Decomposition Products: Potassium Oxide, Hydrogen Chloride.

11. Toxicological Information

Emergency Overview: CAUTION! MAY BE HARMFUL IF SWALLOWED. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Potential Health Effects:

Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Inhalation: May cause respiratory irritation.

Ingestion: Toxic! Corrosive to mucous membranes. May be harmful if swallowed.

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation. Possibly corrosive to eye tissues. Tearing, redness, pain, impaired vision are symptoms.

Chronic Exposure: No known significant effects or critical hazards. Development of a defatting dermatitis on prolonged contact with potassium hydroxide has been reported. A chronic dermatitis may follow repeated contact with this substance.

Aggravation of Pre-existing Conditions: No known significant effects or critical hazards.

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

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
Potassium Hydroxide (1310-58-3)	No	No	None
Potassium Chloride (7447-40-7)	No	No	None
Water (7732-18-5)	No	No	None

Acute Toxicity:

For Potassium Hydroxide:

Oral rat LD50: 273 mg/kg; Investigated as a mutagen. Skin Irritation Data (std Draize, 50 mg / 24 h): Human, Severe; Rabbit, Severe. Eye Irritation Data (Rabbit, non-std test, 1 mg / 24 h, rinse): Moderate

For Potassium Chloride: Oral rat LD50: 2600 mg/kg

12. Ecological Information

Ecotoxicity:

For Potassium Hydroxide: TLm: 80 ppm / Mosquito fish / 24 h / Fresh water

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: No data available.

Bioaccumulative Potential: No data available.

Mobility in Soil: No data available.

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Although not a listed RCRA hazardous waste, this material may exhibit one or more characteristics of a hazardous waste and require appropriate analysis to determine specific disposal requirements. 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
Potassium Hydroxide (1310-58-3)	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	
Potassium Hydroxide (1310-58-3)	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.
Potassium Hydroxide (1310-58-3)	No	No	No	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)	
Potassium Hydroxide (1310-58-3)	1000	No	No	
Potassium Chloride (7447-40-7)	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: Yes	Fire: No	Pressure: No	
Reactivity: No	Pure / Liquid			

16. Other Information

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO PURITAN PRODUCTS AT THIS TIME. WHILE BELIEVED TO BE ACCURATE, PURITAN PRODUCTS DOES NOT CLAIM IT TO BE ALL INCLUSIVE. IT IS PROVIDED INDEPENDENT OF ANY SALE OF THE PRODUCT, FOR THE PURPOSE OF HAZARD COMMUNICATION, AND AS A GUIDE FOR THE APPROPRIATE PRECAUTIONARY HANDLING OF THE PRODUCT BY PROPERLY TRAINED INDIVIDUALS. IT IS NOT INTENDED TO PROVIDE PRODUCT PERFORMANCE OR APPLICABILITY INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, THE UNDERLYING PRODUCT DATA, OR THE INFORMATION CONTAINED HEREIN.

YOU ARE URGED TO OBTAIN MATERIAL SAFETY DATA SHEETS FOR ALL PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE, AND ARE ENCOURAGED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED THEREIN.

TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, YOU SHOULD CONSULT WITH YOUR LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. WE WILL NOT PROVIDE ADVICE ON SUCH MATTERS, OR BE RESPONSIBLE FOR ANY INJURY OR DAMAGE RESULTING FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.