SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Identifier
Product form: Mixture
Product name: Ecopol Buffer-H
Synonyms: High pH buffer

Intended Use Of The Product
Use of the substance/preparation: pH Buffering Agent. For professional use only.

Name, Address, And Telephone Of The Responsible Party
Economy® Polymers & Chemicals
435 E. Anderson Road
77047 Houston, TX
T 713-723-8416; 1-800-231-2066
www.economypolymers.com

Emergency Telephone Number
Emergency number : CHEMTREC 1-800-424-9300 (US); 703-527-3887 (International, collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

Classification Of The Substance Or Mixture
Classification (GHS-US)
Skin Corr. 1A  H314
Eye Dam. 1    H318

Label Elements
GHS-US labeling
Hazard pictograms (GHS-US) : ⚠️

Signal word (GHS-US) : Danger

Hazard statements (GHS-US)
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage

Precautionary statements (GHS-US)
P260 - Do not breathe vapors, mist, spray.
P264 - Wash hands, forearms and other exposed areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing, eye protection, and face protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor
P321 - Specific treatment (see section 4)
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards
Other hazards not contributing to the classification: People with pre-existing eye problems, skin disorders, or respiratory issues may be more susceptible to the effects of this product. This product is HIGHLY CORROSIVE and likely to cause damage to any
exposed areas of the body, not just the skin and eyes but also the lungs, esophagus, mouth, etc.

**Unknown acute toxicity (GHS US)** Not available

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>% (w/w)</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium carbonate</td>
<td>(CAS No.) 584-08-7</td>
<td>10 - 20</td>
<td>Acute Tox. 4 (Oral), H302, Skin Irrit. 2, H315, Eye Irrit. 2A, H319, STOT SE 3, H335</td>
</tr>
<tr>
<td>Potassium hydroxide</td>
<td>(CAS No.) 1310-58-3</td>
<td>5 - 10</td>
<td>Met. Corr. 1, H290, Acute Tox. 3 (Oral), H301, Skin Corr. 1A, H314, Eye Dam. 1, H318</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

### SECTION 4: FIRST AID MEASURES

**Description Of First Aid Measures**

**General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

**Eye Contact:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

**Most Important Symptoms And Effects Both Acute and Delayed**

**General:** Causes severe skin burns and eye damage. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

**Inhalation:** Inhalation of vapor and/or mist may cause respiratory irritation and sensitization.

**Skin Contact:** Corrosive. Causes burns.

**Eye Contact:** Causes serious eye damage.

**Ingestion:** May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. May cause nausea, vomiting, and diarrhea.

**Chronic symptoms:** Prolonged skin contact will severely corrode skin.

**Indication Of Any Immediate Medical Attention And Special Treatment Needed**

If exposed or concerned, get medical advice and attention.

### SECTION 5: FIREFIGHTING MEASURES

**Extinguishing Media**

Suitable extinguishing media: Not flammable. Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: Do not use a heavy water stream.

**Special Hazards Arising From The Substance Or Mixture**

**Fire hazard:** Not considered flammable but may burn at high temperatures.

**Explosion hazard:** Product is not explosive, however in contact with incompatibilities may release explosive hydrogen gas.

**Reactivity:** Thermal decomposition generates: corrosive vapors. Adding water to solution may generate large amounts of heat.

**Advice For Firefighters**

Precautionary measures fire: Exercise caution when fighting any chemical fire.

Firefighting instructions: Do not allow run-off from fire fighting to enter drains or water courses.

Protection during firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Reference To Other Sections
Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment And Emergency Procedures

General measures: Do not get in eyes, on skin, or on clothing. Do NOT breathe (vapor, mist, gas).

For Non-Emergency Personnel

Protective equipment: Use appropriate personal protection equipment (PPE).

Emergency procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective equipment: Equip cleanup crew with proper protection.

Emergency procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods And Material For Containment And Cleaning Up

For containment: Neutralize with an acid. Pick up diluted material in inert material, and place in a suitable container. Do not flush remaining material or residues into sewers.

Methods for cleaning up: Clear up spills immediately and dispose of waste safely.

Reference To Other Sections
See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

Precautions For Safe Handling

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do no eat, drink or smoke when using this product.

Conditions For Safe Storage, Including Any Incompatibilities

Technical measures: Comply with applicable regulations. Container remains hazardous when empty. Continue to observe all precautions.

Storage conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.


Specific End Use(s): pH Buffering Agent

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

<table>
<thead>
<tr>
<th>Potassium hydroxide (1310-58-3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
</tr>
<tr>
<td>USA NIOSH</td>
</tr>
<tr>
<td>Alberta</td>
</tr>
<tr>
<td>British Columbia</td>
</tr>
<tr>
<td>Manitoba</td>
</tr>
<tr>
<td>New Brunswick</td>
</tr>
<tr>
<td>Newfoundland &amp; Labrador</td>
</tr>
<tr>
<td>Nova Scotia</td>
</tr>
<tr>
<td>Nunavut</td>
</tr>
<tr>
<td>Northwest Territories</td>
</tr>
<tr>
<td>Ontario</td>
</tr>
<tr>
<td>Prince Edward Island</td>
</tr>
<tr>
<td>Québec</td>
</tr>
<tr>
<td>Saskatchewan</td>
</tr>
<tr>
<td>Yukon</td>
</tr>
</tbody>
</table>
## Ecopol Buffer-H

### Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Exposure Controls</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appropriate engineering controls:</strong> Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits indicated below.</td>
</tr>
</tbody>
</table>

| Materials for protective clothing: | Chemically resistant materials and fabrics. |
| Hand protection: | Wear chemically resistant protective gloves. |
| Eye protection: | Chemical goggles or face shield. |
| Skin and body protection: | Wear suitable protective clothing. |
| Respiratory protection: | Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of vapor or mist are expected to exceed exposure limits. |
| Other information: | When using, do not eat, drink or smoke. |

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information On Basic Physical And Chemical Properties

| Physical state | Liquid |
| Appearance | Clear |
| Odor | Not available |
| Odor threshold | Not available |
| pH | 13 - 14 |
| Relative evaporation rate (butyl acetate=1) | Not available |
| Melting point | -10 °C (14°F) |
| Freezing point | Not available |
| Boiling point | Not available |
| Flash point | > 100 °C (212°F) |
| Auto-ignition temperature | Not available |
| Decomposition Temperature | Not available |
| Flammability (solid, gas) | Not available |
| Lower flammable limit | Not available |
| Upper flammable limit | Not available |
| Vapor pressure | Not available |
| Relative vapor density at 20 °C | Not available |
| Relative density | Not available |
| Density | 9.85 lb/gal |
| Specific gravity density | 1.18 |
| Solubility | Not available |
| Log Pow | Not available |
| Log Kow | Not available |
| Viscosity, kinematic | Not available |
| Viscosity, dynamic | Not available |
| Explosion data - sensitivity to mechanical impact | Not available |
| Explosion data - sensitivity to static discharge | Not available |
**SECTION 10: STABILITY AND REACTIVITY**

**Reactivity**  
Thermal decomposition generates: corrosive vapors. Adding water to solution may generate large amounts of heat.

**Chemical Stability**  
Stable under normal conditions.

**Possibility Of Hazardous Reactions**  
Corrosive substances in contact with metals may produce flammable hydrogen gas.

**Conditions To Avoid**  
Direct sunlight. Extremely high or low temperatures.

**Incompatible Materials**  

**Hazardous Decomposition Products**  

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Information On Toxicological Effects - Product**

**Acute toxicity**  
Not classified

**LD50 and LC50 Data:**  
Not available

**Skin corrosion/irritation:**  
Causes severe skin burns and eye damage. (pH: 13 – 14)

**Serious eye damage/irritation:**  
Causes serious eye damage. (pH: 13 – 14)

**Respiratory or skin sensitization:**  
Not classified

**Germ cell mutagenicity:**  
Not classified

**Teratogenicity:**  
Not available

**Carcinogenicity:**  
Not classified

**Specific target organ toxicity (repeated exposure):**  
Not classified

**Reproductive toxicity:**  
Not classified

**Specific target organ toxicity (single exposure):**  
Not classified

**Aspiration hazard:**  
Not classified

**Symptoms/injuries after inhalation:**  
Inhalation of vapor and/or mist may cause respiratory irritation and sensitization.

**Symptoms/injuries after skin contact:**  
Corrosive. Causes burns.

**Symptoms/injuries after eye contact:**  
Causes serious eye damage. Causes severe irritation which will progress to chemical burns.

**Symptoms/injuries after ingestion:**  
May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. May cause nausea, vomiting, and diarrhea.

**Chronic symptoms:**  
Prolonged skin contact will severely corrode tissue and skin.

**Information On Toxicological Effects - Ingredient(s)**

**LD50 and LC50 Data**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>LD50 oral rat</th>
<th>LC50 fish 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium carbonate (584-08-7)</td>
<td>1870 mg/kg</td>
<td>80 mg/l (Exposure time: 96 h - Species: Gambusia affinis [static])</td>
</tr>
<tr>
<td>Potassium hydroxide (1310-58-3)</td>
<td>214 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 12: ECOLOGICAL INFORMATION**

**Toxicity**

| Potassium hydroxide (1310-58-3) | 80 mg/l (Exposure time: 96 h - Species: Gambusia affinis [static]) |

**Persistence And Degradability**

| Ecopol Buffer-H | Persistence and degradability | Not established. |

**Bioaccumulative Potential**

| Ecopol Buffer-H | Bioaccumulative potential | Not established. |

| Potassium hydroxide (1310-58-3) | Log Pow | 0.65 |

**Mobility In Soil**  
Not available

**Other Adverse Effects**

**Other information:**  
Avoid release to the environment.
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SECTION 13: DISPOSAL CONSIDERATIONS
Waste disposal recommendations: Do not allow material to enter sewers or waterways. Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION
In accordance with ICAO/IATA/DOT/TDG
UN Number
UN-No.(DOT): 1760
DOT NA no.: UN1760
UN Proper Shipping Name
UN technical shipping descriptor : Corrosive Liquids, n.o.s. (contains potassium hydroxide)
Department of Transportation (DOT) Hazard Classes : 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT) : 8

DOT Symbols
G - Identifies PSN requiring a technical name
Packing group (DOT) : III - Minor Danger
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T11 - 6 178.274(d)(2) Normal............. 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242
Additional information ERG Guide No. 154
Overland transport Not regulated for transport
Transport by sea
DOT Vessel Stowage Location : B - (i) The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) “On deck only” on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other : 40 - Stow “clear of living quarters”
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Air transport
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L

SECTION 15: REGULATORY INFORMATION

US Federal regulations

Potassium carbonate (584-08-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Potassium hydroxide (1310-58-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

US State regulations

Potassium carbonate (584-08-7)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Potassium hydroxide (1310-58-3)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Hawaii - Occupational Exposure Limits - Ceilings
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - Ceilings
U.S. - Michigan - Polluting Materials List
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - Ceilings
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - Ceilings
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - Ceilings
U.S. - Washington - Permissible Exposure Limits - Ceilings
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
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Canadian regulations

<table>
<thead>
<tr>
<th>Ecopol Buffer-H</th>
<th>WHMIS Classification</th>
<th>Class E - Corrosive Material</th>
</tr>
</thead>
</table>

Potassium carbonate (584-08-7)
Listed on the Canadian DSL (Domestic Substances List) inventory.
Listed on the Canadian Ingredient Disclosure List

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class D Division 2 Subdivision B - Toxic material causing other toxic effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class E - Corrosive Material</td>
</tr>
</tbody>
</table>

Potassium hydroxide (1310-58-3)
Listed on the Canadian DSL (Domestic Substances List) inventory.
Listed on the Canadian Ingredient Disclosure List

<table>
<thead>
<tr>
<th>WHMIS Classification</th>
<th>Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class E - Corrosive Material</td>
</tr>
</tbody>
</table>

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION

Indication of changes: 08/23/2013

Other information: This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

<table>
<thead>
<tr>
<th>Acute Tox. 3 (Oral)</th>
<th>Acute toxicity (oral) Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 4 (Oral)</td>
<td>Acute toxicity (oral) Category 4</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Met. Corr. 1</td>
<td>Corrosive to metals Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation Category 1A</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) Category 3</td>
</tr>
<tr>
<td>H290</td>
<td>May be corrosive to metals</td>
</tr>
<tr>
<td>H301</td>
<td>Toxic if swallowed</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H319</td>
<td>Causes serious eye irritation</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
</tbody>
</table>

Party Responsible For The Preparation Of This Document:
Economy Polymers & Chemicals
435 E. Anderson Road Houston, TX 77047
713-723-8416; 1-800-231-2066

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.