

MATERIAL SAFETY DATA SHEET**BUFFER SOLUTION pH 4.0**

PRODUCT CODE NUMBER(S): 2294-6, 2304-6

PRODUCT IDENTIFICATION

Chemical Name and Synonyms: Buffer solution pH 4.0
Chemical Family: Inorganic solution
Chemical Formula: $\text{COOHC}_6\text{H}_4\text{COOK}$ and preservative in H_2O
Product Use: Laboratory reagent
Manufacturer's Name and Address:
Caledon Laboratories Ltd.
40 Armstrong Avenue
Georgetown, Ontario L7G 4R9
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HAZARDOUS INGREDIENTS OF MATERIALS

Ingredients	%	TLV Units	CAS No.
Potassium biphthalate	<2	Not established	877-24-7

PHYSICAL DATA

Physical State: Liquid
Odour and Appearance: Clear, colourless or pink if colour-coded, odourless liquid
Odour Threshold (ppm): Not applicable
Vapour Pressure (mm Hg): Not available
Vapour Density (Air = 1): Similar to water
Evaporation Rate: Similar to water
Boiling Point (degrees C): Similar to water
Freezing Point (degrees C): Similar to water
pH: 4.00 ± 0.01
Specific Gravity: Similar to water
Coefficient of Water/Oil distribution: Not available

SHIPPING DESCRIPTION

UN: Not regulated
T.D.G. Class: Not regulated
Pkg. Group: Not regulated

REACTIVITY DATA

Chemical Stability: Stable
Incompatibility with other substances: Chemicals are present in such minute amounts that incompatibilities are insignificant.
Reactivity: May gradually decompose on long standing.
Hazardous Decomposition Products: None expected

FIRE AND EXPLOSION DATA

Flammability: Not combustible

Extinguishing Media: Use any means suitable for surrounding fire
Flash Point (Method Used): Not flammable
Autoignition Temperature: Not applicable
Upper Flammable Limit (% by volume): Not applicable
Lower Flammable Limit (% by volume): Not applicable
Hazardous Combustion Products: None
Sensitivity to Impact: None
Sensitivity to Static discharge: None

TOXICOLOGICAL PROPERTIES AND HEALTH DATA**Toxicological Data:**

LD₅₀: (oral, rat) 3.2 g/kg (potassium biphthalate)
LC₅₀: Not available

Effects of Acute Exposure to Product:

Inhaled: Inhalation of very large amounts may be slightly irritating.
In contact with skin: Extreme overexposure may be slightly irritating.
In contact with eyes: May cause mild, temporary irritation to eye tissue.
Ingested: Ingestion of large amounts may be slightly irritating, causing nausea, abdominal pain.

Effects of Chronic Exposure to Product:

Carcinogenicity: No information available
Teratogenicity: No information available
Reproductive Effects: No information available
Mutagenicity: No information available
Synergistic Products: None found

PREVENTIVE MEASURES

Engineering Controls: Local exhaust ventilation recommended.
Respiratory Protection: Dust/mist mask. NIOSH/OSHA approved respirator for spill or fire conditions.
Eye Protection: Chemical safety glasses.
Skin Protection: Rubber or plastic gloves. Other clean body-covering clothing sufficient to prevent contact.
Other Personal Protective Equipment: Safety shower and eye-wash fountain in work area.
Leak and Spill Procedure: Dike spill and spread soda ash liberally over the spillage. Cleanup personnel should wear protective equipment and clothing sufficient to prevent inhalation and contact with skin and eyes. Transfer carefully into container and arrange removal by disposal company. Wash site of spillage thoroughly with water and detergent.
Waste Disposal: Follow all federal, provincial and local regulations for disposal.

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Handling Procedures and Equipment: *Workers using this chemical must be properly trained in its hazards and its safe use, and must wear appropriate protective clothing. Use the smallest amount possible for the purpose, in a designated area with appropriate ventilation. Use good housekeeping procedures. Avoid generating mist. Avoid inhalation of mist and contact with skin, eyes, and clothing.*

Storage Requirements: *Store in suitable, labelled containers, in a cool, dry, well-ventilated area, away from incompatible materials. Keep containers tightly closed.*

FIRST AID MEASURES

Specific Measures:

Eyes: *Flush eyes thoroughly with gently running water, holding eyelids open while flushing, for five to ten (5-10) minutes, or until no trace of chemical remains. Get medical advice if irritation develops.*

Skin: *Remove contaminated clothing. Flush skin with plenty of running water until no evidence of chemical remains. If irritation develops get medical attention.*

Inhalation: *Remove to fresh air. Give oxygen and get medical attention for any breathing difficulty.*

Ingestion: *If victim is alert and NOT convulsing, rinse mouth, give several glasses of water to drink to dilute. If discomfort occurs, or if a large amount has been ingested, get medical attention.*

REFERENCES USED

CCINFO disc

Sax, Lewis: *Hawley's Condensed Chemical Dictionary*, 11th ed., 1987

Budavari: *The Merck Index*, 12th ed., 1997

Sax: *Dangerous Properties of Industrial Materials*, 5th ed., 1979

Suppliers' Material Safety Data Sheets

ADDITIONAL INFORMATION

Date Issued: *February 4, 1993*

Revision: *September 2011*

MSDS: 2294-6, 2304-6

Proposed Whmis Designation: *Not controlled. Not required to be updated every three years (WHMIS 1992, B-40, Section 29,2)*

*Prepared by: Caledon Laboratories Ltd. (905) 877-0101
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