

MATERIAL SAFETY DATA SHEET

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 Revised 12/23/04
 Replaces (None)
 Printed 12/23/04

PURIFICATION BUFFER
 INVITROGEN CORPORATION
 MSDS ID: AP045

1. PRODUCT AND COMPANY INFORMATION

INVITROGEN CORPORATION
 1600 FARADAY AVE.
 CARLSBAD, CA 92008
 760/603-7200

GIBCO PRODUCTS
 INVITROGEN CORPORATION
 3175 STALEY ROAD P.O. BOX 68
 GRAND ISLAND, NY 14072
 716/774-6700

INVITROGEN CORPORATION
 3 FOUNTAIN DR.
 INCHINNAN BUSINESS PARK
 PAISLEY, PA4 9RF
 SCOTLAND
 44-141 814-6100

INVITROGEN CORPORATION
 P.O. BOX 12-502
 PENROSE
 AUCKLAND 1135
 NEW ZEALAND
 64-9-579-3024

INVITROGEN CORPORATION
 2270 INDUSTRIAL ST.
 BURLINGTON, ONT
 CANADA L7P 1A1
 905/335-2255

INVITROGEN AUSTRALIA PTY LIMITED
 2A/14 LIONEL ROAD
 MOUNT WAVERLY VIC 3149
 AUSTRALIA
 1-800-331-627

EMERGENCY NUMBER (SPILLS, EXPOSURES): 301/431-8585 (24 HOUR)
 800/451-8346 (24 HOUR)
 NON-EMERGENCY INFORMATION: 800/955-6288

Product Name: PURIFICATION BUFFER
 Stock Number: AP045

NOTE: If this product is a kit or is supplied with more than one material,
 please refer to the MSDS for each component for hazard information.

Product Use:
 These products are for laboratory research use only and are not intended for
 human or animal diagnostics, therapeutic, or other clinical uses, unless
 otherwise stated.

Synonyms:
 Not available.

2. COMPOSITION, INFORMATION ON INGREDIENTS

The following list shows components of this product classified as hazardous
 based on physical properties and health effects:

Component	CAS No.	Percent
POTASSIUM ACETATE	127-08-2	7 - 13
POTASSIUM CHLORIDE	7447-40-7	1 - 5

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3. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****

Caution!

Irritant.

Potential Health Effects:

Eye:

Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.

Skin:

Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.

Inhalation:

Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.

Other possible symptoms include; wheezing and coughing due to pulmonary edema (fluid build-up in lungs).

No toxicity expected from inhalation.

Ingestion:

Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea.

Chronic:

No data on cancer.

4. FIRST AID MEASURES

Eye:

Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.

Skin:

Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

Inhalation:

Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately.

Ingestion:

Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with

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4. FIRST AID MEASURES (CONT.)

this MSDS.

Note To Physician:
Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flashpoint Deg C: Not available.
Upper Flammable Limit %: Not available.
Lower Flammable Limit %: Not available.
Autoignition Temperature Deg C: Not available.

Extinguishing Media:
Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do Not direct a stream of water into the hot burning liquid. Use water spray/fog for cooling.

Firefighting Techniques/Equipment:
Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products.

Hazardous Combustion Products:
Includes carbon dioxide, carbon monoxide, dense smoke.

6. ACCIDENTAL RELEASE MEASURES

Accidental releases may be subject to special reporting requirements and other regulatory mandates. Refer to Section 8 for personal protection equipment recommendations.

Spill Cleanup:
Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section VIII of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

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6. ACCIDENTAL RELEASE MEASURES (CONT.)

Ventilate the contaminated area.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section VIII at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

7. HANDLING AND STORAGE

Storage of some materials is regulated by federal, state, and/or local laws.

Storage Pressure:
Ambient

Handling Procedures:
Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area.
Keep closed or covered when not in use.

Storage Procedures:
Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed.
Suitable for most general chemical storage areas.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Exposure Limits:

Component	OSHA PEL (ppm)	AGCIH TWA (ppm)
POTASSIUM ACETATE	Not established.	Not established.
POTASSIUM CHLORIDE	Not established.	Not established.

Engineering Controls:
No exposure limits exist for the constituents of this product. Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort.

Personal Protective Equipment:

Eye:
Safety glasses should be the minimum eye protection.
Wear chemical goggles.

Skin:
Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene and wear a barrier cream and/or

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8. EXPOSURE CONTROLS, PERSONAL PROTECTION (CONT.)

impervious surgical style gloves. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Gloves should be used as minimum hand protection.

Respiratory:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/physical state: Clear, colorless liquid.
Odor: No odor.
Boiling Point (C): 100
Melting Point (C): 0
Solubility in water: 100%
pH: 4
Vapor Pressure: 0.0212 ATM AT 20°C
Vapor Density: 17.3 G/M3
Specific Gravity/Density: 1.00
Octanol/water Partition Coeff: Not established.
Volatiles: Not established.
Evaporation Rate: 0.3 (BUTYL ACETATE = 1.0)
Viscosity: 0.98 cp at 20°C

10. STABILITY AND REACTIVITY

Stability:
Stable under normal conditions.

Conditions to Avoid:
High temperatures. Strong oxidizing agents. Strong acids.

Hazardous Decomposition Products:
Carbon monoxide. Carbon dioxide. Toxic gases. Chlorine containing gases.
Hydrogen chloride.

Hazardous Polymerization:
Hazardous polymerization will not occur.

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11. TOXICOLOGICAL INFORMATION

Acute Toxicity:

Dermal/Skin:
Not determined.

Inhalation/Respiratory:
Not determined.

Oral/Ingestion:
3250 MG/KG
2600 MG/KG

Target Organs: No data found.

Carcinogenicity:

NTP:
Not tested.

IARC:
Not listed.

OSHA:
Not regulated.

Other Toxicological Information

12. Ecological Information

Ecotoxicological Information: No ecological information available.

Environmental Fate (Degradation, Transformation, and Persistence):
Bioconcentration is not expected to occur.

13. DISPOSAL CONSIDERATIONS

Regulatory Information:
Not applicable.

Disposal Method:
Clean up and dispose of waste in accordance with all federal, state, and local environmental regulations.

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14. TRANSPORT INFORMATION

Proper Shipping Name: Not regulated.
Subsidiary Hazards:

15. REGULATORY INFORMATION

UNITED STATES:

TSCA:

This product is solely for research and development purposes only and may not be used, processed or distributed for a commercial purpose. It may only be handled by technically qualified individuals. Materials used in manufacturing processes which are subject to compliance with the Federal Food Drug and Cosmetic Act (FDA) are not subject to the Toxic Substance Control Act (TSCA). The TSCA research use only restriction does not apply to FDA regulated manufacturing processes nor the resulting product per 15 U.S.C. 2602(2).

Prop 65 Listed Chemicals: PROP 65 PERCENT
No Prop 65 Chemicals.

No 313 Chemicals

CANADA:

DSL/NDSL:
Not determined.

COMPONENT	WHMIS Classification
POTASSIUM ACETATE	D2B
POTASSIUM CHLORIDE	D2B

EUROPEAN UNION:

PRODUCT RISK PHRASES: None assigned.
PRODUCT SAFETY PHRASES: Not applicable.
PRODUCT CLASSIFICATION: Xi

Component	EINECS Number
POTASSIUM ACETATE	204-822-2
POTASSIUM CHLORIDE	231-211-8

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16. OTHER INFORMATION

HMIS Rating 0-4:

FIRE: Not determined.
HEALTH: Not determined.
REACTIVITY: Not determined.

Abbreviations

N/A - Data is not applicable or not available
SARA - Superfund and Reauthorization Act
HMIS - Hazard Material Information System
WHMIS - Workplace Hazard Materials Information System
NTP - National Toxicology Program
OSHA - Occupational Health and Safety Administration
IARC - International Agency for Research on Cancer
PROP 65 - California Safe Drinking Water and
Toxic Enforcement Act of 1986
EINECS - European Inventory of Existing Commercial
Chemical Substances

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