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MATERIAL SAFETY DATA SHEET

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10X PCR BUFFER WITH MGCL2  
INVITROGEN CORPORATION  
MSDS ID: Y02255

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Revised 11/22/02  
Replaces 9/06/02  
Printed 1/13/03

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1. PRODUCT AND COMPANY INFORMATION

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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

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

Product Name:  
10X PCR BUFFER WITH MGCL2

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.

Synonyms:  
Not available.

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2. COMPOSITION, INFORMATION ON INGREDIENTS

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

Component	CAS No.	Percent
POTASSIUM CHLORIDE	7447-40-7	1 - 5

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**3. HAZARDS IDENTIFICATION**

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\*\*\*\* EMERGENCY OVERVIEW \*\*\*

Caution!  
Irritant.  
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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 minor 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.

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**4. FIRST AID MEASURES**

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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.)**

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this MSDS.

Note To Physician:  
Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

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

Extinguishing Media:  
Not combustible. Use extinguishing media appropriate for surrounding fire.  
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.

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**6. ACCIDENTAL RELEASE MEASURES**

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

Spill Cleanup:  
No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS .  
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.

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**6. ACCIDENTAL RELEASE MEASURES (CONT.)**

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**7. HANDLING AND STORAGE**

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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.

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**8. EXPOSURE CONTROLS, PERSONAL PROTECTION**

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Exposure Limits:

Component	OSHA PEL (ppm)	AGCIH TWA (ppm)
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 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

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8. EXPOSURE CONTROLS, PERSONAL PROTECTION (CONT.)

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warrant a respirator's use.

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9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance/physical state:	Liquid solution / suspension
Odor:	No odor.
Boiling Point (C):	Not established.
Melting Point (C):	Not established.
Solubility in water:	Not established.
pH:	Not established.
Vapor Pressure:	Not established.
Vapor Density:	Not established.
Specific Gravity/Density:	Not established.
Octanol/water Partition Coeff:	Not established.
Volatiles:	Not established.
Evaporation Rate:	Not established.
Viscosity:	Not established.

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10. STABILITY AND REACTIVITY

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Stability:  
Stable under normal conditions.Conditions to Avoid:  
Strong oxidizing agents. High temperatures. Strong acids.Hazardous Decomposition Products:  
Chlorine containing gases. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Toxic gases. Nitrogen oxides.Hazardous Polymerization:  
Hazardous polymerization will not occur.

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11. TOXICOLOGICAL INFORMATION

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Acute Toxicity:

Dermal/Skin:  
Not determined.Inhalation/Respiratory:  
Not determined.

Oral/Ingestion:

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11. TOXICOLOGICAL INFORMATION (CONT.)

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2600 MG/KG

Target Organs: No data found.

Carcinogenicity:

NTP:  
Not tested.

IARC:  
Not listed.

OSHA:  
Not regulated.

Other Toxicological Information

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12. Ecological Information

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Ecotoxicological Information: No ecological information available.

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

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13. DISPOSAL CONSIDERATIONS

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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

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Proper Shipping Name: Not Determined.  
Hazard Class:  
Subsidiary Hazards:  
ID Number:  
Packing Group:

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15. REGULATORY INFORMATION

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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.

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

No 313 Chemicals

CANADA:

DSL/NDSL:  
Not determined.

COMPONENT POTASSIUM CHLORIDE WHMIS Classification D2B

EUROPEAN UNION:

PRODUCT RISK PHRASES: None assigned.  
PRODUCT SAFETY PHRASES: None assigned.  
PRODUCT CLASSIFICATION: None; Aucun; Geen; Keine; Nessuno; Ninguno/a

Component EINECS  
POTASSIUM CHLORIDE Number  
231-211-8

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16. OTHER INFORMATION

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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

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16. OTHER INFORMATION (CONT.)

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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

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since Invitrogen Corporation cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS MSDS DOES NOT CONSTITUTE A WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.