

**Certificate of Analysis**

**Product:** 0.5M Calcium Chloride

**Code:** MB-055

**Lot #** 16856

**Size:** 500 ml

**Physical State:** Liquid (sterile filtered)

**Protein Concentration:** Not applicable

**Buffer Composition:** This buffer contains 0.5 M Calcium Chloride. Meticulously prepared using ultra pure reagents dissolved in highly polished pharmaceutical grade deionized water.

**Stabilizer:** None

**Preservative:** None

**Application(s):** Suitable for molecular immunology, molecular biology and nucleic acid methodologies, when applicable. Visit our web site at [www.rockland-inc.com](http://www.rockland-inc.com) for methods using this and other buffers.

**Recommended Dilution(s):** This product is a concentrated stock solution and should be diluted appropriately with distilled, deionized water or equivalent to its final working concentration.

**Storage Conditions:** Store container at room temperature (18° to 26° C). Expiration date is six (6) months from date of opening container.

**Sterilization:** This product was aseptically filtered through a Millipore 0.22 micron filter into clean, pre-sterilized containers. The product was tested on trypticase soy agar for 24 hours, 48 hours and 72 hours and was found to be negative for bacteria.

**Note:** This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information.

\*\*\*\* MATERIAL SAFETY DATA SHEET \*\*\*\*

0.5M Calcium Chloride Solution p/n MB-055

\*\*\*\* SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION \*\*\*\*

MSDS Name: 0.5M Calcium Chloride Solution  
Catalog Numbers: MB-055  
Synonyms: None  
Company Identification: Rockland Immunochemicals, PO BOX 326, Gilbertsville, PA 19525  
For information, call: 800-656-7625  
Emergency Number: 610-369-1008  
For CHEMTREC assistance, call: 800-424-9300

\*\*\*\* SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS \*\*\*\*

CAS#	Chemical Name	%	EINECS#
7732-18-5	Water	97.2	unlisted
10043-52-4	CALCIUM CHLORIDE	0.5M	unlisted

Hazard Symbols: XI Risk Phrases: 36

\*\*\*\* SECTION 3 - HAZARDS IDENTIFICATION \*\*\*\*

EMERGENCY OVERVIEW

Appearance: Clear, colorless solution.  
CAUTION! MAY CAUSE RESPIRATORY AND DIGESTIVE TRACT IRRITATION.  
CAUSES EYE AND SKIN IRRITATION.  
Target Organs: Heart.  
Potential Health Effects  
Eye: Causes eye irritation.  
Skin: Causes skin irritation.  
Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea.  
Calcium chloride may cause cardiac disturbances.  
Inhalation: Causes respiratory tract irritation.  
Chronic: No information found.

\*\*\*\* SECTION 4 - FIRST AID MEASURES \*\*\*\*

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid.  
Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.  
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid.  
Inhalation: Remove from exposure to fresh air immediately. Get medical aid if cough or other symptoms appear.  
Notes to Physician: Treat symptomatically and supportively.

\*\*\*\* SECTION 5 - FIRE FIGHTING MEASURES \*\*\*\*

General Information:  
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.  
Extinguishing Media: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.  
Autoignition Temperature: Not applicable.  
Flash Point: Not applicable.  
NFPA Rating: Not published.  
Explosion Limits  
Lower: Not available.  
Upper: Not available.

\*\*\*\* SECTION 6 - ACCIDENTAL RELEASE MEASURES \*\*\*\*

General Information: Use proper personal protective equipment as indicated in Section 8.  
Spills/Leaks:  
Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container.

\*\*\*\* SECTION 7 - HANDLING and STORAGE \*\*\*\*

Handling: Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.  
Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

\*\*\*\* SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION \*\*\*\*

Engineering Controls: Use adequate ventilation to keep airborne concentrations low.  
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Water	none listed	none listed	none listed
CALCIUM CHLORIDE	none listed	none listed	none listed

OSHA Vacated PELs:  
Water: No OSHA Vacated PELs are listed for this chemical.  
CALCIUM CHLORIDE: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.  
Skin: Wear appropriate gloves to prevent skin exposure.  
Clothing: Wear appropriate protective clothing to minimize contact with skin.  
Respirators: Follow the OSHA respirator regulations found in 29CFR 1010.134. Always use an NIOSH-approved respirator when necessary.

\*\*\*\* SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*\*

Physical State: Liquid

e-mail: [info@rockland-inc.com](mailto:info@rockland-inc.com)

Visit our website at: [www.rockland-inc.com](http://www.rockland-inc.com)

Appearance: Clear, colorless solution.  
Odor: Not available.  
pH: Acidic.  
Vapor Pressure: 14 mm Hg @ 16C  
Vapor Density: Not available.  
Evaporation Rate: Not available.  
Viscosity: Not available.  
Boiling Point: 100\_C  
Freezing/Melting Point: 32\_F  
Decomposition Temperature: Not available.  
Solubility: Completely soluble in water.  
Specific Gravity/Density: Not available.  
Molecular Formula: CaCl<sub>2</sub>  
Molecular Weight: 110.986

\*\*\*\* SECTION 10 - STABILITY AND REACTIVITY \*\*\*\*

Chemical Stability: Stable.  
Conditions to Avoid: Incompatible materials.  
Incompatibilities with Other Materials: Calcium chloride is incompatible with boric oxide + calcium oxide, and bromine trifluoride; reacts with zinc to form explosive hydrogen gas; catalyzes exothermic polymerization of vinyl ether.  
Hazardous Decomposition Products: Hydrogen chloride.  
Hazardous Polymerization: Has not been reported.

\*\*\*\* SECTION 11 - TOXICOLOGICAL INFORMATION \*\*\*\*

RTECS#: CAS# 7732-18-5; ZC0110000 CAS# 10043-52-4; EV9800000  
LD50/LC50: CAS# 10043-52-4: Oral, mouse: LD50 = 1940 mg/kg; Oral, rat: LD50 = 1 gm/kg. CAS# 10043-52-4: Oral, mouse: LD50 = 1940 mg/kg; Oral, rat: LD50 = 1 gm/kg.  
Carcinogenicity: Water -Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CALCIUM CHLORIDE - Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.  
Epidemiology: No data available.  
Teratogenicity: No data available.  
Reproductive Effects: No data available.  
Neurotoxicity: No data available.  
Mutagenicity: No data available.  
Other Studies: No data available.

\*\*\*\* SECTION 12 - ECOLOGICAL INFORMATION \*\*\*\*

Ecotoxicity: Not available.  
Environmental Fate: Not available.  
Physical/Chemical: Not available.  
Other: Not available.

\*\*\*\* SECTION 13 - DISPOSAL CONSIDERATIONS \*\*\*\*

Dispose of in a manner consistent with federal, state, and local regulations.  
RCRA D-Series Maximum Concentration of Contaminants: Not listed.  
RCRA D-Series Chronic Toxicity Reference Levels: Not listed.  
RCRA F-Series: Not listed.  
RCRA P-Series: Not listed.  
RCRA U-Series: Not listed.  
Not listed as a material banned from land disposal according to RCRA.

\*\*\*\* SECTION 14 - TRANSPORT INFORMATION \*\*\*\*

US DOT No information available  
IMO No information available.  
IATA No information available.  
RID/ADR No information available.  
Canadian TDG No information available.

\*\*\*\* SECTION 15 - REGULATORY INFORMATION \*\*\*\*

A. Federal TSCA  
CAS# 7732-18-5 is listed on the TSCA inventory.  
CAS# 10043-52-4 is listed on the TSCA inventory.  
Health & Safety Reporting List: None of the chemicals are on the Health & Safety Reporting List.  
Chemical Test Rules: None of the chemicals in this product are under a Chemical Test Rule.  
Section 12b: None of the chemicals are listed under TSCA Section 12b.  
TSCA Significant New Use Rule: None of the chemicals in this material have a SNUR under TSCA.  
CERCLA/SARA  
Section 302 (RQ): None of the chemicals in this material have an RQ.  
Section 302 (TPQ): None of the chemicals in this product have a TPQ.  
SARA Codes: CAS # 10043-52-4: acute, chronic, reactive.  
Section 313: No chemicals are reportable under Section 313.  
Clean Air Act:  
This material does not contain any hazardous air pollutants.  
This material does not contain any Class 1 Ozone depleters.  
This material does not contain any Class 2 Ozone depleters.  
Clean Water Act:  
None of the chemicals in this product are listed as Hazardous Substances under the CWA.  
None of the chemicals in this product are listed as Priority Pollutants under the CWA.  
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.  
OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.  
B. State  
Not present on state lists from CA, PA, MN, MA, FL, or NJ.  
Not present on state lists from CA, PA, MN, MA, FL, or NJ.  
California No Significant Risk Level: None of the chemicals in this product are listed.  
C. International  
Canada  
CAS# 7732-18-5 is listed on Canada's DSL/NDSL List.  
CAS# 10043-52-4 is listed on Canada's DSL/NDSL List.

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 10043-52-4 is not listed on Canada's Ingredient Disclosure List.

European Labeling in Accordance with EC Directives

Hazard Symbols: Xi

Risk Phrases: R 36 Irritating to eyes.

Safety Phrases: S 22 Do not inhale dust. S 24 Avoid contact with skin.

Exposure Limits: OEL-AUSTRALIA:TWA 0.1 mg(Sn)/m<sup>3</sup>;Skin. OEL-AUSTRALIA:TWA 2 mg/m<sup>3</sup>. OEL-BELGIUM:TWA 2 mg/m<sup>3</sup>. OEL-DENMARK:TWA 2 mg/m<sup>3</sup>. OEL-FINLAND:TWA 2 mg/m<sup>3</sup>. OEL-GERMANY:TWA 2 mg/m<sup>3</sup>. OEL-HUNGARY:TWA 1 mg/m<sup>3</sup>;STEL 2 mg/m<sup>3</sup>;Skin. OEL-THE NETHERLANDS:TWA 2 mg/m<sup>3</sup>. OEL-THE PHILIPPINES:TWA 2 mg/m<sup>3</sup>. OEL-SWITZERLAND:TWA 2 mg/m<sup>3</sup>;STEL 4 mg/m<sup>3</sup>. OEL-THAILAND:TWA 2 mg/m<sup>3</sup>. OEL-UNITED KINGDOM:TWA 5 mg/m<sup>3</sup>;STEL 10 mg/m<sup>3</sup> JAN9. OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV. OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

\*\*\*\* SECTION 16 - ADDITIONAL INFORMATION \*\*\*\*

Not specified.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.