

Safety data sheet

DPBS 1X, with calcium and magnesium

BB-SDS-DPBS-1X-CA-MG
Revision 2026-09-20.7 · 2026-09-20

1. Identification

Item	Information
Product	DPBS 1X, with calcium and magnesium
Product identifier	MD-LIQ-DPBS-1X-CA-MG
Other identification	Dulbecco's phosphate-buffered saline containing calcium and magnesium
Recommended use	Laboratory research buffer
Use restrictions	Not for diagnosis, treatment, food use or administration to people or animals
Responsible party	Bramante Biologics Corporation
Address	160 Alewife Brook Parkway, STE 1316, Cambridge, MA 02138, USA
Telephone	+1 (617) 221-6167
Emergency telephone	+1 (617) 221-6167
Email	support@bramantebio.com

2. Hazard Identification

This product does not meet the criteria for a hazardous chemical under the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Item	Determination
Hazard classification	Not classified for physical or health hazards.
Signal word and pictograms	None required.
Hazard and precautionary statements	No HCS label statements required. Follow the laboratory handling guidance in this sheet.
Other hazards	Spills can make floors slippery. Keep liquid away from energized electrical equipment.
Unknown acute toxicity	No ingredient with unknown acute toxicity is present at or above the 1% reporting threshold.

3. Composition/information on ingredients

Nominal composition of the supplied 1X aqueous solution. Concentrations are mass per final litre, not weight percentages. No ingredient requires hazard disclosure at its concentration in this formulation.

Ingredient	CAS number	Nominal concentration
Sodium chloride	7647-14-5	8 g/L
Potassium chloride	7447-40-7	200 mg/L
Disodium hydrogen phosphate, anhydrous	7558-79-4	1.144 g/L
Potassium dihydrogen phosphate	7778-77-0	200 mg/L
Calcium chloride dihydrate	10035-04-8	132.5 mg/L

Ingredient	CAS number	Nominal concentration
Magnesium chloride hexahydrate	7791-18-6	100 mg/L
Water	7732-18-5	To final volume

4. First aid measures

Exposure	First aid
Eyes	Rinse with clean water. Remove contact lenses if easy to do, and continue rinsing. Seek medical advice if discomfort persists.
Skin	Wash with water and remove wet clothing. Obtain advice if irritation continues.
Inhalation	Move away from spray or mist into fresh air. Seek urgent medical attention for breathing difficulty.
Ingestion	Rinse the mouth. Do not induce vomiting. Obtain medical advice if symptoms occur or a substantial quantity was swallowed.

Prolonged contact or concentrated splashes may cause temporary eye or skin discomfort. Large ingestion can disturb electrolyte balance. Treat symptoms and the actual exposure; no specific antidote is indicated.

5. Fire-fighting measures

The supplied liquid is noncombustible. Use extinguishing media suited to the surrounding fire. No special extinguishing restriction applies to the product.

Heat can raise pressure in a closed bottle. Cool exposed containers from a safe position. Firefighters should use breathing apparatus and protective clothing appropriate to the surrounding fire. Severe heating after water evaporates can release irritating chloride- and phosphorus-containing decomposition fumes.

6. Accidental release measures

Keep people off wet flooring and away from any affected electrical equipment. Stop the leak if safe, absorb or collect the liquid, and place cleanup materials in a suitable container. Wash the remaining residue from the surface without creating another slip hazard.

Assess any chemicals or biological materials added during use before handling a spill. Prevent uncontrolled discharge of contaminated liquid into drains or surface water.

7. Handling and storage

Handle containers to minimize splashes. Avoid mouth pipetting and aerosol-producing transfers. Wash exposed skin after use and keep the product separate from food and drink.

Store tightly closed at 2–8 °C. Do not freeze. Prevent evaporation and contamination. Separate from strong oxidizing agents and from reagents that could cause substantial pH changes; evaluate compatibility before mixing with additional chemicals.

8. Exposure controls/personal protection

No substance-specific OSHA permissible exposure limit or NIOSH recommended exposure limit applies to the listed ingredients in this supplied liquid.

Control	Guidance
Ventilation	Normal laboratory ventilation is adequate for bottle handling. Use local containment for operations that generate mist.

Control	Guidance
Eyes and skin	Use laboratory eye protection, a coat and suitable gloves when splashing or contamination is possible.
Respiratory protection	Not normally required for ordinary handling. Base protection for aerosol-producing work on the workplace exposure assessment.
Hygiene	Keep food and drink out of the work area; wash hands after handling.

9. Physical and chemical properties

Property	Information
State and appearance	Clear, colorless liquid.
Odor and odor threshold	No characteristic odor; threshold not determined.
Melting/freezing point	Approximately -0.6°C ; ideal dilute-solution estimate.
Boiling point	Approximately 100.2°C at 1 atm; ideal dilute-solution estimate.
pH	7.0–7.2 nominal QC range at $20\text{--}25^{\circ}\text{C}$; not a lot measurement.
Density	Approximately 1.0 g/mL at 20°C ; dilute aqueous-solution estimate.
Kinematic viscosity	Approximately 1 mm ² /s at 20°C ; dilute aqueous-solution estimate.
Vapor pressure	Approximately 2.3 kPa at 20°C ; dilute aqueous-solution estimate.
Relative vapor density	Approximately 0.62 (air = 1), for the water vapor above the solution.
Flammability	Noncombustible.
Flammability/explosion limits	Not applicable to this noncombustible liquid.
Flash point and auto-ignition temperature	Not applicable.
Decomposition temperature	No single decomposition temperature assigned.
Water solubility	Water-based salt solution; dilutes with water.
Partition coefficient, n-octanol/water	No single coefficient describes this mixture of dissolved inorganic ions.
Evaporation rate	Not determined under a standardized comparison method.
Particle characteristics	Not applicable to the supplied liquid.

10. Stability and reactivity

Stable during recommended storage and normal handling. No hazardous polymerization or self-reactive behavior is expected.

Avoid excessive heat and freezing that can damage the container. Keep separate from strong oxidizers and water-reactive chemicals. Strong acids or bases can generate heat and change the buffer chemistry. Calcium and phosphate can precipitate when concentrations, pH or temperature change.

No hazardous decomposition products arise during normal storage. Severe heating of dried residue can produce irritating chloride- and phosphorus-containing fumes.

11. Toxicological information

Likely occupational exposure routes are splashes to eyes or skin and inhalation of droplets during spraying. Accidental ingestion is also possible.

Endpoint	Assessment
Acute toxicity	Not classified. Ingredient concentrations and available toxicity data do not meet the acute-toxicity classification criteria. No measured whole-mixture LD ₅₀ or LC ₅₀ is available.
Skin corrosion/irritation; eye damage/irritation	Not classified. Concentration-based evaluation does not reach the applicable mixture thresholds; brief discomfort from splashes is possible.
Respiratory or skin sensitization	Not classified; no sensitizing constituent is identified.
Germ-cell mutagenicity and reproductive toxicity	Not classified on the available ingredient evidence.
Carcinogenicity	No listed ingredient is identified as carcinogenic by IARC, NTP or OSHA.
Specific target-organ toxicity, single or repeated exposure	Not classified on the available ingredient evidence.
Aspiration hazard	Not classified; this is an aqueous inorganic-salt solution without a hydrocarbon aspiration-hazard component.
Delayed effects and interactions	No specific delayed effect or toxicological interaction is identified for the supplied product.

Ingredient	Published test	Value
Sodium chloride	Oral LD ₅₀ , rat	3,550 mg/kg
Potassium chloride	Oral LD ₅₀ , rat	2,600 mg/kg
Disodium hydrogen phosphate	Oral LD ₅₀ , rat	17,000 mg/kg
Potassium dihydrogen phosphate	Oral LD ₅₀ , rat	3,200 mg/kg

These published ingredient values describe the named substances; they are not measurements on the finished solution.

12. Ecological information

No ecological hazard classification is assigned to this dilute inorganic-salt solution. The dissolved ions remain mobile in water; biodegradation is not an applicable removal mechanism for the salts. Salt loading can affect freshwater organisms.

Avoid uncontrolled release of used or contaminated product. Published sodium chloride fish toxicity: 96-hour LC₅₀ 7,650 mg/L, *Pimephales promelas*. This is ingredient data, not a test of the finished buffer. No whole-mixture bioaccumulation measurement is available.

13. Disposal considerations

Determine disposal requirements from the material as discarded, including any added chemicals, cells or other contamination. Collect laboratory waste through the site's approved waste system. Dispose of clean packaging according to local requirements; contaminated containers need the same assessment as their contents.

14. Transport information

Transport field	Determination
DOT (United States)	Not regulated as dangerous goods.
IATA / IMDG	Not regulated as dangerous goods.
UN number / proper shipping name	Not applicable.
Transport hazard class / packing group	Not applicable.
Marine pollutant	No.
Bulk transport under IMO instruments	Not applicable to the supplied bottles.

Keep bottles closed, upright and secured against leakage or breakage. Follow the stated storage conditions during transport.

15. Regulatory information

Program	Product information
OSHA HCS / SARA 311–312	No physical or health hazard category assigned for the supplied product.
SARA 302 / 313	No listed constituent is present at a reportable concentration.
CERCLA / Clean Water Act	Disodium hydrogen phosphate, CAS 7558-79-4: reportable quantity 5,000 lb of that constituent. This is a release quantity, not a product concentration limit.
TSCA	The named anhydrous salts and water are on the active inventory. The calcium and magnesium chlorides in this aqueous mixture use their listed parent-salt identities.
California Proposition 65	No listed constituent is identified in the nominal formulation.

Facility reporting and waste obligations depend on actual quantities, releases and use.

16. Other information

Prepared 20 September 2026; document revision 2026-09-20.7. Covers the supplied 1X buffer at the nominal composition stated in section 3. Safety conclusions use published substance information and composition-based assessment. This sheet does not describe hazards introduced by added reagents, contamination or cultured material.

Applicability: 500 mL and 1 L bottles; packs of 1, 6, 12 or 24 bottles.