

Safety data sheet

RPMI-1640

BB-SDS-RPMI-1640-1X-NAHCO3
Revision 2026-09-20.7 · 2026-09-20

1. Identification

Item	Details
Product	RPMI-1640, 1X liquid
Product identifier	MD-LIQ-RPMI-1640-1X-NAHCO3
Other identification	Roswell Park Memorial Institute 1640 medium
Recommended use	Basal medium for laboratory cell-culture research
Use restrictions	Not for clinical diagnosis or administration to people or animals
Responsible company	Bramante Biologics Corporation
U.S. 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

The supplied liquid is not classified as hazardous under the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200. No GHS signal word, pictogram or hazard statement is required.

No additional classified hazard or hazard not otherwise classified has been identified for the supplied formulation. Avoid eye splashes, ingestion and unnecessary aerosol formation. Spilled liquid can make walking surfaces slippery. Hazards introduced through use with biological material or other chemicals are outside this classification.

3. Composition/information on ingredients

Aqueous mixture of defined salts, amino acids, vitamins, glucose, glutathione and phenol red sodium salt. No ingredient is present at a concentration that requires hazard disclosure under the OSHA mixture criteria. The selected nominal composition below is provided for identification; concentrations are mass per final liquid volume, not weight percentages.

Ingredient	CAS number	Nominal concentration
Sodium chloride	7647-14-5	6 g/L
Sodium bicarbonate	144-55-8	2 g/L
D-Glucose, anhydrous	50-99-7	2 g/L
Disodium hydrogen phosphate, anhydrous	7558-79-4	800 mg/L
Potassium chloride	7447-40-7	400 mg/L
L-Glutamine	56-85-9	300 mg/L
Calcium nitrate tetrahydrate	13477-34-4	100 mg/L
Magnesium sulfate heptahydrate	10034-99-8	100 mg/L
Phenol red sodium salt	34487-61-1	5 mg/L

Ingredient	CAS number	Nominal concentration
p-Aminobenzoic acid	150-13-0	1 mg/L
Cyanocobalamin	68-19-9	5 µg/L

Water makes up the final volume. The product sheet contains the complete nominal ingredient list. These formulation quantities are not measured lot assay results.

4. First aid measures

- Eyes: rinse promptly with running water. Remove contact lenses when this can be done easily, and continue rinsing. Seek medical attention for pain, persistent irritation or impaired vision.
- Skin: take off clothing wetted by the medium and rinse the exposed skin. Obtain medical advice if symptoms persist.
- Inhalation: leave the aerosol source and move to fresh air. Seek urgent medical assistance for breathing difficulty.
- Ingestion: rinse the mouth and obtain medical advice after accidental swallowing. Do not induce vomiting.

No mixture-specific description of delayed effects or numerical exposure threshold is available. Splashes may cause discomfort. Medical treatment should address the route of exposure and observed symptoms; no specific antidote is assigned.

5. Fire-fighting measures

This product is supplied as a dilute aqueous liquid. Choose extinguishing media for the surrounding fire; a mixture-specific incompatibility with extinguishing agents has not been established.

A heated closed bottle can rupture. If the liquid dries, heating the residue may produce irritating gases, including nitrogen oxides from nitrate-containing material. The complete decomposition mixture has not been characterized. Firefighters should use protective clothing and independent breathing equipment suitable for the fire conditions.

6. Accidental release measures

Restrict access to the wet area. Wear gloves and splash eye protection, contain the liquid with absorbent material and place collected waste in a labeled container. Rinse away the remaining slippery film after the bulk spill has been recovered.

Keep bulk spills out of drains and surface water. If the medium has been used with cells or supplemented with other chemicals, include those materials in the spill response.

7. Handling and storage

Transfer the medium without creating sprays. Keep containers capped during movement, wash hands after handling, and keep food and drink away from the work area.

Store at 2–8 °C away from light, with bottles protected against breakage. Avoid freezing and prolonged heat. Keep concentrated acids, strong bases, strong oxidizers and reducing agents separate from the product. Acid added to bicarbonate-containing liquid can generate carbon dioxide.

8. Exposure controls/personal protection

No OSHA PEL or NIOSH REL specific to the supplied mixture has been established. No specific OSHA PEL, NIOSH REL or ACGIH TLV was identified for the ingredients listed in section 3. The additional workplace guidance below applies to p-aminobenzoic acid, a trace formulation ingredient.

Ingredient	Exposure guidance	Type
p-Aminobenzoic acid	5 mg/m³, 8-hour TWA	AIHA WEEL; workplace guidance value

The guidance value is an airborne concentration, not a permitted concentration in the liquid. Routine transfers should use laboratory ventilation; contain procedures that produce aerosols. Keep eyewash available. Wear splash eye protection, a laboratory coat and gloves appropriate to the task. Select respiratory protection when the exposure assessment calls for it.

9. Physical and chemical properties

Property	Information
Physical state	Liquid
Color	Expected red to orange-red; varies with pH
Odor and odor threshold	No mixture data available
pH	Nominal target 7.0–7.4; not a measured lot result
Melting/freezing point	Initial freezing below 0 °C is expected from the dissolved salts; exact value not measured.
Boiling point or range	Near 100 °C at 101.3 kPa (aqueous-mixture estimate); heating can alter the medium.
Flammability	Not classified as flammable; dilute aqueous formulation
Lower and upper explosion/flammability limits	No mixture data available
Flash point	Not determined
Auto-ignition temperature	No mixture data available
Decomposition temperature	Not determined
Kinematic viscosity	Approximately 1 mm ² /s at 20 °C; dilute aqueous estimate.
Solubility	Supplied in water; mixes with water
Partition coefficient, n-octanol/water	No single mixture value assigned
Vapor pressure and evaporation rate	Water-vapor contribution approximately 2.3 kPa at 20 °C; CO ₂ contribution depends on gas equilibration. Evaporation rate not determined.
Density/relative density	Approximately 1 g/mL at 20 °C; relative density approximately 1 (water = 1). Estimated.
Relative vapor density	Water vapor approximately 0.62 (air = 1); total gas composition can vary with CO ₂ release.
Particle characteristics	Not applicable to the supplied liquid

Approximate physical properties use the dilute aqueous composition and water reference values. They are estimates, not measured properties of a manufactured lot.

10. Stability and reactivity

The supplied medium is chemically stable under the recommended storage conditions. No hazardous polymerization or self-accelerating reaction is expected in normal use. This safety statement does not establish product shelf life.

Acid addition can release carbon dioxide from bicarbonate. Avoid mixing with strong oxidizers or concentrated acids and bases, prolonged heat, freezing and unnecessary light exposure. Heating a sealed bottle can create pressure. Strong heating of dried residue can release carbon and nitrogen oxides and other irritating fumes; the complete decomposition profile has not been measured.

11. Toxicological information

Likely exposure routes are eye and skin contact, accidental ingestion and inhalation of generated droplets. Splashes or aerosols may cause transient irritation. No whole-mixture toxicity tests or numerical whole-mixture LD50/LC50 values are available.

Endpoint	Assessment of supplied liquid
Acute toxicity, oral/dermal/inhalation	Not classified from available component evidence and formulation concentrations.
Skin corrosion/irritation and eye damage/irritation	Not classified; ingredient levels and the near-neutral target pH do not meet the hazard criteria.
Respiratory or skin sensitization	Not classified. The trace p-aminobenzoic acid content is below the applicable sensitizer classification limit.
Germ-cell mutagenicity, carcinogenicity and reproductive toxicity	Not classified; no ingredient is present at a concentration requiring classification for these endpoints.
Specific target-organ toxicity, single/repeated exposure	Not classified from the known ingredient hazards and their concentrations.
Aspiration hazard	Not classified; no aspiration-toxic ingredient is included.

Calcium nitrate tetrahydrate has published ingredient evidence of oral acute toxicity category 4 and serious eye damage category 1. Its reported rat oral LD50 range is 300–2,000 mg/kg. These findings concern concentrated ingredient material; this medium contains 0.1 g/L of that salt.

No NTP-, IARC- or OSHA-listed carcinogenic constituent is present at or above the applicable mixture disclosure limit. The IARC listing for ingested nitrate or nitrite applies under conditions producing endogenous nitrosation; it does not by itself classify this dilute medium. Trace cyanocobalamin is vitamin B12, not a free cobalt salt. Mixture-specific delayed, chronic and interactive-effect data are unavailable.

12. Ecological information

The supplied formulation is not classified as an aquatic hazard from the available ingredient information and concentrations. Whole-mixture aquatic toxicity, biodegradation, bioaccumulation and soil-mobility values have not been determined. Dissolved nutrients and salts can affect receiving waters; collect bulk waste and avoid uncontrolled discharge.

13. Disposal considerations

Use the waste route appropriate to the laboratory, the medium and anything added during use. Confirm local requirements before any drain disposal. Collect contaminated absorbents and residual liquid with the applicable waste stream; bottles can retain material after emptying.

14. Transport information

Transport field	Supplied bottle product
U.S. DOT, IATA and IMDG	Not regulated as dangerous goods
UN number and proper shipping name	Not applicable
Hazard class and packing group	Not applicable
Marine pollutant	No
Bulk carriage under IMO instruments	Not applicable to this packaged product

Protect closed bottles against leakage and impact. Refrigerants or other separately regulated materials added to a shipment require their own transport classification.

15. Regulatory information

The supplied formulation has no classified physical or health hazard under OSHA. Regulatory reporting depends on the chemical, quantity and activity; the following constituent listings remain relevant even though the bottled medium is not classified as hazardous.

Listing	Product information
CERCLA / Clean Water Act	Dibasic sodium phosphate (CAS 7558-79-4), 0.8 g/L; constituent reportable quantity 5,000 lb.
EPCRA section 313	Aqueous nitrate compounds and cobalt compounds are present below their applicable de minimis concentrations in this finished formulation.
Massachusetts, New Jersey and Pennsylvania right-to-know	Dibasic sodium phosphate is a listed constituent.

The CERCLA quantity refers to the listed constituent, not to the volume or mass of medium. Finished-product de minimis treatment does not determine a facility’s obligations for concentrated ingredients or other activities. This SDS does not assert approval for clinical use or certification under chemical inventories.

16. Other information

Prepared 20 September 2026. Document revision 2026-09-20.7; formulation revision 2026-09-20.4. Classification uses the nominal composition and available substance and comparable-mixture information. It describes the supplied medium; additions, contamination or substantial concentration changes can alter the hazards.

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