HoppeSyler Scientific

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SAFETY DATA SHEET

2X M4 Taq Master Mix with Dye

Prepared under WHMIS (Hazardous Products Regulations, SOR/2015-17) / GHS Rev. 7.

DOCUMENT ID	VERSION	ISSUED	EFFECTIVE
HSS-MM03-SDS	2.1	2026-09-24	2026-09-24

1 Identification

Product name	2X M4 Taq Master Mix with Dye
Catalogue number	M0802-020 · Product size: 200 reactions
Product type	Ready-to-use 2X PCR reaction master mix containing an engineered hot-start thermostable DNA polymerase (M4 Taq), deoxynucleotide triphosphates (dNTPs), reaction buffer and an electrophoresis tracking dye, supplied in a glycerol-stabilised storage buffer.
Recommended use	Laboratory reagent for the polymerase chain reaction (PCR) amplification of nucleic acids. For laboratory research use only (RUO).
Restrictions on use	Not for food, drug, pesticide, or biological-product use. Not for human or animal diagnostic or therapeutic use.
Supplier	HoppeSyler Scientific Inc., 79 Bessemer Road, Unit 1, London, ON N6E 1P9, Canada
Origin	Developed and manufactured in Canada.
Emergency telephone	1-833-727-7522 · Email: info@hoppesyler.com

2 Hazard Identification

WHMIS / GHS classification	**Not classified.** The product does not meet the criteria for any physical, health, or environmental hazard class under the Hazardous Products Regulations (SOR/2015-17).
Basis for non-classification	The shipped tube is the purified, formulated reaction mix (DNA polymerase, dNTPs, reaction buffer and tracking dye) in a glycerol-based storage buffer. Every component is below its classification cut-off, so the product is not classified.
Signal word	None.
Pictograms	None.
Hazard statements	None.
Precautionary statements	None required by the classification. Handling and personal protection for laboratory use are given in Sections 7 and 8.
Other hazards	No hazard is known that is not otherwise classified. As with any laboratory reagent, avoid unnecessary skin and eye contact and do not ingest.

3 Composition / Information on Ingredients

Substance type: mixture (aqueous, glycerol-stabilised reaction mix). The DNA polymerase itself is a purified protein, not classified as hazardous and present at trace level, and is not tabulated.

Component	CAS-No	Concentration (w/w)
Water (nuclease-free)	7732-18-5	60-80%*
Glycerol	56-81-5	15-40%*
dNTP mix, aqueous solution (10 mM each)	Mixture	1-5%*
Brij-58 (non-ionic detergent)	9004-95-9	<0.1%
Ethanol	64-17-5	<0.1%
Bromophenol blue (tracking dye)	115-39-9	<0.1%

* The actual concentration is withheld as a trade secret.

The remaining constituents are proprietary. They are the reaction-buffer salts and the stabilisers, and each of them is below every classification cut-off in the finished mix, on its own and under the mixture rules, and none carries a carcinogen, germ-cell mutagen or reproductive-toxicant classification.

4 First-Aid Measures

Eye contact	Rinse cautiously with water for several minutes, holding the eyelids open. Remove contact lenses if present and easy to do, then continue rinsing. Get medical attention if irritation develops and persists.
Skin contact	Wash with plenty of soap and water. Remove contaminated clothing. Get medical attention if irritation develops and persists.
Inhalation	Not an expected route of exposure for this viscous, non-volatile aqueous liquid. Remove the person to fresh air if any discomfort occurs.
Ingestion	Rinse mouth with water. Do not induce vomiting. Get medical attention if a large amount is swallowed or if symptoms occur.
Symptoms / effects	None expected under normal handling. Transient mild eye or skin irritation may occur with direct or prolonged contact.
Note to physician	Treat symptomatically.

5 Fire-Fighting Measures

Suitable media	Water spray, water fog, dry chemical, carbon dioxide (CO_2), or alcohol-resistant foam. Use media appropriate to the surrounding fire.
Unsuitable media	None known.
Specific hazards	Not a flammable liquid: a predominantly aqueous glycerol mixture with no volatile flammable solvent above trace level, and no flash point applies (Section 9). The product as supplied does not support combustion; the dried residue, mainly glycerol, is combustible. Hazardous combustion products of the residue may include carbon monoxide, carbon dioxide, and oxides of nitrogen and sulfur.
Firefighter PPE	Self-contained breathing apparatus (SCBA) and full protective gear for any surrounding fire.

6 Accidental Release Measures

Personal precautions	Wear protective gloves and eye protection. Avoid contact with eyes and skin. No special emergency measures are required for this small-volume, unclassified reagent.
Environmental	Avoid release to drains and waterways where practical; see Section 12. No special environmental precautions are required.
Containment / cleanup	Absorb the spill with paper towel or an inert absorbent. Wipe up, then clean the area with water. The tracking dye may stain surfaces. Place waste in a labelled container for disposal in accordance with Section 13.

7 Handling and Storage

Safe handling	Handle in accordance with good laboratory practice. Avoid contact with eyes. Wear the protective equipment given in Section 8 and wash hands after handling. Keep the product on ice during use to preserve enzyme activity.
Safe storage	Store frozen at -20 °C, protected from repeated freeze/thaw cycles. Keep the container tightly closed. The glycerol in the storage buffer keeps the product a viscous, unfrozen liquid at -20 °C.
Incompatibilities	Strong oxidising agents.

8 Exposure Controls / Personal Protection

Exposure limits	Glycerol has no current ACGIH threshold limit value (the glycerin-mist value was withdrawn in 2013) and no entry in the Ontario Table of Ontario Regulation 833; the United States OSHA permissible exposure limit for glycerin mist is 15 mg/m³ total particulate and 5 mg/m³ respirable fraction as an 8-hour time-weighted average. The product is a viscous liquid dispensed in small volumes and does not generate a mist in normal use. No other constituent is present at a concentration expected to produce a relevant airborne exposure from this aqueous mixture. Ethanol (ACGIH short-term exposure limit 1000 ppm) is present below 0.1%. In normal use no airborne concentration approaching any of these limits is expected.
	Occupational exposure limits cited from the ACGIH threshold limit value list, United States OSHA 29 CFR 1910.1000 Table Z-1, and Ontario Regulation 833.
Engineering controls	General laboratory ventilation is sufficient. No special engineering controls are required.
Eye / face protection	Safety glasses meeting CSA Z94.3.
Skin protection	Disposable nitrile gloves and a laboratory coat.
Respiratory protection	Not required under normal handling of this aqueous liquid.

9 Physical and Chemical Properties

Physical state	Liquid (viscous)	**Decomposition temperature**	No data available
Colour	Blue (bromophenol blue tracking dye)	**pH**	About 8 to 9 (buffered); not measured
Odour	Odourless to faint	**Kinematic viscosity**	No data available (viscous, glycerol-based)
Melting point / freezing point	Remains liquid at -20 °C in the storage buffer; not measured	**Solubility**	Miscible with water
Boiling point / range	No data available	**Partition coefficient (n-octanol/water, log K_{ow})**	No data available
Flammability	Not flammable	**Vapour pressure**	No data available
Explosion / flammability limits	Not applicable (not flammable)	**Density / relative density**	Approximately 1.08 (calculated, not measured)
Flash point	**Not applicable (predominantly aqueous glycerol mixture; the only volatile flammable solvent, ethanol, being present below 0.1%)**	**Relative vapour density**	No data available
Auto-ignition temperature	Not applicable (not flammable)	**Particle characteristics**	Not applicable (liquid)

With no volatile flammable solvent above trace level the product has no flash point and is not a flammable liquid. Values marked calculated or not measured are estimates, not test results; properties with no sourced value are stated as no data available.

10 Stability and Reactivity

Reactivity / stability Stable under the recommended storage and handling conditions. No hazardous polymerisation. No hazardous reactions known.

Conditions to avoid Repeated freeze/thaw cycles and prolonged storage above -20 °C. These reduce enzyme activity and are not a safety hazard.

Incompatible materials Strong oxidising agents.

Decomposition products Thermal decomposition of the dried residue may yield carbon monoxide, carbon dioxide, and oxides of nitrogen and sulfur.

11 Toxicological Information

Likely routes of exposure Eye and skin contact during pipetting are the only realistic routes. Ingestion is unlikely, and inhalation is not an expected route for this viscous, non-volatile aqueous liquid.

Acute toxicity Not classified. No toxicity data exist for the mixture itself; the assessment is by calculation from the components, and no component is present at a concentration that would make the mixture acutely toxic by the oral, dermal or inhalation route.

Skin corrosion / irritation Not classified. Transient mild irritation may occur with prolonged direct contact.

Serious eye damage / irritation Not classified. Transient mild irritation may occur with direct contact.

Respiratory / skin sensitisation Not classified. No sensitiser is present at or above its classification cut-off. The polymerase is a non-volatile protein in solution and is not expected to present a sensitisation hazard under the recommended handling conditions.

Specific target organ toxicity (single and repeated exposure) Not classified.

Aspiration hazard Not classified.

Carcinogenicity, mutagenicity, reproductive toxicity Not classified. No component carries a carcinogen, germ-cell mutagen or reproductive-toxicant classification. Ethanol, present below 0.1%, carries an ACGIH A3 notation (confirmed animal carcinogen of unknown relevance to humans).

Component data Glycerol, the dNTPs and the tracking dye carry no acute-toxicity classification. No constituent is present at a classifying level in the finished mix.

12 Ecological Information

Ecotoxicity Not classified as hazardous to the aquatic environment. No component is present at a concentration that would classify the mixture, taken on its own or under the mixture summation rules.

Persistence and degradability Glycerol and the buffer salts are readily biodegradable or are common environmental ions.

Bioaccumulative potential Low.

Mobility in soil Highly mobile in soil and water, being miscible with water.

Other adverse effects None known.

13 Disposal Considerations

Dispose of contents and container in accordance with local, provincial and federal regulations. The product is not classified as a hazardous waste on the basis of its composition; users must still verify their own waste characterisation and any institutional requirements. Do not release large volumes to drains. Treat any biological material the product is combined with in use according to the user's biosafety requirements.

14 Transport Information

TDG (Canada)	**Not regulated.** The product carries no hazard classification in Section 2 and meets no transport hazard class under the Transportation of Dangerous Goods Regulations (SOR/2001-286). No UN number or packing group applies.

15 Regulatory Information

Canada (WHMIS)	Not classified under the Hazardous Products Regulations (SOR/2015-17). Every chemical constituent of the reaction mix, disclosed and proprietary alike, is listed on the Canadian Domestic Substances List (DSL), with one exception: **the deoxynucleotide triphosphates (dNTPs) are not listed on the DSL.**
Other jurisdictions	United States (TSCA): contact HoppeSyler Scientific for inventory compliance status. No component of this product is listed by name or by CAS number under California Proposition 65 (list dated 31 July 2026).

16 Other Information

Prepared by	HoppeSyler Scientific Inc. · Approved by: HoppeSyler Scientific Inc.
Version	2.1
Revision date	2026-09-24
Legend	GHS = Globally Harmonized System of Classification and Labelling of Chemicals; WHMIS = Workplace Hazardous Materials Information System; HPR = Hazardous Products Regulations; TDG = Transportation of Dangerous Goods; DSL = Domestic Substances List; TSCA = Toxic Substances Control Act; RUO = Research Use Only; PCR = polymerase chain reaction; dNTP = deoxynucleotide triphosphate; ACGIH = American Conference of Governmental Industrial Hygienists; LD50 = median lethal dose; H = hazard statement; P = precautionary statement.

Disclaimer. The information herein is provided in good faith and believed accurate as of the effective date. It is the user's responsibility to determine suitability for their purpose. HoppeSyler Scientific Inc. makes no warranty and assumes no liability for use of this information.

END OF SAFETY DATA SHEET