



HoppeSyler Scientific Inc.
79 Bessemer Road, Unit 1
London, ON N6E 1P9 · Canada
info@hoppesyler.com
+1 833 727 7522
www.hoppesyler.com

SAFETY DATA SHEET

M4 Taq DNA Polymerase

Prepared under WHMIS 2015 (Hazardous Products Regulations, SOR/2015-17) / GHS Rev. 5.

DOCUMENT ID	VERSION	ISSUED	EFFECTIVE
HSS-PL05-SDS	1.0	2026-09-03	2026-09-03

1 Identification

Product name	M4 Taq DNA Polymerase
Catalogue number	M0902-010 (1,000 U) · M0902-050 (5,000 U)
Product type	Engineered hot-start thermostable DNA polymerase (M4 Taq), a purified recombinant enzyme supplied as a concentrated solution in a glycerol-stabilised Tris/sodium chloride storage buffer with a non-ionic detergent.
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 2015 / GHS classification	Not classified. This product does not meet the criteria for any physical, health, or environmental hazard class under WHMIS 2015 (Hazardous Products Regulations, SOR/2015-17) / GHS Rev. 5.
Basis for non-classification	The shipped tube is the purified enzyme in its glycerol/Tris storage buffer. The bacterial production inputs used upstream to express and purify the enzyme (culture medium, selection antibiotic, induction reagent) are removed during purification and are not present in the shipped tube . The components that remain (glycerol, water, buffer salts, a non-ionic detergent, ethanol below 1% carried in with the protease-inhibitor stock, and trace additives) are each present below their GHS classification cut-offs, individually and under the GHS mixture-additivity rules, so the product is not classified.
Signal word	None.
Pictograms	None.
Hazard statements	None.
Precautionary statements	PREVENTION P264 Wash hands thoroughly after handling. · P280 Wear protective gloves and eye protection. (Voluntary good-laboratory-practice handling for a research reagent; no precautionary statement is required by classification.)
Other hazards	No data indicating a hazard not otherwise classified (HNOC). As with any laboratory reagent, avoid unnecessary skin and eye contact and do not ingest.

3 Composition / Information on Ingredients

Substance type: mixture (glycerol-stabilised aqueous storage buffer). The composition below is the **shipped** formulation, computed from the manufacturing formulation of record. The upstream bacterial production inputs (culture medium, selection antibiotic, induction reagent) are removed during enzyme purification and are therefore not listed. The table lists the storage-buffer components; the DNA polymerase itself is a purified protein, not classified as hazardous and present at a concentration far below any classification cut-off, and is not tabulated.

Component	CAS-No	Concentration (w/w %, GHS band)
Glycerol	56-81-5	≥50%
Water (nuclease-free)	7732-18-5	25-50%
Tris hydrochloride (Tris-HCl buffer)	1185-53-1	0.1-1%
Ethanol	64-17-5	0.1-1%
Sodium chloride	7647-14-5	0.1-1%

Component	CAS-No	Concentration (w/w %, GHS band)
Brij-58 (polyethylene glycol monocetyl ether, non-ionic detergent)	9004-95-9	<0.1%
DL-Dithiothreitol (DTT, reducing agent)	3483-12-3	<0.1%
Phenylmethylsulfonyl fluoride (PMSF, trace protease-inhibitor residue)	329-98-6	<0.1%
Disodium EDTA dihydrate (edetate disodium dihydrate)	6381-92-6	<0.1%

Components are listed in descending concentration as GHS bands, computed from the manufacturing formulation of record. Each listed component is present below its GHS classification cut-off in the finished product, individually and by mixture additivity, so none drives a classification (Sections 2 and 11). Ethanol (below 1%) is carried in with the protease-inhibitor stock used during enzyme preparation; at this level it neither classifies the mixture nor gives it a flash point (Section 9). Trace components (Brij-58, DTT, PMSF, EDTA) are disclosed to below 0.1% for transparency, although they do not reach GHS classification cut-offs at these levels. No component classified as a carcinogen, mutagen or reproductive toxicant (CMR) under WHMIS 2015 / GHS is present above its disclosure threshold; see Section 11 for the ACGIH A3 notation carried by ethanol.

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 glycerol/water 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	Non-flammable liquid: predominantly glycerol and water with a volatile flammable solvent (ethanol) content below 1%; 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, non-classified 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. 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 PPE in Section 8. Wash hands after handling. Keep the product on ice or in a cold block during use to preserve enzyme activity; return to -20 °C promptly.
Safe storage	Store frozen at -20 °C, protected from repeated freeze/thaw cycles. Keep the container tightly closed. The glycerol content of the storage buffer (approximately 50% v/v) keeps the product as a viscous, non-frozen liquid at -20 °C.
Incompatibilities	Strong oxidising agents (may degrade the reducing agent and detergent components).

8 Exposure Controls / Personal Protection

Exposure limits	Glycerol (the principal component): no ACGIH TLV is currently established (the former TLV for glycerin mist was withdrawn in 2013); the US OSHA PEL for glycerin mist is 15 mg/m ³ total particulate and 5 mg/m ³ respirable fraction (8-hour TWA); glycerin is not listed in the Ontario Table of Ontario Regulation 833. The product is a viscous liquid dispensed in small volumes and does not generate a mist in normal use. Ethanol (ACGIH STEL 1000 ppm) is present below 1% in a
------------------------	--

viscous glycerol/water matrix and is not expected to generate a relevant airborne concentration. No occupational exposure limit is established for the remaining components. In normal use, no airborne concentration approaching any of these limits is expected.

Occupational exposure limits cited from the ACGIH TLV list, US OSHA 29 CFR 1910.1000 Table Z-1, and Ontario Regulation 833 (Ontario Table).

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 lab coat.
Respiratory protection	Not required under normal handling of this viscous glycerol/water liquid.

9 Physical and Chemical Properties

Physical state	Liquid (viscous, glycerol-based)	Flash point	Not applicable (predominantly glycerol/water mixture; at below 1% ethanol no closed-cup flash point is expected; not measured). No flash point supports a flammability class in Section 2.
Appearance	Clear, colourless, viscous liquid	Boiling point (initial)	No data available
Odour	Odourless to faint	Flammability (solid, gas)	Not applicable (liquid)
Odour threshold	No data available	Flammable / explosive limits	Not applicable
Vapour pressure	No data available	Vapour density (air = 1)	No data available
Colour	Colourless	Oxidising properties	None
pH	~8 (buffered, Tris-HCl pH 8.0)	Relative density	~1.13 (computed from the formulation of record; not measured)
Melting / freezing point	Below -20 °C (glycerol-stabilised)	Solubility	Miscible with water
Evaporation rate	No data available	Partition coeff. (log K_{ow})	No data available
Auto-ignition temperature	No data available	Viscosity	Viscous (glycerol content); no measured value
Decomposition temperature	No data available	Explosive properties	None

As a predominantly glycerol/water mixture with under 1% ethanol, this product has no flash point and is not a flammable liquid; this is the basis for the absence of any flammability (H226 / H225) classification in Section 2. Estimated values are marked as estimated or computed; properties without a sourced value are stated as "No data available" rather than calculated.

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 (reduces enzyme activity but is 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; inhalation is not an expected route for this viscous glycerol/water liquid.
Acute toxicity (product)	Not classified. 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; the buffered glycerol/water mixture does not meet the criteria for eye irritation at the shipped concentrations, individually or under the GHS mixture-additivity rules.

Respiratory / skin sensitisation	Not classified. No sensitiser is present at or above its classification cut-off. The purified polymerase is a non-volatile protein in solution and is not expected to present a sensitisation hazard under the recommended handling conditions.
STOT (single / repeated)	Not classified.
Aspiration hazard	Not classified (aqueous glycerol solution; not a hydrocarbon or other substance of the type that classifies for aspiration).
Carcinogenicity / mutagenicity / reproductive toxicity (CMR)	Not classified. Ethanol (present at 0.1 to 1%) carries an ACGIH A3 notation; its IARC Group 1 listing is scoped to ethanol in alcoholic beverages and does not apply to this laboratory reagent. Ethanol has no carcinogen, mutagen or reproductive-toxicant classification under WHMIS 2015 / GHS, so no CMR classification cut-off is reached. No other component carries a CMR classification or a carcinogen listing.
Component reference data	Provided for disclosed components with reference values, none of which is present at a classifying level in the finished product: - Glycerol: oral LD50 5,570 to 12,600 mg/kg (rat); practically non-toxic. - Tris hydrochloride: oral LD50 >5000 mg/kg (rat, OECD 425). - Disodium EDTA: oral LD50 >2000 mg/kg (rat). - Ethanol: oral LD50 >5000 mg/kg (rat); present below 1%. - Phenylmethylsulfonyl fluoride (PMSF): lead hazards at neat concentration are acute oral toxicity (Category 3), skin corrosion and serious eye damage; none is reached at below 0.1%. - DL-Dithiothreitol (DTT): lead hazards at neat concentration are acute oral toxicity (Category 4), skin and eye irritation and respiratory-tract irritation; none is reached at below 0.1%. - Brij-58: not classified for health effects at neat concentration; its aquatic classification is addressed in Section 12. The buffer salts are not classified for acute toxicity. <i>Where a measured value is not available for a component, classification is by calculation; the finished mixture is not classified by either route.</i>

12 Ecological Information

Ecotoxicity	Not classified as hazardous to the aquatic environment. No component is present at an M-weighted concentration that would classify the mixture. Brij-58 (Aquatic Chronic 2 at neat concentration) is present at below 0.1% in the finished product, far below the mixture-classification threshold.
Persistence	Glycerol and the buffer salts are readily biodegradable or are common environmental ions.
Bioaccumulation	Low potential.
Mobility	Highly mobile in soil and water due to water miscibility.
Other adverse effects	None known.

13 Disposal Considerations

Dispose of contents and container in accordance with local, provincial, and federal regulations. This product is not classified as a hazardous waste on the basis of its composition; however, users must verify their own waste characterisation and applicable 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. This product meets no transport hazard class under the Transportation of Dangerous Goods Regulations (SOR/2001-286). No UN number or packing group applies.
US DOT / IATA / IMDG	Not regulated for transport under United States DOT (49 CFR), IATA (air) or IMDG (sea). Confirm current requirements before any bulk or air shipment.
Environmental hazards	Not applicable; not a marine pollutant (no aquatic hazard classification, Section 12).
Transport in bulk (MARPOL Annex II / IBC Code)	Not applicable; not shipped in bulk.

15 Regulatory Information

Canada (WHMIS 2015)	Not classified under the Hazardous Products Regulations (SOR/2015-17). All components (water, glycerol, Tris hydrochloride, ethanol, sodium chloride, Brij-58, dithiothreitol, phenylmethylsulfonyl fluoride and disodium EDTA) are listed on the Canadian Domestic Substances List (DSL).
Other jurisdictions	No component is listed under California Proposition 65 in the form and use present in this product. Confirm inventory status (for example US TSCA) for the destination jurisdiction before export.

16 Other Information

Prepared by	HoppeSyler Scientific Inc. · Approved by: HoppeSyler Scientific Inc.
--------------------	--

Revision history

Version	Date	Change
1.0	2026-09-03	First HoppeSyler Scientific Safety Data Sheet for this product, prepared under WHMIS 2015 / GHS Rev. 5. Product determined not classified : the shipped tube is the purified enzyme in a glycerol/Tris storage buffer, with the bacterial production inputs removed during purification, and every remaining component below its GHS cut-off, individually and by mixture additivity. Composition computed from the manufacturing formulation of record and disclosed by GHS band. Prepared 2026-08-15; approved for release 2026-09-03.

Legend

GHS = Globally Harmonized System; WHMIS = Workplace Hazardous Materials Information System; TDG = Transportation of Dangerous Goods; DSL = Domestic Substances List; RUO = Research Use Only; PCR = Polymerase Chain Reaction; CMR = carcinogen / mutagen / reproductive toxicant; STOT = specific target organ toxicity; PPE = personal protective equipment; TLV = threshold limit value (ACGIH); PEL = permissible exposure limit (OSHA); TWA = time-weighted average; STEL = short-term exposure limit; H = hazard statement; P = precautionary statement.

Disclaimer. The information herein is provided in good faith and believed accurate as of the issue date shown above. 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