

Product Information

Intended Use	Designed for identification of laboratory consumables and containers such as vials, tubes, and cryoboxes stored in cryogenic conditions as low as -196°C. These labels will also adhere securely to already frozen surfaces such as frozen cryovials and cryoboxes at surface temperatures as low as -80°C.
Facestock Material	PolygoDT™ Thermoplastic Film
Adhesive Type	Permanent (Acrylic based)
Total Media Thickness	5.5mil ± 10%
Support Liner Thickness	3.0mil ± 10%
Label Finish	Semi-Gloss
Printing Method	DYMO® LabelWriter™ 5-Series
Lower Temperature Resistance	-196°C (-321°F)
Upper Temperature Resistance	+70°C (+158°F)
Minimum Application Temperature	-80°C (-112°F)
Product Storage Conditions	Between +20°C to +25°C, 40-50% RH, in original packaging, with a shelf life of 2 years from the date of receipt.

Compliance

Compliance/Chemicals Tested	Test Method	Result
RoHS 3 (EU Directive 2015/863) Elements: Cd-Cadmium; Cr+6-Hexavalent Chromium; Pb-Lead; Hg-Mercury	ICP atomic emission techniques utilized to analyze for RoHS elements as per ASTM E1479-24. Cr+6 is a total chromium value.	PASS
RoHS 3 (EU Directive 2015/863) Bromine	Using ASTM D808-20 and ASTM D4327-17 as guides.	None Detected, <1 ppm
RoHS 3 (EU Directive 2015/863) Di-N-Pentyl Phthalate (DPENP), Di-N-Hexyl Phthalate (DHEXP), Dicyclohexyl Phthalate (DCHP), Diisobutyl Phthalate (DIBP), Di-Ethyl Hexyl Phthalate (DEHP), Di-N-Butyl Phthalate (DnBP), Butyl Benzyl Phthalate (BBP), Di-Isononyl Phthalate (DINP), Di Isodecyl Phthalate (DIDP) and Di-n-Octyl Phthalate (DnOP)	GC/MS was used to identify and quantify the phthalate compounds according to CPSC-CH-C1001-09.4.	None Detected, <50 ppm
Dimethyl Fumarate	EPA Method 8270D Semi-volatile Organic Compounds by Gas Chromatography/ Mass Spectrometry (GC/MS)	None Detected, <10 ppm
California Prop 65 Bisphenol A (BPA)	ATS 367 Rev. 1 – Analysis of Bisphenol A (BPA) by LC/MS/MS	None Detected, <15 ppb
California Prop 65, Phthalates Di-N-Pentyl Phthalate (DPENP), Di-N-Hexyl Phthalate (DHEXP), Dicyclohexyl Phthalate (DCHP), Diisobutyl Phthalate (DIBP), Di-Ethyl Hexyl Phthalate (DEHP), Di-N-Butyl Phthalate (DnBP), Butyl Benzyl Phthalate (BBP), Di-Isononyl Phthalate (DINP), Di Isodecyl Phthalate (DIDP) and Di-n-Octyl Phthalate (DnOP)	GC/MS was used to identify and quantify the phthalate compounds according to CPSC-CH-C1001-09.4.	None Detected <50 ppm
Chlorine	per ASTM D808-20 and ASTM D4327-17 as guides.	544 ppm, mg/L
REACH 241 Substances of Very High Concern requirements	Inductively Coupled Plasma Optima Emission Spectrometer (ICP-OES) Gas Chromatography/ Mass Spectrometry (GC-MS). High Performance Liquid Chromatography with mass spectrometer detector (HPLC-MS-MS) and HPLC-DAD	PASS

GA International Internal Product Testing Results

Legend	
Adhesion Score (1-5 Scale)	Description
5 -Excellent Adhesion	Label cannot be removed unless it is physically damaged
4- Very Good Adhesion	Label cannot be removed unless significant effort is applied
3- Good Adhesion	Label cannot be removed unless moderate effort is applied
2- Weak Adhesion	Label can be easily removed with minimal effort
1 - Poor Adhesion	Spontaneous detachment of label or it can be easily removed with no effort
Printout Quality Score (1-5 Scale)	Description
5 - Excellent	Printout is unaffected and is readable/scannable
4 - Very Good	Printout is lightly affected and is readable/scannable
3 - Good	Printout is moderately affected and is readable/scannable
2- Low	Printout is easily smudged or removed; printout is not readable/scannable
1 - Poor	The printout is erased

Low Temperature Testing				
Application Temp	Storage Temp	Container/Surface	Adhesion Score (1-5 scale)	Printout Quality Score (1-5 scale)
Room Temperature	-80°C freezer for 24 hrs	1.5 ml Microtube cap	4	5
		1.5 ml Microtube side	4	5
		Polypropylene 2ml Cryovial*	4	5
		Freezer Box carton	5	5
		Polycarbonate cryobox	5	5
		Falcon Tube 15 ml	4	5
Room Temperature	-196°C(L.N) for 24 hrs	1.5 ml Microtube side	5	5
		Polypropylene 2ml Cryovial*	5	5
		Freezer Box carton	5	5
		Polycarbonate Cryobox	5	5
-80°C dry ice	-196°C(L.N) for 24 hrs	1.5 ml Microtube side	5	5
		Polypropylene 2ml Cryovial*	5	5
		Freezer Box carton	4	5
		Polycarbonate Cryobox	4	5
Room Temperature	Dry ice for 24 hrs	1.5 ml Microtube cap	3	5
		1.5 ml Microtube side	3	5
		Polypropylene 2ml Cryovial*	4	5
		Freezer Box carton	5	5
		Polycarbonate Cryobox	4	5
		Falcon Tube 15 ml	4	5
-80°C dry ice	-80°C for 24 hrs	1.5 ml Microtube cap	3	5
		1.5 ml Microtube side	3	5
		Polypropylene 2ml Cryovial*	5	5
		Freezer Box carton	3	5
		Polycarbonate Cryobox	4	5
		Falcon Tube 15 ml	5	5
Room Temperature	Alcohol Dry Ice Bath for 5 minutes	1.5 ml Microtube side	3	5
		Polypropylene 2ml Cryovial*	4	5
		Falcon Tube 15 ml	3	5

Labels were printed using a DYMO® LabelWriter™ with barcodes and human-readable text. The labels were applied at the stated application temperature and surface, then stored for a period of time and conditions as indicated, in three replicates. The labeled surfaces were examined immediately upon removal from the storage conditions. The adhesion of the labels was evaluated by physically challenging the label to determine the amount of effort needed to remove the label. The printout durability was determined by rubbing the printout with a cotton swab for 5 seconds and recording the legibility of the printed information and the scanability of the barcode. *Results may vary depending on the type or brand of cryovial used.

GA International Internal Product Testing Results

Legend	
Adhesion Score (1-5 Scale)	Description
5 -Excellent Adhesion	Label cannot be removed unless it is physically damaged
4- Very Good Adhesion	Label cannot be removed unless significant effort is applied
3- Good Adhesion	Label cannot be removed unless moderate effort is applied
2- Weak Adhesion	Label can be easily removed with minimal effort
1 - Poor Adhesion	Spontaneous detachment of label or it can be easily removed with no effort
Printout Quality Score (1-5 Scale)	Description
5 - Excellent	Printout is unaffected and is readable/scannable
4 - Very Good	Printout is lightly affected and is readable/scannable
3 - Good	Printout is moderately affected and is readable/scannable
2- Low	Printout is easily smudged or removed; printout is not readable/scannable
1 - Poor	The printout is erased

High Temperature Testing				
Application Temp	Storage Temp	Container/Surface	Adhesion Score (1-5 scale)	Printout Quality Score (1-5 scale)
Room Temperature	+70°C, 30 min dry heat oven	Glass bottle	4	5
		Stainless steel	4	5
		Autoclave pouch	4	5
		Falcon Tube 15 ml	4	5
Room Temperature	Autoclave +121°C, 20 min 16.5psi	Glass bottle	4	1: Fully blacked out. Illegible
		Stainless steel	5	1: Fully blacked out. Illegible
		Autoclave pouch	4	1: Fully blacked out. Illegible
		Falcon Tube 15 ml	4	1: Fully blacked out. Illegible

Labels were printed using a DYMO® LabelWriter™ with barcodes and human-readable text. The labels were applied at room temperature on the stated surfaces, then subjected to the conditions as indicated, in three replicates. The labeled surfaces were examined immediately upon removal from the storage conditions. The adhesion of the labels was evaluated by physically challenging the label to determine the amount of effort needed to remove the label. The printout durability was determined by rubbing the printout with a cotton swab for 5 seconds and recording the legibility of the printed information and the scanability of the barcode. Disclaimer: Please note that the 30-minute duration for the dry heat resistance test was selected for this experiment. This duration is not indicative of the maximum limit and further testing is recommended to determine the full extent of heat resistance

Chemical Resistance (15 second Rubbing Test)		
Chemicals	Container	Printout Quality Score (1-5 scale)
Water	Glass Slide	5
70% Ethanol	Glass Slide	5
100% Ethanol	Glass Slide	5
Isopropanol	Glass Slide	5
Acetone	Glass Slide	5
Xylene	Glass Slide	5
DMSO	Glass Slide	5

Labels were printed using a DYMO® LabelWriter™ with barcodes and human-readable text. The labels were applied at room temperature on glass slides, and the printout durability was determined by rubbing the printout with a wet cotton swab for 15 seconds and recording the legibility of the printed information and the scanability of the barcode.

GA International Internal Product Testing Results

Legend	
Adhesion Score (1-5 Scale)	Description
5 -Excellent Adhesion	Label cannot be removed unless it is physically damaged
4- Very Good Adhesion	Label cannot be removed unless significant effort is applied
3- Good Adhesion	Label cannot be removed unless moderate effort is applied
2- Weak Adhesion	Label can be easily removed with minimal effort
1 - Poor Adhesion	Spontaneous detachment of label or it can be easily removed with no effort
Printout Quality Score (1-5 Scale)	Description
5 - Excellent	Printout is unaffected and is readable/scannable
4 - Very Good	Printout is lightly affected and is readable/scannable
3 - Good	Printout is moderately affected and is readable/scannable
2- Low	Printout is easily smudged or removed; printout is not readable/scannable
1 - Poor	The printout is erased

Water Bath				
Storage Temperature	Water Bath Temperature	Surface/Container	Adhesion Score (1-5 scale)	Printout Quality Score (1-5 scale)
-80°C	+37°C for 30 minutes	Polypropylene 2ml Cryovial*	4 - No Flagging	4
-80°C	+42°C for 30 minutes	Polypropylene 2ml Cryovial*	4 - No Flagging	4
-80°C	+56°C for 30 minutes	Polypropylene 2ml Cryovial*	4 - No Flagging	3
-80°C	+100°C for 30 minutes	Polypropylene 2ml Cryovial*	4 - No Flagging	1: Fully blacked out. Illegible

Labels were printed using a DYMO® LabelWriter™ with barcodes and human-readable text. The labels were applied at room temperature on globe cryovials, then stored at -80°C. The labeled vials were then immersed in water baths at different indicated temperatures for 30 minutes. The adhesion of the labels was evaluated by physically challenging the label to determine the amount of effort needed to remove the label. The printout durability was determined by rubbing the printout with a wet cotton swab for 5 seconds and recording the legibility of the printed information and the scanability of the barcode. *Results may vary depending on the type or brand of cryovial used.

The specifications provided herein are based on the information supplied by the primary material manufacturer (s) and tests conducted by GA International Inc. The end-user shall independently determine the suitability of the labels for the purpose for which they were purchased.

Subject to GA terms and conditions: <https://www.labtag.com/resources/terms-and-conditions/>.

Last Update: January 13, 2025

Please contact **Quality Team** for any additional compliance and regulatory information:

Email: quality_assurance@ga-international.com

Phone: 450-973-9420

Please contact **Technical Support** for any product related questions:

Email: cx@ga-international.com

Phone: 450-973-9420

Product Warranty: Refer to our Terms and Conditions found on:

<https://www.labtag.com/resources/terms-and-conditions/>.

USA

P.O. Box 2633,
Champlain, NY
12919, United States
1-800-518-0364

CANADA

4455 Rue Louis-B.-Mayer,
Laval QC,
H7P 6B5, Canada
1-800-518-0364

NETHERLANDS

Runweg 24,
5258 BN Berlicum
Netherlands
+31 (0) 73-7370185

UK

Preston Park House, South Road
Brighton, East Sussex
BN1 6SB, United Kingdom
+44 (20) 3769 5683