

SAFETY DATA SHEET

Product identifier: Advanta™ FFPE DNA/RNA Qualification Kit
 Catalog ID number: Cat # 101-6774

SDS ID 101-7876 Revision A1

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Contact information

General	Fluidigm Corporation 7000 Shoreline Court Suite 100, South San Francisco, CA 94080 Main (U.S.): +1 (650) 266-6000 E-mail: techsupport@fluidigm.com
Emergency telephone number	+ (650) 266-6100 (outside US) + (866) 358-4354 (toll free)

Product identifier	Advanta™ FFPE DNA/RNA Qualification Kit
Synonyms	None identified
Trade names	None identified
Chemical family	Mixture
Relevant identified uses of the substance or mixture and uses advised against	<i>For Research Use Only. Not for use in diagnostic procedures.</i>

Note This SDS is written to address potential health and safety issues associated with the handling of the formulated product.

SECTION 2 - HAZARDS IDENTIFICATION

This product contains six (6) parts. The following provides the hazard classification for each part.

Part description and number	GHS Hazard Classification
Part 1: One-Step Probe RT-qPCR Master Mix Low ROX (2x) (101-6885)	None required.
Part 2: Probe qPCR Master Mix Low ROX (2x) (101-6886)	None required.
Part 3: DNA Quantification Assay Mix (20x) (101-7695)	None required.
Part 4: RNA Qualification Assay Mix (20x) (101-7696)	None required.
Part 5: DNA Control (101-7721)	None required.
Part 6: PCR Water (100-5941)	None required.

Other hazards Part/mixture not yet fully tested.

Note Parts 1-6 are not classified as hazardous according to Regulation EC No 1272/2008 (EU CLP), WHMIS 2015 (Health Canada), and Hazard Communication Standard No. 1910.1200 (US OSHA). The pharmacological, toxicological and ecological properties of this mixture have not been fully characterized.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Part 1: One-Step Probe RT-qPCR Master Mix Low ROX (2x) (101-6885)

<u>Ingredient</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>GHS Classification</u>
Glycerol	56-81-5	200-289-5	1-10%	Not classified
Propylene glycol	57-55-6	200-338-0	1-10%	Not classified

Note The ingredients listed above are not considered hazardous. They are listed because they have OELs and are present at or above 1%. The remaining components are present at amounts below reportable limits. Amounts are listed as ranges; the exact percentage of composition is withheld as a trade secret. See Section 16 for full text of GHS classifications.

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Part 2-6

<u>Ingredient</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>GHS Classification</u>
Part 2: Probe qPCR Master Mix Low ROX (2x) (101-6886)	N/A (mixture)	N/A	~100%	Not classified
Part 3: DNA Quantification Assay Mix (20x) (101-7695)	N/A (mixture)	N/A	~100%	Not classified
Part 4: RNA Qualification Assay Mix (20x) (101-7696)	N/A (mixture)	N/A	~100%	Not classified
Part 5: DNA Control (101-7721)	N/A (mixture)	N/A	~100%	Not classified
Part 6: PCR Water (100-5941)	N/A (mixture)	N/A	~100%	Not classified

Note The components within Parts 2-6 are non-hazardous and/or present at amounts below reportable limits.

SECTION 4 - FIRST AID MEASURES

Description of first aid measures

Immediate Medical Attention Needed	No
Eye Contact	If irritation occurs or persists, notify medical personnel and supervisor.
Skin Contact	Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.
Inhalation	In case of accidental inhalation, move exposed subject to fresh air. If signs/ symptoms occur or if concerned, get medical attention.
Ingestion	If signs/symptoms occur, get medical attention.
Protection of first aid responders	See Section 8 for Exposure Controls/Personal Protection recommendations.
Most important symptoms and effects, both acute and delayed	See Sections 2 and 11.
Indication of immediate medical attention and special treatment needed, if necessary	Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively.

SECTION 5 - FIREFIGHTING MEASURES

Extinguishing media	Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.
Specific hazards arising from the substance or mixture	No information identified. May emit carbon monoxide and carbon dioxide.
Flammability/Explosivity	As parts of the kit are an aqueous solution, it is not expected to be flammable or explosive.
Advice for firefighters	Wear full protective clothing and a self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode. Decontaminate all equipment after use.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	If product is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment (see Section 8). Area should be adequately ventilated. Do not breathe mist/vapors/spray.
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Environmental precautions Do not empty into drains. Avoid release to the environment.

Methods and material for containment and cleaning up DO NOT CAUSE MATERIAL TO BECOME AIRBORNE. For small spills, soak up material with absorbent, e.g., paper towels. For large spills, cordon off spill area and minimize the spreading of spilled material. Soak up material with absorbent. Collect spilled material, absorbent, and rinse water into suitable containers for proper disposal in accordance with applicable waste disposal regulations (see Section 13). Decontaminate the area twice.

Reference to other sections See Sections 8 and 13 for more information.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling Wear appropriate protective equipment when handling. Avoid contact with skin and eyes. Avoid breathing vapor/mist/spray.

Conditions for safe storage including any incompatibilities Store at -20°C in tightly closed container. Store in sealed containers that are appropriately labeled.

Specific end use(s) No information identified.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Note Dispose of broken vials/syringes in a sharps container.

Control Parameters/Occupational Exposure Limit Values

<u>Compound</u>	<u>Issuer</u>	<u>Type</u>	<u>OEL</u>
Glycerol	ACGIH, Belgium, Netherlands, Portugal, United Kingdom, Mexico, Singapore	TWA-8 HR	10 mg/m ³ (listed as glycerin mist)
	Estonia, France, Greece, Ireland, Poland, Spain	TWA-8 HR	10 mg/m ³
	Finland	TWA-8 HR	20 mg/m ³
	Switzerland	TWA-8 HR	50 mg/m ³
	Switzerland	STEL	100 mg/m ³ (inhalable)
	United Kingdom	STEL	30 mg/m ³ (mist)
Propylene glycol	AIHA	TWA-8 HR	10 mg/m ³
	Ireland, United Kingdom	TWA-8 HR	150 ppm (total vapor and particulates), 10 mg/m ³ (particulates)
	Latvia, Lithuania, United Kingdom	TWA-8 HR, STEL	7 mg/m ³ , 450 ppm (total particulate and vapor), 30 mg/m ³ (particulate)

Exposure/engineering controls Control exposures to below the OEL (for the active ingredient(s) if available). Selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. Use local exhaust and/ or enclosure at aerosol/mist-generating points. Use engineered local exhaust ventilation (LEV) and/or enclosure for procedures where aerosolization may occur such as opened transfers, pumping, and spraying. Solutions can be handled outside a containment system or without LEV during procedures with no potential for aerosolization. All containers for solutions and slurries must be covered while being transferred.

Respiratory protection Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. At a minimum, a tight-fitting full-face respirator with HEPA filters is required when performing aerosol generating operations. A powered air-purifying respirator (PAPR) with HEPA filters and head cover is required for spill cleanup.

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Hand protection	Wear nitrile or other impervious gloves if skin contact is possible. When the material is diluted in an organic solvent, wear gloves that provide protection against the solvent.
Skin protection	Wear appropriate gloves, lab coat, or other protective overgarment if skin contact is likely. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use.
Eye/face protection	Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.
Environmental Exposure Controls	Avoid release to the environment and operate within closed systems wherever practicable. Air and liquid emissions should be directed to appropriate pollution control devices. In case of spill, do not release to drains. Implement appropriate and effective emergency response procedures to prevent release or spread of contamination and to prevent inadvertent contact by personnel.
Other protective measures	Wash hands in the event of contact with this substance, especially before eating, drinking or smoking. Protective equipment is not to be worn outside the work area (e.g., in common areas or out-of-doors).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear liquid
Color	Colorless
Odor	Odorless
Odor threshold	No information identified.
pH	No information identified.
Melting point/freezing point	No information identified.
Initial boiling point and boiling range	No information identified.
Flash point	No information identified.
Evaporation rate	No information identified.
Flammability (solid, gas)	No information identified.
Upper/lower flammability or explosive limits	No information identified.
Vapor pressure	No information identified
Vapor density	No information identified.
Relative density	No information identified.
Water solubility	Soluble in water.
Solvent solubility	No information identified.
Partition coefficient (n-octanol/water)	No information identified.
Auto-ignition temperature	No information identified.
Viscosity	No information identified.

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Explosive properties No information identified.

Oxidizing properties No information identified.

Other information

Molecular weight Not applicable (mixture)

Molecular formula Not applicable (mixture)

SECTION 10 - STABILITY AND REACTIVITY

Reactivity No information identified.

Chemical stability Stable when stored as recommended.

Possibility of hazardous reactions No information identified.

Conditions to avoid No information identified.

Incompatible materials No information identified.

Hazardous decomposition products No information identified.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on toxicological effects

Route of entry May be absorbed by inhalation, skin contact, and ingestion

Acute toxicity

<u>Compound</u>	<u>Type</u>	<u>Route</u>	<u>Species</u>	<u>Dose</u>
Glycerol	LD50	Oral	Rat	>10000 mg/kg
	LD50	Oral	Mouse	>= 4090 mg/kg
	LD50	Dermal	Rat	>21900 mg/kg
	LC50	Inhalation	Rat	>570 mg/m ³ /1 hour
	LD50	Dermal	Mouse	>18700 mg/kg
Propylene glycol	LD50	Dermal	Rabbit	>10000 mg/kg
	LD50	Oral	Rat	20000 mg/kg
	LD50	Oral	Mouse	22000 mg/kg
	LD50	Oral	Rabbit	18500 mg/kg
	LD50	Oral	Dog	22000 mg/kg
	LD50	Oral	Guinea Pig	18350 mg/kg
	LD50	Dermal	Rabbit	20800 mg/kg
	LC50 (4 hour)	Inhalation	Rat	>44.9 g/m ³ /4H

Irritation/Corrosion No studies identified.

Sensitization No studies identified.

STOT-single exposure No studies identified.

STOT-repeated exposure/Repeat-dose toxicity No studies identified.

Reproductive toxicity No studies identified.

Developmental toxicity No studies identified.

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Genotoxicity	No studies identified.
Carcinogenicity	No studies identified. The ingredients in this product/mixture are not listed by NTP, IARC, ACGIH or OSHA as a carcinogen.
Aspiration hazard	No data available.
Human health data	See Section 2 - "Other hazards"

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity

<u>Compound</u>	<u>Type</u>	<u>Species</u>	<u>Concentration</u>
Glycerol	--	--	--
Propylene glycol	EC50 (96h)	Green algae (Selenastrum capricornutum)	19,600 mg/L
	LC50 (48 h)	Daphnia magna (water flea)	43,500 mg/L
	LC50 (24 h)	Carassius auratus (fresh water fish)	>5000 mg/L
	LC50 (96 h)	Lepomis macrochirus, bluegill sunfish	>10,000 ppm
	LC50 (96 h)	Oncorhynchus mykiss (rainbow trout)	51,600 mg/L
	LC50 (96 h)	Pimephales promelas (fathead minnow)	54,900 mg/L

Persistence and Degradability	No data identified
Bioaccumulative potential	No data identified
Mobility in soil	No data identified
Results of PBT and vPvB assessment	Not performed
Other adverse effects	No data identified
Note	The environmental characteristics of the formulated product have not been fully investigated. Releases to the environment should be avoided.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. Do not send down the drain or flush down the toilet. All wastes containing the material should be properly labeled. Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner, e.g., appropriately permitted municipal or onsite wastewater treatment facility.
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SECTION 14 - TRANSPORT INFORMATION

Transport	De minimis exemption. Hazardous ingredients are in excepted quantity. The concentration of hazardous material in this product's composition is below that which is regulated for transport.
UN number	None assigned
UN proper shipping name	None assigned
Transport hazard classes and packing group	None assigned
Environmental hazards	Based on the available data, this mixture is not regulated as an environmental hazard or a marine pollutant.

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Special precautions for users Avoid release to the environment.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable

Hazardchem Code/HIN None assigned

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture This SDS generally complies with the requirements listed under current guidelines in the US, EU and Canada.

Chemical safety assessment Not conducted

TSCA status Glycerol and propylene glycol are listed.

SARA section 313 Not listed

California proposition 65 Glycerol and propylene glycol are not listed.

Component Analysis – State Glycerol is listed as hazardous in AZ, CA, CT, HI, IA, IN, MA, MD, ME, MI, MN, NM, NV, PA, RI, SC, TN, VT, VA, WA and WY.
 Propylene glycol is listed as hazardous in PA, and RI.

Component Analysis – Chemical Inventory Glycerol is listed in the chemical inventory of the following countries:
 Australia, China, Canada, EU, Mexico, New Zealand, the Philippines, UK, US, and Vietnam.

Propylene glycol is listed in the chemical inventory of the following countries:
 Australia, China, Canada, EU, Mexico, New Zealand, the Philippines, Russia, Turkey, UK, US, and Vietnam.

Additional information No other information identified

SECTION 16 - OTHER INFORMATION

NFPA Ratings	Glycerol	Health: 1	Fire: 1	Reactivity: 0
	Propylene Glycol	Health: 0	Fire: 1	Reactivity: 0

Full text of H phrases and GHS classifications Not applicable.

Sources of data Information from published literature and internal company data.

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Abbreviations

ACGIH - American Conference of Governmental Industrial Hygienists; ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail; AIHA - American Industrial Hygiene Association; CAS# - Chemical Abstract Services Number; CLP - Classification, Labelling, and Packaging of Substances and Mixtures; DNEL - Derived No Effect Level; DOT - Department of Transportation; EINECS - European Inventory of New and Existing Chemical Substances; ELINCS - European List of Notified Chemical Substances; EU - European Union; GHS - Globally Harmonized System of Classification and Labeling of Chemicals; HIN - Hazard Identification Number; IARC - International Agency for Research on Cancer; IDLH - Immediately Dangerous to Life or Health; IATA - International Air Transport Association; IBC - International Building Code; IMDG - International Maritime Dangerous Goods; LOEL - Lowest Observed Effect Level; LOAEL - Lowest Observed Adverse Effect Level; MAK - Maximum Workplace Concentration (translated from German); MARPOL - Marine Pollution; NIOSH - The National Institute for Occupational Safety and Health; NOEL - No Observed Effect Level; NOAEL - No Observed Adverse Effect Level; NTP - National Toxicology Program; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; PNEC - Predicted No Effect Concentration; PBT/vPvB - Persistent, Bioaccumulative and Toxic/very Persistent and very Bioaccumulative; SARA - Superfund Amendments and Reauthorization Act; STOT - Specific Target Organ Toxicity; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; WEEL - Workplace Environmental Exposure Levels; WHMIS - Workplace Hazardous Materials Information System

Revision History

Revision A: (SSF) ECN-3012; Refer to PDM; New SDS

Disclaimer

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