



SAFETY DATA SHEET

Product Identifier: Maxpar® Washing Solution, for CyTOF® XT
Catalog ID numbers: 201243

SDS ID: SDS-00035 Rev 01

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

Contact information

General	Fluidigm Corporation 2 Tower Place, Suite 2000, 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 Maxpar® Washing Solution, for CyTOF® XT, 500ml

Synonyms None identified

Trade names None identified

Chemical family Mixture - contains Hydrofluoric Acid

Relevant identified uses of the substance or mixture and uses advised against For *Research Use Only*.

Note This SDS is written to address potential worker health and safety issues associated with the handling of the formulated product/mixture. Workers manufacturing this product/mixture should consult the SDS of each hazardous ingredient for hazard information and handling recommendations.

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the substance or mixture The classification and labeling listed below is for bulk formulation.

Globally Harmonized System [GHS] Not classified

AU Hazard Classification Hazardous substance. Non-hazardous goods.

Label elements

CLP/GHS hazard pictogram None required

CLP/GHS signal word None required

CLP/GHS hazard statements None required

CLP/GHS precautionary statements None required

Other hazards Mixture- contains Hydrofluoric Acid

The most common adverse effects reported with exposure to hydrofluoric acid include dizziness, headache, nausea and vomiting, rapid breathing and heart rate, restlessness, weakness, runny nose, cough, and red eyes. Overexposure to hydrofluoric acid may cause convulsions, low blood pressure, loss of consciousness, lung injury, reduced heart rate, and potentially fatal respiratory failure. Inhalation of hydrofluoric acid may cause respiratory irritation.



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Note This mixture is not classified as hazardous according to Regulation EC No 1272/ 2008 (EU CLP) 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

Ingredient	CAS #	EINECS/ ELINCS#	Amount	GHS Classification
Hydrofluoric Acid	7664-39-3	231-634- 8	0.05%	ATO2: H300; H310, H314, H330

Note The ingredient(s) listed above are considered hazardous however are provided in the mixture at a level that is considered non-hazardous. The remaining components are non-hazardous and/or present at amounts below reportable limits. See Section 16 for full text of GHS classifications.

SECTION 4 - FIRST AID MEASURES

Description of first aid measures

Immediate Medical Attention Needed	Yes
Eye Contact	If easy to do, remove contact lenses, if worn. Immediately flush eyes with copious quantities of water for at least 15 minutes. 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	Immediately move exposed subject to fresh air. If not breathing, give artificial respiration. If breathing is labored, administer oxygen. Immediately notify medical personnel and supervisor.
Ingestion	Do not induce vomiting unless directed by medical personnel. Do not give anything to drink unless directed by medical personnel. Never give anything by mouth to an unconscious person. Notify medical personnel and supervisor.
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	Contains low levels of hydrofluoric acid. Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively.

SECTION 5 - FIREFIGHTING MEASURES

Extinguishing media	Water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Specific hazards arising from the substance or mixture	No information identified. May emit toxic nitrogen-containing compounds.
Flammability/Explosivity	No information identified
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.



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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.
- Environmental precautions** Do not empty into drains. Avoid release to the environment.
- Methods and material for containment and cleaning up** If vials are crushed or broken, 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** Avoid breathing vapor or mist. Do not permit eating/drinking/smoking near this material. All materials used for transferring or preparing this product must be considered contaminated and disposed of properly.
- Conditions for safe storage including any incompatibilities** Store in a cool, dry ventilated storage area with acid resistant floors and good drainage. Avoid strong oxidizers. 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

Compound	Issuer	Type	OEL
Hydrofluoric Acid	ACGIH, Australia, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, U.S.- California	OEL-STEL	2.5 mg/m ³
	OSHA, United Kingdom		
	New Zealand, Portugal	Ceiling	3 ppm

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SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION ... continued

ACGIH, Australia, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Sweden, U.S.- California OSHA, United Kingdom	OEL-TWA	0.3 ppm
NIOSH, U.S.- California OSHA	Ceiling	2.5 mg/m ³
Germany	OEL-STEL	2.5 mg/m ³
Germany	OEL-TWA	2.5 mg/m ³

- Exposure/Engineering controls** If handling bulk product or vials are opened/crushed/broken: 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. Emphasis is to be placed on closed material transfer systems and process containment, with limited open handling. High-energy operations should be done within an approved emission control or containment system.
- Respiratory protection** If handling bulk product or vials are opened/crushed/broken: Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. For routine powder handling tasks, an approved and properly fitted air purifying respirator should provide ancillary protection based on the known or foreseeable limitations of existing engineering controls.
- 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 product/mixture, 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).

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear liquid
Color	Colorless
Odor	Strong odor.
Odor threshold	No information identified.
pH	2.5
Melting point/freezing point	-37°C
Initial boiling point and boiling range	108°C
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	Fully soluble in water.
Solvent solubility	No information identified.
Partition coefficient (<i>n</i>-octanol/water)	No information identified.
Auto-ignition temperature	No information identified.
Decomposition temperature	No information identified.
Viscosity	No information identified.
Explosive properties	No information identified.
Oxidizing properties	No information identified.

Other information

Molecular weight	Not applicable (Mixture)
Molecular formula	Not applicable (Mixture)



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SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Hydrofluoric acid may react with metals, chlorine, organic materials, strong alkali, cyanides.
Chemical stability	Stable under normal temperatures and pressures.
Possibility of hazardous reactions	No information identified.
Conditions to avoid	Keep away from strong oxidizing agents.
Incompatible materials	Strong oxidizing agents.
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>
Hydrofluoric Acid	LC50	Vapor	Mouse	342 ppm 4 hrs

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.

Genotoxicity No studies identified.

Carcinogenicity No studies identified. This mixture is not listed by NTP, IARC, ACGIH or OSHA as a carcinogen.

Aspiration hazard No data available.

Human health data See Section 2 - "Other hazards"

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SECTION 12 - ECOLOGICAL INFORMATION

Toxicity

<u>Compound</u>	<u>Type</u>	<u>Species</u>	<u>Concentration</u>
Hydrofluoric Acid	Not Available	Not Available	N/A

Additional toxicity information Hydrofluoric acid is toxic to aquatic organisms and should not be allowed to accumulate in metal piping as it has the potential to form explosive mixtures.

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 this product/mixture have not been fully investigated. The above data are for the active ingredient and/or any other ingredient(s) where applicable. Although present at low concentrations, disposal should consider that hydrofluoric acid is present. 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 on- site wastewater treatment facility.

SECTION 14 - TRANSPORT INFORMATION

Transport Based on the available data, this product/mixture is regulated as a hazardous material/dangerous good under EU ADR/RID, US DOT, Canada TDG, IATA, or IMDG.

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.

Special precautions for users No special precautions needed. 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

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SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture	This SDS complies with the requirements under US, EU and GHS (EU CLP - Regulation EC No 1272/2008) guidelines. Consult your local/regional authorities for more information.
Chemical safety assessment	Not conducted.
WHMIS classification	Not classified.
TSCA status	Not listed.
SARA section 313	Not listed.
California proposition 65	Not listed.
Component Analysis – State	Hydrofluoric acid is listed as hazardous in CA, MA, MN, NJ, PA.
Component Analysis – Chemical Inventory	Hydrofluoric acid is listed in the chemical inventory of the following countries: Australia, Canada, EU, Japan, Korea, New Zealand, and the Philippines.
Additional information	No other information identified.

SECTION 16 - OTHER INFORMATION

NFPA Ratings	Hydrofluoric acid	Health: 1	Fire: 0	Reactivity: 0
Full text of H phrases and GHS classifications	ATO2 – Acute Toxicity (Oral) Category 2. H300 – Fatal if swallowed. H310 – Fatal in contact with skin. H330 – Fatal if inhaled. H314: Causes severe skin burns and eye damage. H290 – May be corrosive to metals.			
Sources of data	Information from published literature and internal company data.			

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; CA - California; 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; HI - Hawaii; IARC - International Agency for Research on Cancer; IDLH - Immediately Dangerous to Life or Health; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; LOEL - Lowest Observed Effect Level; LOAEL - Lowest Observed Adverse Effect Level; MA - Massachusetts; MN - Minnesota; NJ - New Jersey; 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; PA - Pennsylvania; PNEC - Predicted No Effect Concentration; RI - Rhode Island; SARA - Superfund Amendments and Reauthorization Act; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; VT - Vermont; WA - Washington; WHMIS - Workplace Hazardous Materials Information System

Issue Date	Jun 2021
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SECTION 16 - OTHER INFORMATION ... continued

Disclaimer

The information and recommendations in this safety data sheet are, to the best of Supplier's knowledge, accurate as of the date of issue. Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Safety Data Sheet before handling product. For Research Use Only. Not for use in diagnostic procedures.