SAFETY DATA SHEET

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

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

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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS #</th>
<th>EINECS/ELINCS#</th>
<th>Amount</th>
<th>GHS Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid</td>
<td>7664-39-3</td>
<td>231-634-8</td>
<td>0.05%</td>
<td>ATO2: H300; H310, H314, H330</td>
</tr>
</tbody>
</table>

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.
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

<table>
<thead>
<tr>
<th>Compound</th>
<th>Issuer</th>
<th>Type</th>
<th>OEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid</td>
<td>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, OSHA, United Kingdom</td>
<td>OEL-STE</td>
<td>2.5 mg/m³</td>
</tr>
<tr>
<td></td>
<td>New Zealand, Portugal</td>
<td>Ceiling</td>
<td>3 ppm</td>
</tr>
</tbody>
</table>
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SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION... continued

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Standard</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>OEL-TWA</td>
<td>0.3 ppm</td>
</tr>
<tr>
<td>Germany</td>
<td>OEL-TWA</td>
<td>2.5 mg/m³</td>
</tr>
<tr>
<td>Germany</td>
<td>OEL-STEL</td>
<td>2.5 mg/m³</td>
</tr>
</tbody>
</table>

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).
## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Strong odor.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information identified.</td>
</tr>
<tr>
<td>pH</td>
<td>2.5</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-37°C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>108°C</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Relative density</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Fully soluble in water.</td>
</tr>
<tr>
<td>Solvent solubility</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information identified.</td>
</tr>
<tr>
<td>Other information</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>Not applicable (Mixture)</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>Not applicable (Mixture)</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Compound</th>
<th>Type</th>
<th>Route</th>
<th>Species</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid</td>
<td>LC50</td>
<td>Vapor</td>
<td>Mouse</td>
<td>342 ppm 4 hrs</td>
</tr>
</tbody>
</table>

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"
SAFETY DATA SHEET

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Catalog ID numbers: 201243  
SDS ID: SDS-00035 Rev 01

SECTION 12 - ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Compound</th>
<th>Type</th>
<th>Species</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hydrofluoric Acid</td>
<td>Not Available</td>
<td>Not Available</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Hydrofluoric acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>1</td>
</tr>
<tr>
<td>Fire</td>
<td>0</td>
</tr>
<tr>
<td>Reactivity</td>
<td>0</td>
</tr>
</tbody>
</table>

Full text of H phrases and GHS classifications


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 Abstracts Service 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

Revisions

Revision 01: CHG-004160
Summary of revision: new document release
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SDS ID: SDS-00035 Rev 01

SECTION 16 - OTHER INFORMATION ... continued

Disclaimer
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