Kit:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-5319</td>
<td>C1® Single-Cell Reagent Kit for Preamp</td>
</tr>
</tbody>
</table>

Components of Module 1 (100-5518):

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-5314</td>
<td>C1 Cell Wash Buffer, 25.9 mL</td>
<td></td>
</tr>
<tr>
<td>100-5315</td>
<td>C1 Suspension Reagent, 50 mL</td>
<td>2–7</td>
</tr>
<tr>
<td>100-5316</td>
<td>C1 Blocking Reagent, 180 µL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1% bovine serum albumin stock solution</td>
<td>8–13</td>
</tr>
<tr>
<td></td>
<td>[component of C1 Blocking Reagent (100-5316)]</td>
<td></td>
</tr>
</tbody>
</table>

Components of Module 2 (100-5519):

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-5310</td>
<td>C1 Harvest Reagent, 2.2 mL</td>
<td></td>
</tr>
<tr>
<td>100-5311</td>
<td>C1 Preloading Reagent, 120 µL</td>
<td>14–19</td>
</tr>
<tr>
<td>100-5312</td>
<td>C1 Loading Reagent, 25 µL</td>
<td></td>
</tr>
<tr>
<td>100-5317</td>
<td>C1 DNA Dilution Reagent1, 7.7 mL</td>
<td></td>
</tr>
<tr>
<td>100-5318</td>
<td>C1 Preamp Dilution Reagent, 250 mL</td>
<td></td>
</tr>
<tr>
<td>100-5313</td>
<td>C1 Lysis Plus Reagent, 30 µL</td>
<td>20–25</td>
</tr>
</tbody>
</table>
SECTION 1: Identification

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
Part Numbers: 100-5518; 100-5314, 100-5315, 100-5316

Synonyms
Tube, C1 Blocking Reagent
Tube, C1 Suspension Reagent
Bottle, Cell Wash Buffer

Trade name
C1 Single-Cell Auto Prep, Module 2 (100-5518)
C1 Cell Wash Buffer, 25.9 mL (100-5314)
C1 Suspension Reagent, 50 µL (100-5315)
C1 Blocking Reagent, 180 µL (100-5316)

Chemical family
Mixture

Recommended uses and restrictions
For Research Use Only. Not for use in diagnostic procedures.

Note
This SDS is written to address potential worker health and safety issues associated with the handling of the formulated product/mixture. This SDS will be revisited if more data become available.

SECTION 2: Hazard(s) identification

Classification of the substance or mixture
Not classified

Label elements
GHS Hazard pictograms
Not applicable
GHS Signal word
Not applicable
GHS Hazard statements
Not applicable
GHS Precautionary statements
Not applicable

Other hazards
No data identified for the mixture. The following data describe the hazards of individual ingredients, where applicable.

Note
This mixture does not meet criteria for classification under GHS as implemented by Regulation EC No 1272/2008 (EU CLP), WHMIS 2015 (Health Canada), and Hazard Communication Standard No. 1910.1200 (US OSHA). Nevertheless, it should be handled with caution as it has not yet been fully tested.

SECTION 3: Composition/Information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS number</th>
<th>EINECS/ELINCS#</th>
<th>Amount</th>
<th>GHS classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-hazardous reagents</td>
<td>N/A</td>
<td>N/A</td>
<td>≤ 99.95 %</td>
<td>Not classified</td>
</tr>
<tr>
<td>Bovine Serum Albumin</td>
<td>9048-46-8</td>
<td>232-936-2</td>
<td>≤ 0.05 %</td>
<td>Resp. Sens. 1, H334</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1, H517</td>
</tr>
</tbody>
</table>

Note
The principal ingredient in this mixture is distilled (PCR) water. Remaining components are not hazardous and/or are present at amounts below reportable limits.
### SECTION 4: First-aid measures

**Description of first aid measures**

<table>
<thead>
<tr>
<th>Immediate medical attention and special treatment, if necessary</th>
<th>No. If exposed or concerned: get medical advice/attention.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>If swallowed, call a physician immediately. 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.</td>
</tr>
</tbody>
</table>

**Most Important Symptoms/Effects**

Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively.

**Expected Symptoms/Effects, Acute and Delayed**

See Sections 2 and 11

### SECTION 5: Fire-fighting measures

**Suitable (and unsuitable) extinguishing media**

| Suitable extinguishing media | Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials. |
| Unsuitable extinguishing media | None known. |

**Specific hazards arising from the chemical**

No information identified. May emit carbon monoxide, carbon dioxide, oxides of nitrogen and other nitrogen-containing compounds.

**Fire hazard**

As product is an aqueous solution, it is not expected to be flammable.

**Explosion hazard**

As product is an aqueous solution, it is not expected to be explosive.

**Special protective equipment and precautions for fire-fighters**

Firefighting instructions

In case of fire in the surroundings: use the appropriate extinguishing agent. Wear full protective clothing and an approved, positive pressure, self-contained breathing apparatus. Decontaminate all equipment after use.

### SECTION 6: Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

| General measures | Do not breathe vapors/mist/spray. |
| Protective equipment | 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. |
| Emergency procedures | Do not breathe vapors/mist/spray. |
| Environmental precautions | Do not empty into drains. Avoid release to the environment. |

**Methods and material for containment and cleaning up**

**Methods for 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 with an appropriate solvent (see Section 9).

| Other information | Dispose of materials or solid residues at an authorized site. |
| Reference to other sections | See Sections 8 and 13 for more information. |

### SECTION 7: Handling and storage

**Precautions for safe handling**

Follow recommendations for handling. Avoid contact with eyes, skin, and other mucous membranes. Wash thoroughly after handling. Do not breathe vapor/mist/spray.
Conditions for safe storage, including any incompatibilities

Storage conditions
Store refrigerated at 2 °C to 8 °C in sealed containers.

Specific end use(s)
No information identified.

SECTION 8: Exposure controls/personal protection

Control parameters/Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Name</th>
<th>Issuer</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Serum Albumin</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Non-hazardous reagents</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Appropriate engineering controls
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 specifically designed and engineered local exhaust ventilation (LEV) and/or enclosure at aerosol-generating points and for high aerosol-generating operations.

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 recommended for spill cleanup.

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.

Eye 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.

Skin and body protection
Wear disposable coveralls appropriate to the task, booties, and safety glasses with side shields. Ensure gloves are protective against solvents in use. Protective garments (coveralls, disposable coveralls, lab coats) are not to be worn in common areas (e.g., cafeterias) or out-of-doors. Employees must be trained in proper gowning and degowning practices.

Other protective measures
Wash hands in the event of contact with material, 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).

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.

SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Formula</td>
<td>Not Applicable (Mixture)</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>Not Applicable (Mixture)</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water (aqueous solution)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Decomposition temperature: No data available.
Viscosity, kinematic: No data available.
Viscosity, dynamic: No data available.
Explosion limits: No data available.
Explosive properties: No data available.
Oxidizing properties: No data available.

**SECTION 10: Stability and reactivity**

- Reactivity: No data available.
- Chemical stability: No data available.
- Possibility of hazardous reactions: No data available.
- Conditions to avoid: No data available.
- Incompatible materials: No data available.
- Hazardous decomposition products: No data available.

**SECTION 11: Toxicological information**

- **Note**: No data on product formulation.
- **Likely routes of exposure**: May be absorbed by inhalation, skin contact and ingestion.

**Toxicological information**

**Acute toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Serum Albumin</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Non-hazardous reagents</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Additional information</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Sensitization</td>
<td>As it is derived from animal (foreign) protein, there is potential for bovine serum albumin (BSA) to cause an allergic response in humans. Occupational exposure to BSA has caused some cases of allergic sensitization in workers handling this material.</td>
<td></td>
</tr>
</tbody>
</table>

- STOT-single exposure: No data available
- STOT-repeated exposure: No data available
- Reproductive toxicity: No data available
- Developmental toxicity: No data available
- Genotoxicity: No data available
- Carcinogenicity: No data available
- Aspiration hazard: No data available
- Experience with humans: See "Section 2 - Other Hazards".

**SECTION 12: Ecological information**

**Toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Serum Albumin</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Non-hazardous reagents</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Results of PBT assessment</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>

**Note**: The environmental characteristics of this mixture have not been fully investigated. Releases to the environment should be avoided.
SECTION 13: Disposal considerations

Waste treatment methods
Used product should be disposed of according to local, state, and federal regulations. All wastes containing the material should be properly labeled. Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. 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 not 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 class(es) (DOT)
None assigned.

Packing group
None assigned.

Marine pollutant
Based on the available data, this product/mixture is not regulated as an environmental hazard or a marine pollutant.

Special transport precautions
Avoid release to the environment.

Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

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. Consult your local or regional authorities for more information.

Chemical safety assessment
No chemical safety assessment has been carried out.

TSCA
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

SARA Section 313 - Emission Reporting
This substance or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

California Proposition 65
California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

Additional information
This SDS generally complies with the requirements listed under current guidelines in the US, EU and Canada. Consult your local or regional authorities for more information.

SECTION 16: Other information

Full text of H phrases and GHS classification
Skin Sens. 1 - Skin sensitization, Category 1.
H317 - May cause an allergic skin reaction.
H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled.

Data sources
Information from published literature and internal company data.
Abbreviations and acronyms

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; 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; 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; PBT - Persistent, Bioaccumulative, and Toxic; PNEC - Predicted No Effect Concentration; SARA - Superfund Amendments and Reauthorization Act; STOT - Specific Target Organ Toxicity; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Issue date
August 2021

Current revision
04

Indication of changes
Rev 04: CHG-005106; Updated information based on Section 3 components. Removed ethylenediaminetetraacetic acid and glycerin from Section 3. Added bovine serum albumin to Section 3 for components in Module 1. Added polyethylene glycol nonylphenyl ether and tromethamine hydrochloride to Section 3 for components in Module 2. Converted the 3 regional SDSs (US/Canada, EU, Asia) to a single GHS compliant SDS.
Revision C: Periodic review
Revision B: Rebranded logo
Revision A: New SDS.

Disclaimer
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.
**SECTION 1: Identification**

**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**

1% bovine serum albumin stock solution [component of C1 Blocking Reagent (100-5316)]

**Synonyms**

N/A

**Trade name**

N/A

**Chemical family**

Mixture

**Recommended uses and restrictions**

For Research Use Only. Not for use in diagnostic procedures.

**Note**

This SDS is written to address potential worker health and safety issues associated with the handling of the formulated product/mixture. This SDS will be revisited if more data become available.

**SECTION 2: Hazard(s) identification**

**Classification of the substance or mixture**

Respiratory sensitization, Category 1  
May cause an allergy or asthma symptoms or breathing difficulties if inhaled  
**Skin sensitization, Category 1**  
May cause an allergic skin reaction

**Label elements**

GHS Hazard pictograms

GHS Signal word  
Danger

GHS Hazard statements

H317 - May cause an allergic skin reaction

H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled

GHS Precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray. P272 - Contaminated work clothing must not be allowed out of the workplace. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P284 - [In case of inadequate ventilation] wear respiratory protection. P302+P352 - If on skin: Wash with plenty of water. P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor. P363 - Wash contaminated clothing before reuse. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Other hazards

The potential health hazards associated with exposure/handling of this mixture are unknown; no data specific for the mixture were identified. The following data describe the hazards of individual ingredients, where applicable.

As bovine serum albumin (BSA) is derived from animal (foreign) protein, there is potential for the material to cause an allergic response in humans.

Note

This mixture is classified as hazardous under GHS as implemented by Regulation EC No 1272/2008 (EU CLP), WHMIS 2015 (Health Canada), and Hazard Communication Standard No. 1910.1200 (US OSHA).

SECTION 3: Composition/Information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS number</th>
<th>EINECS/ELINCS #</th>
<th>Amount</th>
<th>GHS classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Serum Albumin</td>
<td>9048-46-8</td>
<td>232-936-2</td>
<td>≤ 1 %</td>
<td>Resp. Sens. 1, H334</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Skin Sens. 1, H317</td>
</tr>
</tbody>
</table>

Note

The ingredients listed above are considered hazardous. Amounts are listed as ranges; the exact percentage of composition is withheld as a trade secret. 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 and special treatment, if necessary

Inhalation

Yes.

If experiencing respiratory symptoms: Call a poison center or a doctor. 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.

Skin contact

Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.

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.

Ingestion

If swallowed, call a physician immediately. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Notify medical personnel and supervisor.

Most Important Symptoms/Effects

Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively.

Expected Symptoms/Effects, Acute and Delayed

See Sections 2 and 11

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media

Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.

Specific hazards arising from the chemical

No information identified. May emit carbon monoxide, carbon dioxide, oxides of nitrogen and other nitrogen-containing compounds.

Fire hazard

As product is an aqueous solution, it is not expected to be flammable.

Explosion hazard

As product is an aqueous solution, it is not expected to be explosive.

Special protective equipment and precautions for fire-fighters

Firefighting instructions

In case of fire in the surroundings: use the appropriate extinguishing agent. Wear full protective clothing and an approved, positive pressure, self-contained breathing apparatus. Decontaminate all equipment after use.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Protective equipment

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.

Emergency procedures

Do not breathe vapors/mist/spray.
Environmental precautions
Do not empty into drains. Avoid release to the environment.

Methods and material for containment and cleaning up

Methods for 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 with an appropriate solvent.

Other information
Dispose of materials or solid residues at an authorized site.

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

SECTION 7: Handling and storage

Precautions for safe handling
Follow recommendations for handling. Avoid contact with eyes, skin and other mucous membranes. Wash thoroughly after handling. Do not breathe vapor/mist/spray.

Conditions for safe storage, including any incompatibilities
Storage conditions
Store refrigerated at 2 °C to 8 °C in sealed containers.

Specific end use(s)
No information identified.

SECTION 8: Exposure controls/personal protection

Control parameters/Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Name</th>
<th>Issuer</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Serum Albumin</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Appropriate engineering controls
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.

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.

Eye 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.

Skin and body protection
Wear disposable coveralls appropriate to the task, boots, and safety glasses with side shields. Ensure gloves are protective against solvents in use. Protective garments (coveralls, disposable coveralls, lab coats) are not to be worn in common areas (e.g., cafeterias) or out-of-doors. Employees must be trained in proper gowning and degowning practices.

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). Decontaminate all protective equipment following use.

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.

SECTION 9: Physical and chemical properties

Physical state
Liquid

Appearance
Clear

Formula
Mixture (Not applicable)

Molecular mass
Mixture (Not applicable)

Color
Clear liquid.

Odor
Odorless.

Odor threshold
No data available
**SECTION 10: Stability and reactivity**

**Reactivity**
The product is non-reactive under normal conditions of use, storage and transport.

**Chemical stability**
Stable under normal conditions.

**Possibility of hazardous reactions**
No dangerous reactions known under normal conditions of use.

**Conditions to avoid**
None under recommended storage and handling conditions (see section 7).

**Incompatible materials**
No data available.

**Hazardous decomposition products**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: Toxicological information**

**Likely routes of exposure**
May be absorbed by inhalation, skin contact and ingestion.

**Toxicological information**

**Acute toxicity**

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Serum Albumin</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Additional information</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Sensitization</td>
<td>As it is derived from animal (foreign) protein, there is potential for bovine serum albumin (BSA) to cause an allergic response in humans. Occupational exposure to BSA has caused some cases of allergic sensitization in workers handling this material. Repeated inhalation of product may cause sensitization and can cause allergic type reactions in sensitized individuals.</td>
<td>No data available</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>
STOT-repeated exposure
Reproductive toxicity No data available
Developmental toxicity No data available
Genotoxicity No data available
Carcinogenicity No data available
Aspiration hazard No data available
Experience with humans See "Section 2 - Other Hazards".

SECTION 12: Ecological information

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Component</th>
<th>Type</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bovine Serum Albumin</td>
<td>No data available</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Protein solution, bacterial</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>degradation expected.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Results of PBT assessment</td>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Note</td>
<td>The environmental characteristics of this product have not been fully investigated. Releases to the environment should be avoided.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 13: Disposal considerations

| Waste treatment methods          | Used product should be disposed of according to local, state, and federal regulations. All wastes containing the material should be properly labeled. Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. 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

<table>
<thead>
<tr>
<th>Transport</th>
<th>Based on the available data, this mixture is not regulated as a hazardous material/dangerous good under EU ADR/RID, US DOT, Canada TDG, IATA, or IMDG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>None assigned.</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>None assigned.</td>
</tr>
<tr>
<td>Transport hazard class(es) (DOT)</td>
<td>None assigned.</td>
</tr>
<tr>
<td>Packing group</td>
<td>None assigned.</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>Based on the available data, this mixture is not regulated as an environmental hazard or a marine pollutant.</td>
</tr>
<tr>
<td>Special transport precautions</td>
<td>Avoid release to the environment.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of Marpol and the IBC Code</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

SECTION 15: Regulatory information

<table>
<thead>
<tr>
<th>Safety, health and environmental regulations/legislation specific for the substance or mixture</th>
<th>This SDS generally complies with the requirements listed under current guidelines in the US, EU and Canada. Consult your local or regional authorities for more information.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical safety assessment</td>
<td>No chemical safety assessment has been carried out.</td>
</tr>
<tr>
<td>TSCA</td>
<td>All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.</td>
</tr>
<tr>
<td>SARA Section 313 - Emission Reporting</td>
<td>This substance or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.</td>
</tr>
<tr>
<td>California Proposition 65</td>
<td>California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.</td>
</tr>
</tbody>
</table>
**SECTION 16: Other information**

| | Skin Sens. 1 - Skin sensitization, Category 1.  
| | H317 - May cause an allergic skin reaction.  
| | H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled. 

**Data sources**

Information from published literature and internal company data.

**Abbreviations and acronyms**

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; 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; 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; PBT - Persistent, Bioaccumulative, and Toxic; PNEC - Predicted No Effect Concentration; SARA - Superfund Amendments and Reauthorization Act; STOT - Specific Target Organ Toxicity; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

**Issue date**

August 2021

**Current revision**

04

**Indication of changes**

Rev 04: CHG-005106; Updated information based on Section 3 components. Removed ethylenediaminetetraacetic acid and glycerin from Section 3. Added bovine serum albumin to Section 3 for components in Module 1. Added polyethylene glycol nonylphenyl ether and tromethamine hydrochloride to Section 3 for components in Module 2. Converted the 3 regional SDSs (US/Canada, EU, Asia) to a single GHS compliant SDS.  
Revision C: Periodic review  
Revision B: Rebranded logo  
Revision A: New SDS.

**Disclaimer**

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.
SECTION 1: Identification

Contact information

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
Part Numbers 100-5519; 100-5310, 100-5311, 100-5312, 100-5317, 100-5318

Synonyms
Tube, C1 Harvest Reagent
Tube, C1 Preloading Reagent
Tube, C1 Loading Reagent
Tube, DNA Dilution Reagent
Tube, Preamp Dilution Reagent

Trade name
C1™ Single-Cell Auto Prep, Module 2 (100-5519)
C1 Harvest Reagent, 2.2 mL (100-5310)
C1 Preloading Reagent, 120 µL (100-5311)
C1 Loading Reagent, 25 µL (100-5312)
C1 DNA Dilution Reagent, 17.7 mL (100-5317)
C1 Preamp Dilution Reagent, 250 µL (100-5318)

Chemical family
Mixture

Recommended uses and restrictions
For Research Use Only. Not for use in diagnostic procedures.

Note
This SDS is written to address potential worker health and safety issues associated with the handling of the formulated product/mixture. This SDS will be revisited if more data become available.

SECTION 2: Hazard(s) identification

Not classified

Label elements
GHS Hazard pictograms
Not applicable
GHS Signal word
Not applicable
GHS Hazard statements
Not applicable
GHS Precautionary statements
Not applicable

Other hazards
No data identified for the mixture. The following data describe the hazards of individual ingredients, where applicable.

Note
This mixture does not meet criteria for classification under GHS as implemented by Regulation EC No 1272/2008 (EU CLP), WHMIS 2015 (Health Canada), and Hazard Communication Standard No. 1910.1200 (US OSHA). Nevertheless, it should be handled with caution as it has not yet been fully tested.

SECTION 3: Composition/Information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS number</th>
<th>EINECS/ELINCS#</th>
<th>Amount</th>
<th>GHS classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-hazardous reagents</td>
<td>N/A</td>
<td>N/A</td>
<td>≤ 98 %</td>
<td>Not classified</td>
</tr>
<tr>
<td>Tromethamine hydrochloride</td>
<td>1185-53-1</td>
<td>214-684-5</td>
<td>≤ 2 %</td>
<td>Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335</td>
</tr>
</tbody>
</table>
Note: The ingredients listed above are considered hazardous; the remaining components are not hazardous and/or are present at amounts below reportable limits. The principal ingredient in this mixture is distilled (PCR) water.

SECTION 4: First-aid measures

Description of first aid measures

Immediate medical attention and special treatment, if necessary

Inhalation
No. If exposed or concerned: get medical advice/attention.

Skin contact
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.

Eye contact
Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.

Ingestion
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.

Most Important Symptoms/Effects
Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively.

Expected Symptoms/Effects, Acute and Delayed
See Sections 2 and 11

SECTION 5: Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media
Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
No information identified. May emit carbon monoxide, carbon dioxide, oxides of nitrogen and other nitrogen-containing compounds.

Fire hazard
As product is an aqueous solution, it is not expected to be flammable.

Explosion hazard
As product is an aqueous solution, it is not expected to be explosive.

Special protective equipment and precautions for fire-fighters

Firefighting instructions
In case of fire in the surroundings: use the appropriate extinguishing agent. Wear full protective clothing and an approved, positive pressure, self-contained breathing apparatus. Decontaminate all equipment after use.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures
Do not breathe vapors/mist/spray.

Protective equipment
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.

Emergency procedures
Do not breathe vapors/mist/spray.

Environmental precautions
Do not empty into drains. Avoid release to the environment.

Methods and material for containment and cleaning up

Methods for 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 with an appropriate solvent (see Section 9).

Other information
Dispose of materials or solid residues at an authorized site.

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

SECTION 7: Handling and storage

Precautions for safe handling
Follow recommendations for handling. Avoid contact with eyes, skin, and other mucous membranes. Wash thoroughly after handling. Do not breathe vapor/mist/spray.
Conditions for safe storage, including any incompatibilities

Storage conditions: Store at –15 °C to –25 °C.
Specific end use(s): No information identified.

SECTION 8: Exposure controls/personal protection

Note: Dispose of broken vials in a sharps container.

Control parameters/Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Name</th>
<th>Issuer</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-hazardous reagents</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Tromethamine</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

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 specifically designed and engineered local exhaust ventilation (LEV) and/or enclosure at aerosol-generating points and for high aerosol-generating operations.

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 recommended for spill cleanup.

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.

Eye 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.

Skin and body protection

Wear disposable coveralls appropriate to the task, booties, and safety glasses with side shields. Ensure gloves are protective against solvents in use. Protective garments (coveralls, disposable coveralls, lab coats) are not to be worn in common areas (e.g., cafeterias) or out-of-doors. Employees must be trained in proper gowning and degowning practices.

Other protective measures

Wash hands in the event of contact with material, 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).

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.

SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Formula</td>
<td>Not Applicable (Mixture)</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>Not Applicable (Mixture)</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water (aqueous solution)</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosion limits: No data available
Explosive properties: No data available
Oxidizing properties: No data available

SECTION 10: Stability and reactivity

Reactivity: No data available.
Chemical stability: No data available.
Possibility of hazardous reactions: No data available.
Incompatible materials: No data available.
Hazardous decomposition products: No data available.

SECTION 11: Toxicological information

Note: No data on product formulation.
Likely routes of exposure: May be absorbed by inhalation, skin contact and ingestion.

Toxicological information

Acute toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-hazardous reagents</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Tromethamine hydrochloride</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Additional information</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>Tromethamine HCl may cause irritation to eyes.</td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Tromethamine HCl may cause irritation to skin.</td>
<td></td>
</tr>
<tr>
<td>Sensitization</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td>Tromethamine HCl may cause irritation to respiratory tract.</td>
<td></td>
</tr>
<tr>
<td>STOT-repeated exposure</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Developmental toxicity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Genotoxicity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Experience with humans</td>
<td>See &quot;Section 2 - Other Hazards&quot;.</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-hazardous reagents</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Tromethamine hydrochloride</td>
<td>EC50 crustacea</td>
<td>&gt; 100 mg/l 48 h</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>No data available.</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential</td>
<td>No data available.</td>
<td></td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Results of PBT assessment</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Note</td>
<td>The environmental characteristics of this product/mixture have not been fully investigated. Releases to the environment should be avoided.</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 13: Disposal considerations

| Waste treatment methods | Used product should be disposed of according to local, state, and federal regulations. All wastes containing the material should be properly labeled. Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. 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 not 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 class(es) (DOT) | None assigned. |
| Packing group | None assigned. |
| Marine pollutant | Based on the available data, this product/mixture is not regulated as an environmental hazard or a marine pollutant. |
| Special transport precautions | Avoid release to the environment. |
| Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable |

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. Consult your local or regional authorities for more information. |
| Chemical safety assessment | No chemical safety assessment has been carried out. |
| TSCA | All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory. |
| SARA Section 313 - Emission Reporting | This substance or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. |
| California Proposition 65 | California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm. |
| Additional information | This SDS generally complies with the requirements listed under current guidelines in the US, EU and Canada. Consult your local or regional authorities for more information. |

SECTION 16: Other information

| Full text of H phrases and GHS classification | Eye Irrit. 2 - Serious eye damage/eye irritation Category 2. Skin Irrit. 2 - Skin corrosion/irritation Category 2. STOT SE 3 - Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation. H315 - Causes skin irritation. H319 - Causes serious eye irritation. H335 - May cause respiratory irritation. |
| Data sources | Information from published literature and internal company data. |
Abbreviations and acronyms

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; 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; 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; PBT - Persistent, Bioaccumulative, and Toxic; PNEC - Predicted No Effect Concentration; SARA - Superfund Amendments and Reauthorization Act; STOT - Specific Target Organ Toxicity; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Issue date
August 2021

Current revision
04

Indication of changes
Rev 04: CHG-005106; Updated information based on Section 3 components. Removed ethylenediaminetetraacetic acid and glycerin from Section 3. Added bovine serum albumin to Section 3 for components in Module 1. Added polyethylene glycol nonylphenyl ether and tromethamine hydrochloride to Section 3 for components in Module 2. Converted the 3 regional SDSs (US/Canada, EU, Asia) to a single GHS compliant SDS.

Revision C: Periodic review
Revision B: Rebranded logo
Revision A: New SDS.

Disclaimer
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.
### SECTION 1: Identification

#### 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

Part Numbers: 100-5519; 100-5313

**Synonyms**

Tube, C1 Lysis Plus Reagent

**Trade name**

C1™ Single-Cell Auto Prep, Module 2 (100-5519)  
C1 Lysis Plus Reagent, 30 µL (100-5313)

**Chemical family**

Mixture

#### Recommended uses and restrictions

For Research Use Only. Not for use in diagnostic procedures.

**Note**

This SDS is written to address potential worker health and safety issues associated with the handling of the formulated product/mixture. This SDS will be revisited if more data become available.

### SECTION 2: Hazard(s) identification

#### Classification of the substance or mixture

*Serious eye damage/eye irritation Category 2*  
Causes serious eye irritation

#### Label elements

**GHS Hazard pictograms**

![Warning](image)

**GHS Signal word**

Warning

**GHS Hazard statements**

H319 - Causes serious eye irritation

**GHS Precautionary statements**  
P264 - Wash hands, forearms and face thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention.

#### Other hazards

The potential health hazards associated with exposure/handling of this mixture are unknown; no data specific for the mixture were identified. The following data describe the hazards of individual ingredients, where applicable.

**Note**

This mixture is classified as hazardous under GHS as implemented by Regulation EC No 1272/2008 (EU CLP), WHMIS 2015 (Health Canada), and Hazard Communication Standard No. 1910.1200 (US OSHA).

### SECTION 3: Composition/Information on ingredients
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS number</th>
<th>EINECS/ELINCS #</th>
<th>Amount</th>
<th>GHS classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene glycol nonylphenyl ether</td>
<td>9016-45-9</td>
<td>500-024-6</td>
<td>7 – 10 %</td>
<td>Acute Tox. 4 (Oral), H302</td>
</tr>
</tbody>
</table>

**Note**  
The ingredients listed above are considered 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

<table>
<thead>
<tr>
<th>Description of first aid measures</th>
<th>Immediate medical attention and special treatment, if necessary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
<td>If experiencing respiratory symptoms: Call a poison center or a doctor. 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.</td>
</tr>
<tr>
<td><strong>Skin contact</strong></td>
<td>Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.</td>
</tr>
<tr>
<td><strong>Eye contact</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Ingestion</strong></td>
<td>If swallowed, call a physician immediately. 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.</td>
</tr>
</tbody>
</table>

**Most Important Symptoms/Effects**  
Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively.

**Expected Symptoms/Effects, Acute and Delayed**  
See Sections 2 and 11

### SECTION 5: Fire-fighting measures

<table>
<thead>
<tr>
<th>Suitable (and unsuitable) extinguishing media</th>
<th>Suitable extinguishing media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.</td>
<td></td>
</tr>
</tbody>
</table>

**Specific hazards arising from the chemical**  
No information identified. May emit carbon monoxide, carbon dioxide, oxides of nitrogen and other nitrogen-containing compounds.

**Fire hazard**  
As product is an aqueous solution, it is not expected to be flammable.

**Explosion hazard**  
As product is an aqueous solution, it is not expected to be explosive.

**Special protective equipment and precautions for fire-fighters**  
In case of fire in the surroundings: use the appropriate extinguishing agent. Wear full protective clothing and an approved, positive pressure, self-contained breathing apparatus. Decontaminate all equipment after use.

### SECTION 6: Accidental release measures

<table>
<thead>
<tr>
<th>Personal precautions, protective equipment and emergency procedures</th>
<th>Protective equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

**Emergency procedures**  
Do not breathe vapors/mist/spray.

**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 with an appropriate solvent.

**Other information**  
Dispose of materials or solid residues at an authorized site.

**Reference to other sections**  
See Sections 8 and 13 for more information.
**SECTION 7: Handling and storage**

**Precautions for safe handling**  
Follow recommendations for handling. Avoid contact with eyes, skin and other mucous membranes. Wash thoroughly after handling. Do not breathe vapor/mist/spray.

**Conditions for safe storage, including any incompatibilities**

**Storage conditions**  
Store at –15 °C to –25°C in tightly sealed containers.

**Specific end use(s)**  
No information identified.

---

**SECTION 8: Exposure controls/personal protection**

**Control parameters/Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Name</th>
<th>Issuer</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene glycol nonylphenyl ether</td>
<td>No data available</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**  
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.

**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.

**Eye 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.

**Skin and body protection**  
Wear disposable coveralls appropriate to the task, booties, and safety glasses with side shields. Ensure gloves are protective against solvents in use. Protective garments (coveralls, disposable coveralls, lab coats) are not to be worn in common areas (e.g., cafeterias) or out-of-doors. Employees must be trained in proper gowning and degowning practices.

**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). Decontaminate all protective equipment following use.

**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.

---

**SECTION 9: Physical and chemical properties**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Formula</td>
<td>Not applicable (Mixture)</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>Not applicable (Mixture)</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
</tbody>
</table>
Relative vapor density at 20 °C: No data available
Relative density: No data available
Solubility: Soluble in water (aqueous solution)
Log Pow: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: No data available
Explosion limits: No data available
Explosive properties: No data available
Oxidizing properties: No data available

SECTION 10: Stability and reactivity

Reactivity: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions: No dangerous reactions known under normal conditions of use.
Conditions to avoid: None under recommended storage and handling conditions (see section 7).
Incompatible materials: No data available.
Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Likely routes of exposure: May be absorbed by inhalation, skin contact and ingestion.
Toxicological information:
Acute toxicity:

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene glycol nonylphenyl ether</td>
<td>LD50 Oral rat</td>
<td>≈ 1310 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50 Dermal rabbit</td>
<td>≈ 2 mL/kg</td>
</tr>
</tbody>
</table>

Additional information: No data available
Serious eye damage/irritation: Polyethylene glycol nonylphenyl ether was irritating to rabbit eyes.
Skin corrosion/irritation: No data available
Sensitization: No data available
STOT-single exposure: No data available
STOT-repeated exposure: No data available
Reproductive toxicity: No data available
Developmental toxicity: No data available
Genotoxicity: No data available
Carcinogenicity: No data available
Aspiration hazard: No data available
Experience with humans: See “Section 2 - Other Hazards”.

SECTION 12: Ecological information

Toxicity:

<table>
<thead>
<tr>
<th>Component</th>
<th>Type</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyethylene glycol nonylphenyl ether</td>
<td>LC50 fish 1</td>
<td>≈ 8.5 mg/l rainbow trout</td>
</tr>
<tr>
<td></td>
<td>LC50 - Fish [2]</td>
<td>≈ 1.3 mg/l bluegill sunfish</td>
</tr>
<tr>
<td></td>
<td>EC50 other aquatic organisms 1</td>
<td>≈ 17 mg/l daphnia magna (water flea)</td>
</tr>
</tbody>
</table>
Persistence and degradability
No data available.

Bioaccumulative potential
No data available.

Mobility in soil
No data available.

Results of PBT assessment
No data available.

Other adverse effects
No data available.

Note
The environmental characteristics of this product have not been fully investigated. Releases to the environment should be avoided.

SECTION 13: Disposal considerations

Waste treatment methods
Used product should be disposed of according to local, state, and federal regulations. All wastes containing the material should be properly labeled. Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g. appropriately permitted chemical waste incinerator. 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 not 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 class(es) (DOT)
None assigned.

Packing group
None assigned.

Marine pollutant
Based on the available data, this product/mixture is not regulated as an environmental hazard or a marine pollutant.

Special transport precautions
Avoid release to the environment.

Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable

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. Consult your local or regional authorities for more information.

Chemical safety assessment
No chemical safety assessment has been carried out.

TSCA
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

SARA Section 313 - Emission Reporting
This substance or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

California Proposition 65
California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

Additional information
This SDS generally complies with the requirements listed under current guidelines in the US, EU and Canada. Consult your local or regional authorities for more information.

SECTION 16: Other information

Full text of H phrases and GHS classification
Acute Tox. 4 (Oral) - Acute toxicity (oral) Category 4.
Eye Irrit. 2 - Serious eye damage/eye irritation Category 2.
H302 - Harmful if swallowed.
H319 - Causes serious eye irritation.

Data sources
Information from published literature and internal company data.
Abbreviations and acronyms

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