Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name  •  Buffer FD (NanoString)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s)  •  Fixation diluent

1.3 Details of the supplier of the safety data sheet

Manufacturer  •  NanoString Technologies
530 Fairview Avenue North
Seattle, WA 98109
United States
www.nanostring.com
operations@nanostring.com

Telephone (General)  •  206.378.NANO (6266)

1.4 Emergency telephone number

Manufacturer  •  206.378.NANO (6266)

Section 2: Hazards Identification

EU/EEC

2.1 Classification of the substance or mixture

CLP  •  Not classified

2.2 Label Elements

CLP

Hazard statements  •  No label element(s) required

2.3 Other Hazards

CLP  •  According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.

UN GHS Revision 5
According to: UN Globally Harmonized System of Classification and Labelling of Chemicals (GHS): Fifth Revised Edition

2.1 Classification of the substance or mixture
UN GHS

2.2 Label elements

UN GHS

Hazard statements • No label element(s) required

Precautionary statements

2.3 Other hazards

UN GHS • According to the Globally Harmonized System for Classification and Labeling (GHS) this product is not considered hazardous

United States (US)
According to: OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 • Not classified

2.2 Label elements

OSHA HCS 2012

Hazard statements • No label element(s) required

2.3 Other hazards

OSHA HCS 2012 • This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.

Canada
According to: WHMIS 2015

2.1 Classification of the substance or mixture

WHMIS 2015 • Not classified

2.2 Label elements

WHMIS 2015

Hazard statements • No label element(s) required

Precautionary statements

2.3 Other hazards

WHMIS 2015 • In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

Section 3 - Composition/Information on Ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Identifiers</th>
<th>%</th>
<th>LD50/LC50</th>
<th>Classifications According to Regulation/Directive</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component A</td>
<td>NDA</td>
<td>100%</td>
<td>NDA</td>
<td>EU CLP: Not Classified</td>
<td>NDA</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>UN GHS Revision 5: Not Classified</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>OSHA HCS 2012: Not Classified</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>WHMIS 2015: Not Classified</td>
<td></td>
</tr>
</tbody>
</table>
3.2 Mixtures

- Material does not meet the criteria of a mixture.

### Section 4 - First Aid Measures

#### 4.1 Description of first aid measures

**Inhalation**
- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

**Skin**
- In case of contact with substance, immediately flush skin with running water for at least 20 minutes.

**Eye**
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes.

**Ingestion**
- If swallowed, rinse mouth with water (only if the person is conscious). If large quantities are swallowed, call a physician immediately.

#### 4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

#### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to Physician**
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

### Section 5 - Firefighting Measures

#### 5.1 Extinguishing media

**Suitable Extinguishing Media**
- LARGE FIRE: Water spray, fog or regular foam.
- SMALL FIRES: Dry chemical, CO2, water spray or regular foam.

**Unsuitable Extinguishing Media**
- No data available.

#### 5.2 Special hazards arising from the substance or mixture

**Unusual Fire and Explosion Hazards**
- Some may burn but none ignite readily.

**Hazardous Combustion Products**
- No data available.

#### 5.3 Advice for firefighters

- Move containers from fire area if you can do it without risk.
- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural firefighters’ protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.

### Section 6 - Accidental Release Measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

**Personal Precautions**
- Ventilate enclosed areas. Do not walk through spilled material. Use appropriate Personal Protective Equipment (PPE)

**Emergency Procedures**
- Keep unauthorized personnel away. Stay upwind.
6.2 Environmental precautions

- Avoid run off to waterways and sewers.

6.3 Methods and material for containment and cleaning up

**Containment/Clean-up Measures**

- Stop leak if you can do it without risk.
  - SMALL SPILLS: Take up with sand or other non-combustible absorbent material and place into containers for later disposal.
  - LARGE SPILLS: Dike far ahead of liquid spill for later disposal.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

---

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

**Handling**

- Handle in accordance with good industrial and safety practice. Wear recommended Personal Protective Equipment when handling.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage**

- Keep container tightly closed and store at recommended temperature.

### 7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

---

## Section 8 - Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure Limits/Guidelines**

- No applicable exposure limits available for product or components.

### 8.2 Exposure controls

**Engineering Measures/Controls**

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Personal Protective Equipment**

- **Respiratory**
  - In case of insufficient ventilation, wear suitable respiratory equipment.

- **Eye/Face**
  - Wear protective eyewear (goggles, face shield, or safety glasses).

- **Skin/Body**
  - Wear appropriate gloves.

**Environmental Exposure Controls**

- Follow best practice for site management and disposal of waste.

---

## Section 9 - Physical and Chemical Properties

### 9.1 Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Material Description</th>
<th>Physical Form</th>
<th>Appearance/Description</th>
<th>Brown/clear liquid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Brown/clear</td>
<td>Odor</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Data lacking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Properties</th>
<th>Boiling Point</th>
<th>Melting Point/Freezing Point</th>
<th>Data lacking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling Point</td>
<td>Data lacking</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Decomposition Temperature | Data lacking | pH | Data lacking
---|---|---|---
Specific Gravity/Relative Density | Data lacking | Water Solubility | Data lacking
Viscosity | Data lacking | Explosive Properties | Data lacking
Oxidizing Properties: | Data lacking | | |
**Volatile** | | | |
Vapor Pressure | Data lacking | Vapor Density | Data lacking
Evaporation Rate | Data lacking | | |
**Flammability** | | | |
Flash Point | Data lacking | UEL | Data lacking
LEL | Data lacking | Autoignition | Data lacking
Flammability (solid, gas) | Data lacking | | |
**Environmental** | | | |
Octanol/Water Partition coefficient | Data lacking | | |

### 9.2 Other Information
- No additional physical and chemical parameters noted.

### Section 10: Stability and Reactivity

#### 10.1 Reactivity
- No dangerous reaction known under conditions of normal use.

#### 10.2 Chemical stability
- Stable

#### 10.3 Possibility of hazardous reactions
- Hazardous polymerization will not occur.

#### 10.4 Conditions to avoid
- No data available.

#### 10.5 Incompatible materials
- No data available.

#### 10.6 Hazardous decomposition products
- No data available.

### Section 11 - Toxicological Information

#### 11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
</table>
| **Acute toxicity**             | EU/CLP • Data lacking  
                                 | UN GHS 5 • Data lacking  
                                 | OSHA HCS 2012 • Data lacking  
                                 | WHMIS 2015 • Data lacking |
| **Skin corrosion/Irritation**  | EU/CLP • Data lacking  
                                 | UN GHS 5 • Data lacking  
                                 | OSHA HCS 2012 • Data lacking  
                                 | WHMIS 2015 • Data lacking |

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Preparation Date: 29/March/2017  
Revision Date: 20/February/2019  
Format: EU CLP/REACH Language: English (US)  
EU CLP, UN GHS Revision 5, OSHA HCS 2012, WHMIS 2015
<table>
<thead>
<tr>
<th>Potential Health Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inhalation</strong></td>
</tr>
<tr>
<td>Acute (Immediate)</td>
</tr>
<tr>
<td>Chronic (Delayed)</td>
</tr>
<tr>
<td><strong>Skin</strong></td>
</tr>
<tr>
<td>Acute (Immediate)</td>
</tr>
<tr>
<td>Chronic (Delayed)</td>
</tr>
<tr>
<td><strong>Eye</strong></td>
</tr>
<tr>
<td>Acute (Immediate)</td>
</tr>
<tr>
<td>Chronic (Delayed)</td>
</tr>
</tbody>
</table>

**Ingestion**
- Acute (Immediate) • Under normal conditions of use, no health effects are expected.
Chronic (Delayed) • No data available.

Section 12 - Ecological Information

12.1 Toxicity
• Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.2 Persistence and degradability
• Material data lacking.

12.3 Bioaccumulative potential
• Material data lacking.

12.4 Mobility in Soil
• Material data lacking.

12.5 Results of PBT and vPvB assessment
• No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects
• No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>14.2 UN proper shipping name</th>
<th>14.3 Transport hazard class(es)</th>
<th>14.4 Packing group</th>
<th>14.5 Environmental hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOT</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
<tr>
<td>TDG</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
<tr>
<td>IATA/ICAO</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
</tbody>
</table>

14.6 Special precautions for user
• None specified.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
• Data lacking.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
### SARA Hazard Classifications

**Canada**

#### Labor
- **Canada - List of Prohibited and Restricted Cosmetic Ingredients (The Cosmetic Ingredient Hotlist)**
  - Not Listed
- **Canada - WHMIS 1988 - Classifications of Substances**
  - Not Listed
- **Canada - WHMIS 1988 - Ingredient Disclosure List**
  - Not Listed

#### Environment
- **Canada - CEPA - Priority Substances List**
  - Not Listed
- **Canada - CEPA - Schedule I - List of Toxic Substances**
  - Not Listed
- **Canada - CEPA - Schedule III Part 1 - Export Control List - Prohibited Substances**
  - Not Listed
- **Canada - CEPA - Schedule III Part 2 - Export Control List - Substances Subject to Notification or Consent**
  - Not Listed
- **Canada - CEPA - Schedule III Part 3 - Export Control List - Restricted Substances**
  - Not Listed
- **Canada - Council of Ministers of the Environment - Water Quality Guidelines for Agricultural Irrigation**
  - Not Listed
- **Canada - Council of Ministers of the Environment - Water Quality Guidelines for Agricultural Livestock Uses**
  - Not Listed
- **Canada - Council of Ministers of the Environment - Water Quality Guidelines for Freshwater Aquatic Life**
  - Not Listed
- **Canada - Council of Ministers of the Environment - Water Quality Guidelines for Marine Aquatic Life**
  - Not Listed
- **Canada - DWQ (Drinking Water Quality) - AOs and OGs**
  - Not Listed
- **Canada - DWQ (Drinking Water Quality) - MACs**
  - Not Listed
- **Canada - DWQ (Drinking Water Quality) - Parameters without Guidelines**
  - Not Listed
- **Canada - DWQ (Drinking Water Quality) - Radionuclide Maximum Acceptable Concentration**
  - Not Listed
- **Canada - Environmental Emergencies**
  - Not Listed
- **Canada - Federal Halocarbon Regulations**
  - Not Listed
- **Canada - CEPA - Ozone Depleting Substances and Halocarbon Alternatives - Schedule 1, Table 3, Part 3 Substances**
  - Not Listed
- **Canada - CEPA - Ozone Depleting Substances and Halocarbon Alternatives - Schedule 1, Table 2, Part 2 Substances**
  - Not Listed
- **Canada - CEPA - Ozone Depleting Substances and Halocarbon Alternatives - Schedule 1, Table 1, Part 1 Substances**
  - Not Listed

#### Other
- **Canada - Controlled Drugs and Substances - Class 1 Targeted Substances**
  - Not Listed
- **Canada - Controlled Drugs and Substances - Class 2 Targeted Substances**
  - Not Listed
- **Canada - Controlled Drugs and Substances - Class A Precursors**
  - Not Listed
- **Canada - Controlled Drugs and Substances - Class B Precursors**
  - Not Listed
- **Canada - Controlled Drugs and Substances - Exempt Precursors**
  - Not Listed
- **Canada - Controlled Drugs and Substances - Schedule I**
  - Not Listed
### Canada - Controlled Drugs and Substances - Schedule II
Not Listed

### Canada - Controlled Drugs and Substances - Schedule III
Not Listed

### Canada - Controlled Drugs and Substances - Schedule IV
Not Listed

### Canada - Controlled Drugs and Substances - Schedule V
Not Listed

### Canada - Controlled Drugs and Substances - Schedule VII
Not Listed

### Canada - Controlled Drugs and Substances - Schedule VIII
Not Listed

### Europe

**Environment**
- EU - Air Pollution (2001/379/EC) - Heavy Metal Pollutants
  Not Listed
- EU - Substances Depleting the Ozone layer (1005/2009) - Annex I Substances
  Not Listed
- EU - Plant Protection Products (1107/2009/EC) - Active Substances
  Not Listed
  Not Listed
- EU - Seveso III Directive (2012/18/EU) - Qualifying Quantities of Dangerous Substances - Lower-Tier Requirements
  Not Listed
- EU - Seveso III Directive (2012/18/EU) - Qualifying Quantities of Dangerous Substances - Higher-Tier Requirements
  Not Listed

### Other

- Council of Europe - Flavouring Substances - Category of Flavouring Substances
  Not Listed
- Council of Europe - Flavouring Substances - Proposed Practical Upper Levels for Beverages
  Not Listed
- Council of Europe - Flavouring Substances - Proposed Practical Upper Levels for Foods
  Not Listed
- Council of Europe - Flavouring Substances - Proposed Practical Upper Levels for Other Food
  Not Listed
- EU - Food Additives (1333/2008/EC) - Annex I - Functional Classes of Food Additives
  Not Listed
- EU - Food Additives (1333/2008/EC) - Annex II - Approved Colours
  Not Listed
- EU - Colours in Foodstuffs (Directive 95/45/EC) - Specific Purity Criteria for Colours as Food Additives
  Not Listed
- EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification (OBSOLETE)
  Not Listed
- EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits (OBSOLETE)
  Not Listed
- EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling (OBSOLETE)
  Not Listed
- EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations (OBSOLETE)
  Not Listed
- EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases (OBSOLETE)
  Not Listed
- EU - Endocrine Disrupters (COM (2001)262) - Candidate List of Substances
  Not Listed
- EU - Endocrine Disrupters (COM (2001)262) - List of Evaluated Substances and their Exposure Concern
  Not Listed
- EU - Export and Import Restrictions (649/2012) - Chemicals and Articles Subject to Export Ban
  Not Listed
- EU - Export and Import Restrictions (649/2012) - Chemicals Qualifying for PIC Notification
  Not Listed
- EU - Export and Import Restrictions (649/2012) - Chemicals Subject to the PIC Procedure under the Rotterdam Convention
  Not Listed
### EU - Export and Import Restrictions (649/2012) - Chemicals Subject to Export Notification Procedure
Not Listed

### EU - Food Additives (1333/2008/EC) - Annex III - Carriers in Food Additives
Not Listed

### EU - Hazardous Substances Restricted or Prohibited in Electrical Equipment (2011/65/EU) (RoHS)
Not Listed

### EU - Inventory of Cosmetic Ingredients Directive (INCI) (76/768/EEC) - Other Ingredients
Not Listed

### EU - Inventory of Cosmetic Ingredients Directive (INCI) (76/768/EEC) - Perfume and Aromatic Materials
Not Listed

### EU - Narcotics (273/2004) - Drug Precursors - Annex I - Scheduled Substances
Not Listed

### EU - Narcotics (273/2004) - Drug Precursors - Annex II - Threshold Quantities
Not Listed

### EU - No-Longer Polymers List (67/548/EEC)
Not Listed

Not Listed

### EU - REACH (1907/2006) - Article 59(1) - Candidate List of Substances of Very High Concern (SVHC) for Authorisation
Not Listed

### Mexico

#### Environment

- **Mexico - Ecological Criteria for Water Quality - Agricultural Irrigation**
  Not Listed

- **Mexico - Ecological Criteria for Water Quality - Drinking Water Supply Source**
  Not Listed

- **Mexico - Ecological Criteria for Water Quality - Protection of Fresh Water Aquatic Life**
  Not Listed

- **Mexico - Ecological Criteria for Water Quality - Protection of Marine Water Aquatic Life**
  Not Listed

- **Mexico - Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities**
  Not Listed

- **Mexico - Wastewater Discharges - Maximum Limits into Coastal Waters**
  Not Listed

- **Mexico - Wastewater Discharges - Maximum Limits into Natural and Artificial Dams**
  Not Listed

- **Mexico - Wastewater Discharges - Maximum Limits into Rivers**
  Not Listed

- **Mexico - Wastewater Discharges - Maximum Limits into Soil**
  Not Listed

- **Mexico - Wastewater Discharges - Maximum Limits into Wetlands**
  Not Listed

### United States

#### Labor

- **U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**
  Not Listed

- **U.S. - OSHA - Specifically Regulated Chemicals**
  Not Listed

#### Environment

- **U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**
  Not Listed

- **U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities**
  Not Listed

- **U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities**
  Not Listed

- **U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs**
  Not Listed
15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

### Section 16 - Other Information

**Revision Date**  
- 20/February/2019

**Preparation Date**  
- 29/March/2017

**Disclaimer/Statement of Liability**  
- The information herein is given in good faith but no warranty, expressed or implied, is made.

**Key to abbreviations**  
- NDA = No Data Available

---

**United States - California**

**Environment**

- U.S. - California - Proposition 65 - Carcinogens List  
  Not Listed
- U.S. - California - Proposition 65 - Developmental Toxicity  
  Not Listed
- U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)  
  Not Listed
- U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)  
  Not Listed
- U.S. - California - Proposition 65 - Reproductive Toxicity - Female  
  Not Listed
- U.S. - California - Proposition 65 - Reproductive Toxicity - Male  
  Not Listed