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

1.1 Product identifier
Product Name · Buffer PW (NanoString)

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified use(s) · Sample permeabilization and washing

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
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

• Material does not meet the criteria of a substance.

3.2 Mixtures
### Composition

<table>
<thead>
<tr>
<th>Component</th>
<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>CAS:7732-18-5 EC Number:231-791-2</td>
<td>88% TO 90%</td>
<td>Ingestion/Oral-Rat LD50 • &gt;90 mL/kg</td>
<td>EU CLP: Not Classified</td>
<td>UN GHS Revision 5: Not Classified</td>
<td>OSHA HCS 2012: Not Classified</td>
</tr>
<tr>
<td>Component B</td>
<td>NDA</td>
<td>10%</td>
<td>NDA</td>
<td>EU CLP: Not Classified</td>
<td>UN GHS Revision 5: Not Classified</td>
<td>OSHA HCS 2012: Not Classified</td>
</tr>
<tr>
<td>Component D</td>
<td>CAS:9011-18-1</td>
<td>&lt; 1%</td>
<td>Ingestion/Oral-Rat LD50 • 20600 mg/kg</td>
<td>EU CLP: Not Classified</td>
<td>UN GHS Revision 5: Not Classified</td>
<td>OSHA HCS 2012: Not Classified</td>
</tr>
<tr>
<td>Component C</td>
<td>CAS:9007-49-2</td>
<td>&lt; 1%</td>
<td>NDA</td>
<td>EU CLP: Not Classified</td>
<td>UN GHS Revision 5: Not Classified</td>
<td>OSHA HCS 2012: Not Classified</td>
</tr>
</tbody>
</table>

### 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.

**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**
- In case of insufficient ventilation, wear suitable respiratory equipment.
- Wear protective eyewear (goggles, face shield, or safety glasses).
- 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>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance/Description</td>
<td>Clear liquid.</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Clear</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Data lacking</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Data lacking</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>General Properties</th>
<th>Boiling Point</th>
<th>Data lacking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decomposition Temperature</td>
<td>Data lacking</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity/Relative Density</td>
<td>1.00955 g/ml</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>Data lacking</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties:</td>
<td>Data lacking</td>
<td></td>
</tr>
<tr>
<td>Volatility</td>
<td>Vapor Pressure</td>
<td>Data lacking</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Data lacking</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>Flash Point</td>
<td>Data lacking</td>
</tr>
<tr>
<td>LEL</td>
<td>Data lacking</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Data lacking</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>Octanol/Water Partition coefficient</td>
<td>Data lacking</td>
</tr>
</tbody>
</table>

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>Components</th>
<th>Acute Toxicity: Ingestion/Oral-Rat LD50 • 20600 mg/kg; Behavioral: Somnolence (general depressed activity); Ataxia; Gastrointestinal: Hypermotility, diarrhea; Mutagen: Micronucleus test • Ingestion/Oral-Mouse • 84 g/kg 14 Day(s)-Intermittent</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>GHS Properties</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>Skin corrosion/Irritation</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>Serious eye damage/Irritation</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>Aspiration Hazard</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>Germ Cell Mutagenicity</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>Toxicity for Reproduction</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
<tr>
<td>STOT-SE</td>
<td>EU/CLP • Data lacking&lt;br&gt;UN GHS 5 • Data lacking&lt;br&gt;OSHA HCS 2012 • Data lacking&lt;br&gt;WHMIS 2015 • Data lacking</td>
</tr>
</tbody>
</table>
Potential Health Effects

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

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

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

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

Key to abbreviations
- **LD** = Lethal Dose

Section 12 - Ecological Information

12.1 Toxicity
- Material data lacking.

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></th>
<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 Regulated</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
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<tr>
<td>TDG</td>
<td>Not Applicable</td>
<td>Not Regulated</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
<tr>
<td>IMO/IMDG</td>
<td>Not Applicable</td>
<td>Not Regulated</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>NDA</td>
</tr>
<tr>
<td>IATA/ICAO</td>
<td>Not Applicable</td>
<td>Not Regulated</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**
- None

**State Right To Know**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>MA</th>
<th>NJ</th>
<th>PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component C</td>
<td>9007-49-2</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Component D</td>
<td>9011-18-1</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**Inventory**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS</th>
<th>Canada DSL</th>
<th>Canada NDSL</th>
<th>EU EINECS</th>
<th>EU ELNICS</th>
<th>TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component C</td>
<td>9007-49-2</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Component D</td>
<td>9011-18-1</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Canada**

**Labor**
- WHMIS 1988 - Classifications of Substances
  - Component D
  - Component C

- WHMIS 1988 - Ingredient Disclosure List
  - Component D
  - Component C

**Environment**
- CEPA - Priority Substances List
  - Component D
  - Component C

**United States**

**Labor**
- OSHA - Process Safety Management - Highly Hazardous Chemicals
  - Component D
<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component C</td>
<td>9007-49-2</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Component D</td>
<td>9011-18-1</td>
<td>Not Listed</td>
</tr>
<tr>
<td>Component C</td>
<td>9007-49-2</td>
<td>Not Listed</td>
</tr>
</tbody>
</table>

### Environment

#### U.S. - CA (Clean Air Act) - 1990 Hazardous Air Pollutants

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - CERCLA/SARA - Section 313 - Emission Reporting

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

### United States - California

#### Environment

#### U.S. - California - Proposition 65 - Carcinogens List

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - California - Proposition 65 - Developmental Toxicity

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

- Component D: 9011-18-1 Not Listed
- Component C: 9007-49-2 Not Listed

#### U.S. - California - Proposition 65 - Reproductive Toxicity - Female

- Component D: 9011-18-1 Not Listed
15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

**Revision Date**
- 28/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