

Safety Data Sheet



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

1.1 Product identifier

Product Name • Custom Multiplex PCR 5X Master Mix

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

Relevant identified use(s) • This product is for research and development only

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
safetycommittee@nanostring.com

Telephone (General) • 206.378.NANO (6266)

1.4 Emergency telephone number

Manufacturer • 206.378.NANO (6266)

Section 2: Hazards Identification

EU/EEC

According to: Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 2015/830]

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 4

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

2.1 Classification of the substance or mixture

UN GHS • Not classified

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
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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.
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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).
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2.4 Other information

- 1.14 percent of this product consists of an ingredient of unknown toxicity.

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance.

3.2 Mixtures

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Potassium chloride	CAS:7447-40-7 EC Number:231-211-8	1% TO 5%	Ingestion/Oral-Rat LD50 • 2600 mg/kg	EU CLP: Eye Irrit. 2, H319 UN GHS Revision 4: Acute Tox. 5 (orl); Eye Irrit. 2 OSHA HCS 2012: Eye Irrit. 2 WHMIS 2015: Eye Irrit. 2	NDA

Section 4 - First Aid Measures

4.1 Description of first aid measures

- Inhalation**
- Remove to fresh air.
- Skin**
- Wash skin with soap and water.
- Eye**
- Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
- Ingestion**
- Clean mouth with water and drink afterwards plenty of water.

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**
- In case of fire use media as appropriate for surrounding fire.
- Unsuitable Extinguishing Media**
- CAUTION: Use of water spray when fighting fire may be inefficient.

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**
- Ensure adequate ventilation, especially in confined areas. Do not walk through spilled material. Wear appropriate protective clothing.

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 LIQUID SPILLS: Take up with sand, earth or other non-combustible absorbent material.
LARGE SPILLS: Dike far ahead of liquid spill for later disposal.
Pick up and transfer to properly labeled containers.
This material and its container must be disposed of as hazardous waste.

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

- Use good safety and industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Keep only in the original container.

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				
	Result	France	Mexico	OSHA
Glycerine (56-81-5)	TWAs	10 mg/m ³ TWA [VME] (aerosol)	10 mg/m ³ TWA VLE-PPT (mist)	15 mg/m ³ TWA (mist, total particulate); 5 mg/m ³ TWA (mist, respirable fraction)

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 face shield and eye protection.

Skin/Body

- Wear long sleeves and/or protective coveralls. Wear appropriate gloves.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	Colorless liquid with mild odor.
Color	Colorless	Odor	Mild
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point/Freezing Point	Data lacking
Decomposition Temperature	Data lacking	pH	8.3
Specific Gravity/Relative Density	Data lacking	Water Solubility	Data lacking
Viscosity	Data lacking	Explosive Properties	Data lacking
Oxidizing Properties:	Data lacking		
Volatility			
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 under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Can react briskly with oxidizers - danger of explosion.

10.4 Conditions to avoid

- Incompatible materials. Ignition sources. Excess heat.

10.5 Incompatible materials

- Strong oxidizing agents.

10.6 Hazardous decomposition products

- Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO₂)

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Components	
	Acute Toxicity: Ingestion/Oral-Rat LD50 • 2600 mg/kg; Ingestion/Oral-Woman TDLo • 1500 mg/kg; Cardiac:Arrhythmias (including changes in conduction); Vascular:BP lowering not characterized in autonomic section; Ingestion/Oral-Woman TDLo • 60 mg/kg; Gastrointestinal:Nausea or vomiting; Blood:Change

Potassium chloride (1% TO 5%)	7447-40-7	in clotting factors; Irritation: Eye-Rabbit • 500 mg 24 Hour(s) • Mild irritation; Multi-dose Toxicity: Ingestion/Oral-Rat TDLo • 983 g/kg 78 Week(s)-Continuous; <i>Kidney, Ureter, and Bladder:Changes in tubules (including acute renal failure, acute tubular necrosis)</i> ; Ingestion/Oral-Rat TDLo • 1536 g/kg 130 Week(s)-Continuous; <i>Endocrine:Adrenal cortex hyperplasia</i> ; Mutagen: Unscheduled DNA synthesis • Ingestion/Oral-Rat • 1500 µg/kg
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GHS Properties	Classification
Acute toxicity	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
Skin corrosion/Irritation	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
Serious eye damage/Irritation	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
Skin sensitization	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
Respiratory sensitization	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
Aspiration Hazard	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
Carcinogenicity	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
Germ Cell Mutagenicity	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
Toxicity for Reproduction	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
STOT-SE	EU/CLP • Data lacking UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
	EU/CLP • Data lacking

STOT-RE	UN GHS 4 • Data lacking OSHA HCS 2012 • Data lacking WHMIS 2015 • Data lacking
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Potential Health Effects

Inhalation

- Acute (Immediate)** • Avoid breathing vapors or mists. May cause irritation of respiratory tract.
- Chronic (Delayed)** • No data available

Skin

- Acute (Immediate)** • No data available
- Chronic (Delayed)** • Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.

Eye

- Acute (Immediate)** • Redness. May cause slight irritation.
- Chronic (Delayed)** • No data available

Ingestion

- Acute (Immediate)** • May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.
- Chronic (Delayed)** • No data available

Section 12 - Ecological Information

12.1 Toxicity

	CAS	
Custom Multiplex PCR 5X Master Mix	NDA	<p>Aquatic Toxicity-Fish: 96 Hour(s) LC50 <i>Lepomis macrochirus</i> 1060 mg/L Comments: Potassium Chloride (7447-40-7)</p> <p>96 Hour(s) LC50 <i>Pimephales promelas</i> 750-1020 mg/L Comments: Potassium Chloride (7447-40-7)</p> <p>96 Hour(s) LC50 <i>Gambusia affinis</i> 4210 mg/L Comments: Magnesium Chloride (7786-30-3)</p> <p>96 Hour(s) LC50 <i>Pimephales promelas</i> 1970-3880 mg/L Comments: Magnesium Chloride (7786-30-3)</p> <p>96 Hour(s) LC50 <i>Oncorhynchus mykiss</i> 51-57 mg/L Comments: Glycerol (56-81-5)</p> <p>Aquatic Toxicity-Crustacea: 24 Hour(s) EC50 Water Flea <i>Daphnia magna</i> 500 mg/L Comments: Glycerol (56-81-5)</p> <p>48 Hour(s) EC50 <i>Daphnia magna</i> 140 mg/L Comments: Magnesium Chloride (7786-30-3)</p> <p>24 Hour(s) EC50 <i>Daphnia magna</i> 1400 mg/L Comments: Magnesium Chloride (7786-30-3)</p> <p>48 Hour(s) EC50 <i>Daphnia magna</i> 825 mg/L Comments: Potassium Chloride (7447-40-7)</p> <p>48 Hour(s) EC50 <i>Daphnia magna</i> 83 mg/L Comments: Potassium Chloride (7447-40-7)</p> <p>Aquatic Toxicity-Algae and Other Aquatic Plant(s): 72 Hour(s) EC50 <i>Desmodemus subspicatus</i> 2200 mg/L Comments: Magnesium Chloride (7786-30-3)</p> <p>72 Hour(s) EC50 <i>Desmodemus subspicatus</i> 2500 mg/L Comments: Potassium Chloride (7447-40-7)</p>

- 1.75 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

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

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA
TDG	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA
IMO/IMDG	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA
IATA/ICAO	Not Applicable	Not Regulated	Not Applicable	Not Applicable	NDA

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

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Revision Date

- 20/June/2017

Preparation Date

- 20/June/2017

Disclaimer/Statement of Liability

- The information herein is given in good faith but no warranty, expressed or implied, is made.