



# Safety Data Sheet Summary

VariantPlex® - HGC 2.0 Reagents for Illumina®

## 1 Product and company identification

**Supplier Address:** Integrated DNA Technologies, Inc. (IDT)  
2425 55th Street  
Boulder, CO 80301

**Phone:** 877-771-1093

**Fax:** 303-736-7150

**Email:** [archer-tech@idtdna.com](mailto:archer-tech@idtdna.com)

**Web:** <http://www.archerdx.com/>

**Emergency telephone number:** For Spill, Leak, Fire, Exposure, or Accident  
CHEMTREC  
Within USA and Canada: 1-800-424-9300 CCN871892  
Outside USA and Canada: +1 703-527-3887  
(collect calls accepted)

VariantPlex® - HGC 2.0 Reagents for Illumina® contains the following parts:

Kit Number	SDS Number	Part Description
SK0172	SDS0085	DNA Fragmentation 2.0
	SDS0071	End Repair
	SDS0069	Ligation Step 1
	SDS0018	Ligation Step 2
	SDS0082	First PCR for Illumina®-HGC
	SDS0083	Second PCR Reactions 1 thru 8 for Illumina®-HGC
	SDS0073	Ligation Cleanup Buffer
	SDS0075	Ligation Cleanup Beads

## 1 Product and company identification

<b>Product identifier:</b>	DNA Fragmentation 2.0
<b>SDS number:</b>	SDS0085
<b>Version:</b>	1
<b>Internal ID:</b>	SA0653 SA0675
<b>Relevant identified uses of the substance or mixture and uses advised against:</b>	For research use only. Not for use in diagnostic procedures.
<b>Supplier details:</b>	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
<b>Phone:</b>	877-771-1093
<b>Fax:</b>	303-736-7150
<b>Email:</b>	<a href="mailto:archer-tech@idtdna.com">archer-tech@idtdna.com</a>
<b>Web:</b>	<a href="http://www.archerdx.com">http://www.archerdx.com/</a>
<b>Emergency telephone number:</b>	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)
<b>Further information:</b>	This sheet was prepared on a voluntary basis.

## 2 Hazards identification

### Classification of the substance or mixture

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Label elements

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Other hazards

None

## 3 Composition/information on ingredients

### Ingredients

This product contains no substances that are hazardous as defined in Section 2.

## 4 First aid measures

### Description of first aid measures

<b>General information:</b>	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
<b>Inhalation:</b>	In case of inhalation: move affected person to fresh air and keep at rest. If symptoms are severe or persist, seek medical advice immediately.
<b>Skin contact:</b>	Immediately remove all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.
<b>Eye contact:</b>	Rinse immediately with plenty of water for several minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. Get medical attention if any discomfort continues.
<b>Ingestion:</b>	Do NOT induce vomiting. Rinse mouth thoroughly with water. When in doubt or if symptoms are observed, get medical advice/attention.
<b>Most important symptoms and effects, both acute and delayed:</b>	The most important known symptoms and effects are described in labelling (see Section 2) and/or in Section 11.
<b>Indication of any immediate medical attention and special treatment needed:</b>	No data available

## 5 Firefighting measures

### Extinguishing media

**Suitable extinguishing media:** Extinguish with water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.

### Specific hazards arising from the chemical:

Carbon oxides  
Nitrogen oxides  
Chlorine compounds  
Magnesium oxides

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

Exposure to decomposition products may be a hazard to health. Gaseous hydrogen chloride (HCl).

**Advice for firefighters:** In case of fire: Wear self-contained breathing apparatus.

## 6 Accidental release measures

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

Avoid inhalation of dust/fume/gas/mist/vapors. For personal protection see Section 8.

### Environmental precautions

Do not allow to enter surface water or drains. Discharge into the environment must be avoided. Prevent spread over a wide area (e.g., by containment or oil barriers).

### Methods and materials for containment and cleaning up

Clear up spills immediately. Avoid creating dust. Clean any contaminated surfaces thoroughly. Disposal should be in accordance with Section 13. Keep in suitable, closed containers for disposal.

### References to other sections

Safe handling: See Section 7.

Personal Protective Equipment: See Section 8.

Disposal: See Section 13.

## 7 Handling and storage

### Precautions for safe handling

**Advice on safe handling:** Ensure adequate ventilation, especially in confined areas.

Smoking, eating, and drinking should be prohibited in application area.

Normal measures for preventative fire protection.

Wear suitable protective clothing (See section 8).

### Advice on protection against fire and explosion:

See Section 5.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels:

Keep container tightly closed in dry and well-ventilated place.

Store at: 4°C.

#### Further information on storage conditions:

Protect against: Light. UV-radiation/sunlight. Extreme heat. Extreme cold. Moisture.

#### Specific end use(s):

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

## 8 Exposure controls/personal protection

**Control parameters:** Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters/ Permissible concentration	Basis
Deoxyribonuclease	9003-98-9	IOEL	0.00006 mg/m3	Roche Industrial Hygiene Committee (RHIC)
Glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Total)	10 mg/m3	OSHA P0
		TWA (Respirable fraction)	5 mg/m3	OSHA P0
		TWA	10 mg/m3	ACGIH
		TWA (Mist – total dust)	10 mg/m3	OSHA P0
		TWA (Mist – respirable fraction)	5 mg/m3	OSHA P0

Hazardous components without workplace control parameters

Ingredients	CAS-No.
Magnesium chloride, hexahydrate	7991-18-6

### Exposure controls

#### Appropriate engineering controls:

General industrial hygiene practice. Provide adequate ventilation, showers, eyewash stations.

#### Protective and hygiene measures:

Always close containers tightly after the removal of product. Change contaminated clothing. Wash hands after working with product. When using do not eat, drink, or smoke.

- Eye/face protection:** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
- Respiratory protection:** If necessary, use respirator as a backup to engineering controls. Use respirators and approved under appropriate government standards such as OSHA 29 CFR 1910.134 or European Standard EN 149.
- Environmental exposure controls:**  
 Keep container tightly closed when not in use. Do not let product enter drains.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Lyophilized pellets
<b>Color</b>	White
<b>Odor</b>	Not odorless
<b>pH</b>	Not available
<b>Melting point</b>	Not available
<b>Initial boiling point and boiling range</b>	Not available
<b>Flash point</b>	Not available
<b>Sustaining combustion</b>	Not available
<b>Lower explosive limits</b>	Not available
<b>Upper explosive limits</b>	Not available
<b>Ignition temperature</b>	Not available
<b>Oxidizing properties</b>	Not available
<b>Vapor pressure (at 20°C)</b>	Not available
<b>Density (at 20°C)</b>	Not available
<b>Water solubility</b>	Not available
<b>Solubility in other solvents</b>	Not available
<b>Auto-ignition temperature</b>	Not available
<b>Decomposition temperature</b>	Not available

## 10 Stability and reactivity

<b>Reactivity:</b>	No information available.
<b>Chemical stability:</b>	The product is chemically stable under recommended conditions of storage, use and temperature.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to avoid:</b>	Exposure to air or moisture over prolonged periods.
<b>Incompatible materials:</b>	Strong oxidizing agents.
<b>Hazardous decomposition products:</b>	Hazardous decomposition products formed under fire conditions: Nature of decomposition products not known. In the event of fire: see Section 5.

## 11 Toxicological information

### Information on toxicological effects

**Toxicokinetic, metabolism and distribution:** No information available.

### Acute toxicity:

Inhalation: No data available

Dermal: No data available

### Ingredients

#### Glycerol:

Acute oral toxicity: LD50 Oral (Rat): 12,000 mg/kg

Acute dermal toxicity: LD50 Dermal (Rabbit): 10,000 mg/kg

#### Magnesium chloride, hexahydrate:

Acute oral toxicity: LD50 Oral (Rat): 8,100 mg/kg

#### Calcium chloride dihydrate:

Acute oral toxicity: LD50 Oral (Rat): 1,000 mg/kg

Acute dermal toxicity: LD50 Dermal (Rat): 2,630 mg/kg

### Irritation and corrosivity

No data available

### Sensitizing effects

No data available



### **Carcinogenic/mutagenic/toxic effects for reproduction**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### **STOT-single exposure**

No data available

### **STOT-repeated exposure**

No data available

### **Aspiration hazard**

No data available

### **Specific effects in experiment on an animal**

No information available

## 12 Ecological information

### **Toxicity**

No data available.

### **Glycerol:**

Toxicity to fish: LC0 (Leuciscus idus (Golden orfe)): > 250 mg/l

Exposure time: 48 h

### **Calcium chloride dihydrate:**

Toxicity to fish: LC50 (Lepomis macrochirus (Bluegill sunfish)): 10,650 mg/l

Exposure time: 96 h

Toxicity to daphnia and other

aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 144 mg/l

Toxicity to microorganisms: EC50 (Bacteria): > 100 mg/l

### **Persistence and degradability**

No data available

### **Bio accumulative potential**

No information available.

### **Mobility in soil**

No information available.

**Results of PBT and vPvB assessment**

No information available.

**Other adverse effects**

No information available.

**Further information**

Do not allow uncontrolled discharge of product into the environment.

## 13 Disposal considerations

**Waste treatment methods**

Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous waste regulations to ensure complete accurate classification to ensure proper disposal.

## 14 Transport information

**DOT (US)**

Not a hazardous material.

**IMDG**

Not a dangerous goods.

**IATA**

Not dangerous goods.

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**Special precautions for user**

See Section 8.

## 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SARA 302 components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 hazards:**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

## 16 Other information

### Disclaimer:

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall IDT be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if IDT has been advised of the possibility of such damages.

### Abbreviations and acronyms:

CAS Chemical Abstracts Service

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

SARA: Superfund Amendments and Reauthorization Act

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

## 1 Product and company identification

<b>Product identifier:</b>	End Repair
<b>SDS number:</b>	SDS0071
<b>Version:</b>	2
<b>Internal ID:</b>	SA0204 SA0222 SA0658
<b>Relevant identified uses of the substance or mixture and uses advised against:</b>	For research use only. Not for use in diagnostic procedures.
<b>Supplier details:</b>	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301 877-771-1093
<b>Phone:</b>	877-771-1093
<b>Fax:</b>	303-736-7150
<b>Email:</b>	<a href="mailto:archer-tech@idtdna.com">archer-tech@idtdna.com</a>
<b>Web:</b>	<a href="http://www.archerdx.com/">http://www.archerdx.com/</a>
<b>Emergency telephone number:</b>	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)
<b>Further information:</b>	This sheet was prepared on a voluntary basis.

## 2 Hazards identification

### Classification of the substance or mixture

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Label elements

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Other hazards

None

## 3 Composition/information on ingredients

### Ingredients

This product contains no substances that are hazardous as defined in Section 2.

## 4 First aid measures

### Description of first aid measures

- General information:** In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
- Inhalation:** In case of inhalation: move affected person to fresh air and keep at rest. If not breathing, give artificial respiration. If symptoms are severe or persist, seek medical advice immediately.
- Skin contact:** Immediately remove all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.
- Eye contact:** Rinse immediately with plenty of water for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. Get medical attention if any discomfort continues.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. When in doubt or if symptoms are observed, get medical advice/attention.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in labelling (see Section 2) and/or in Section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available

## 5 Firefighting measures

### Extinguishing media

**Suitable extinguishing media:** Extinguish with water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.

**Specific hazards arising from the chemical:**  
Carbon oxides (CO, CO<sub>2</sub>).

**Special hazards arising from the substance or mixture:**  
Exposure to decomposition products may be a hazard to health.

**Advice for firefighters:** In case of fire: Wear self-contained breathing apparatus.

## 6 Accidental release measures

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

Avoid inhalation of dust, vapors, mist, or gas. Ensure adequate ventilation. Evacuate untrained or unnecessary personnel to safe areas. For personal protection see Section 8.

### Environmental precautions

Do not allow to enter surface water or drains. Discharge into the environment must be avoided. Prevent spread over a wide area (e.g., by containment or oil barriers).

### Methods and materials for containment and cleaning up

Clear up spills immediately. Avoid creating dust. Clean any contaminated surfaces thoroughly. Mop up small spills. Dike area with sand or other inert material for large spills. Disposal should be in accordance with Section 13. Keep in suitable, closed containers for disposal.

### References to other sections

Safe handling: See Section 7.

Personal Protective Equipment: See Section 8.

Disposal: See Section 13.

## 7 Handling and storage

### Precautions for safe handling

**Advice on safe handling:** Ensure adequate ventilation, especially in confined areas.

Smoking, eating, and drinking should be prohibited in application area.

Normal measures for preventative fire protection.

Wear suitable protective clothing (See section 8).

Avoid contact with eyes or repeated or prolonged contact with skin.

Avoid inhalation.

Launder or discard contaminated clothing.

### Advice on protection against fire and explosion:

See Section 5.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels:

Keep in original or labeled container.

Keep container closed and store in cool, dry place.

Recommended storage temperature: 4°C/40°F.

#### Further information on storage conditions:

Protect against: Light. UV-radiation/sunlight. Extreme heat. Extreme cold. Moisture.

#### Specific end use(s):

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.



## 8 Exposure controls/personal protection

**Control parameters:** This product, as supplied, does not contain any substances with established occupational exposure limits.

### Exposure controls

#### Appropriate engineering controls:

General industrial hygiene practice. Provide adequate ventilation, showers, and eyewash stations.

#### Protective and hygiene measures:

Always close containers tightly after the removal of product. Change contaminated clothing. Wash hands after working with product. When using do not eat, drink, or smoke.

**Eye/face protection:** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Respiratory protection:** If necessary, use respirator as a backup to engineering controls. Use respirators and approved under appropriate government standards such as OSHA 29 CFR 1910.134 or European Standard EN 149.

#### Environmental exposure controls:

Keep container tightly closed when not in use. Do not let product enter drains.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Lyophilized powder
<b>Color</b>	White
<b>Odor</b>	Not determined
<b>pH</b>	Not applicable
<b>Melting point</b>	Not determined
<b>Initial boiling point and boiling range</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Sustaining combustion</b>	Not available
<b>Lower explosive limits</b>	Not available
<b>Upper explosive limits</b>	Not available
<b>Ignition temperature</b>	Not available
<b>Oxidizing properties</b>	Not available
<b>Vapor pressure (at 20°C)</b>	Not applicable
<b>Density (at 20°C)</b>	Not available
<b>Water solubility</b>	Not determined
<b>Solubility in other solvents</b>	Not available
<b>Auto-ignition temperature</b>	Not determined
<b>Decomposition temperature</b>	Not determined

## 10 Stability and reactivity

<b>Reactivity:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Chemical stability:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to avoid:</b>	Strong oxidizing agents
<b>Incompatible materials:</b>	None known
<b>Hazardous decomposition products:</b>	Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO <sub>2</sub> ), other possibly toxic smoke or fumes. In the event of fire: see Section 5.

## 11 Toxicological information

2425 55<sup>th</sup> Street, Boulder, CO 80301 | [www.archerdx.com](http://www.archerdx.com) | [archer-tech@idtdna.com](mailto:archer-tech@idtdna.com)

For research use only. Not for use in diagnostic procedures. May 2023.

## Information on toxicological effects

**Toxicokinetic, metabolism and distribution:** No information available.

### Acute toxicity:

Inhalation: No data available

Dermal: No data available

### Irritation and corrosivity

Eye: May be irritating. Symptoms of eye irritation include pain, tearing, reddening, and swelling.

Skin: May be irritating. Symptoms include rash and redness.

Inhalation: May be irritating. Symptoms of respiratory irritation include runny nose, sore throat, cough, chest discomfort, shortness of breath and reduced lung function.

### Sensitizing effects

No data available

### Carcinogenic/mutagenic/toxic effects for reproduction

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration hazard

No data available

### Specific effects in experiment on an animal

No information available

## 12 Ecological information

**Toxicity**

No information available.

**Persistence and degradability**

No information available

**Bio accumulative potential**

No information available.

**Mobility in soil**

No information available.

**Results of PBT and vPvB assessment**

No information available.

**Other adverse effects**

No information available.

**Further information**

Do not allow uncontrolled discharge of product into the environment.

## 13 Disposal considerations

**Waste treatment methods**

Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous waste regulations to ensure complete accurate classification to ensure proper disposal.

## 14 Transport information

**DOT (US)**

Not a hazardous material.

**IMDG**

Not a dangerous goods.

**IATA**

Not dangerous goods.

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**Special precautions for user**

See Section 8.

## 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SARA 302 components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 hazards:**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

## 16 Other information

### Disclaimer:

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall IDT be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if IDT has been advised of the possibility of such damages.

### Abbreviations and acronyms:

CAS Chemical Abstracts Service

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

SARA: Superfund Amendments and Reauthorization Act

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

## 1 Product and company identification

<b>Product identifier:</b>	Ligation Step 1, 2.0
<b>SDS number:</b>	SDS0069
<b>Version:</b>	2
<b>Internal ID:</b>	SA0202 SA0638
<b>Relevant identified uses of the substance or mixture and uses advised against:</b>	For research use only. Not for use in diagnostic procedures.
<b>Supplier details:</b>	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
<b>Phone:</b>	877-771-1093
<b>Fax:</b>	303-736-7150
<b>Email:</b>	<a href="mailto:archer-tech@idtdna.com">archer-tech@idtdna.com</a>
<b>Web:</b>	<a href="http://www.archerdx.com/">http://www.archerdx.com/</a>
<b>Emergency telephone number:</b>	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)
<b>Further information:</b>	This sheet was prepared on a voluntary basis.

## 2 Hazards identification

### Classification of the substance or mixture

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Label elements

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Other hazards

None



## 3 Composition/information on ingredients

### Ingredients

This product contains no substances that are hazardous as defined in Section 2.

## 4 First aid measures

### Description of first aid measures

<b>General information:</b>	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
<b>Inhalation:</b>	In case of inhalation: move affected person to fresh air and keep at rest. If not breathing, give artificial respiration. If symptoms are severe or persist, seek medical advice immediately.
<b>Skin contact:</b>	Immediately remove all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.
<b>Eye contact:</b>	Rinse immediately with plenty of water for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. Get medical attention if any discomfort continues.
<b>Ingestion:</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. When in doubt or if symptoms are observed, get medical advice/attention.
<b>Most important symptoms and effects, both acute and delayed:</b>	The most important known symptoms and effects are described in labelling (see Section 2) and/or in Section 11.
<b>Indication of any immediate medical attention and special treatment needed:</b>	No data available

## 5 Firefighting measures

### Extinguishing media

**Suitable extinguishing media:** Extinguish with water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.

### Specific hazards arising from the chemical:

Carbon oxides (CO, CO<sub>2</sub>)

Chlorine compounds

Magnesium oxides

Nitrogen oxides (NO<sub>x</sub>)

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

Exposure to decomposition products may be a hazard to health.

### Advice for firefighters:

In case of fire: Wear self-contained breathing apparatus.

## 6 Accidental release measures

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

Avoid inhalation of dust, vapors, mist, or gas. Ensure adequate ventilation. Evacuate untrained or unnecessary personnel to safe areas. For personal protection see Section 8.

### Environmental precautions

Do not allow to enter surface water or drains. Discharge into the environment must be avoided. Prevent spread over a wide area (e.g., by containment or oil barriers).

### Methods and materials for containment and cleaning up

Clear up spills immediately. Avoid creating dust. Clean any contaminated surfaces thoroughly. Mop up small spills. Dike area with sand or other inert material for large spills. Disposal should be in accordance with Section 13. Keep in suitable, closed containers for disposal.

### References to other sections

Safe handling: See Section 7.

Personal Protective Equipment: See Section 8.

Disposal: See Section 13.

## 7 Handling and storage

### Precautions for safe handling

**Advice on safe handling:** Ensure adequate ventilation, especially in confined areas.

Smoking, eating, and drinking should be prohibited in application area.

Normal measures for preventative fire protection.

Wear suitable protective clothing (See section 8).

Avoid contact with eyes or repeated or prolonged contact with skin.

Avoid inhalation.

Launder or discard contaminated clothing.

### Advice on protection against fire and explosion:

See Section 5.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels:

Keep in original or labeled container.

Keep container closed and store in cool, dry place.

Recommended storage temperature: 4°C/40°F.

#### Further information on storage conditions:

Protect against: Light. UV-radiation/sunlight. Extreme heat. Extreme cold. Moisture.

#### Specific end use(s):

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

## 8 Exposure controls/personal protection

**Control parameters:** Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters/ Permissible concentration	Basis
Glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Total)	10 mg/m3	OSHA P0
		TWA (Respirable fraction)	5 mg/m3	OSHA P0
		TWA	10 mg/m3	ACGIH

Hazardous components without workplace control parameters

Ingredients	CAS-No.
Magnesium chloride, hexahydrate	7791-18-6

### Exposure controls

#### Appropriate engineering controls:

General industrial hygiene practice. Provide adequate ventilation, showers, and eyewash stations.

#### Protective and hygiene measures:

Always close containers tightly after the removal of product. Change contaminated clothing. Wash hands after working with product. When using do not eat, drink, or smoke.

#### Eye/face protection:

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Respiratory protection:** If necessary, use respirator as a backup to engineering controls. Use respirators and approved under appropriate government standards such as OSHA 29 CFR 1910.134 or European Standard EN 149.

**Environmental exposure controls:**

Keep container tightly closed when not in use. Do not let product enter drains.

## 9 Physical and chemical properties

**Information on basic physical and chemical properties**

<b>Physical state</b>	Lyophilized powder
<b>Color</b>	White
<b>Odor</b>	Not determined
<b>pH</b>	Not available
<b>Melting point</b>	Not determined
<b>Initial boiling point and boiling range</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Sustaining combustion</b>	Not available
<b>Lower explosive limits</b>	Not available
<b>Upper explosive limits</b>	Not available
<b>Ignition temperature</b>	Not available
<b>Oxidizing properties</b>	Not available
<b>Vapor pressure (at 20°C)</b>	Not applicable
<b>Density (at 20°C)</b>	Not available
<b>Water solubility</b>	Not determined
<b>Solubility in other solvents</b>	Not available
<b>Auto-ignition temperature</b>	Not determined
<b>Decomposition temperature</b>	Not determined

## 10 Stability and reactivity

<b>Reactivity:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Chemical stability:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to avoid:</b>	Strong oxidizing agents
<b>Incompatible materials:</b>	None known
<b>Hazardous decomposition products:</b>	Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO <sub>2</sub> ), other possibly toxic smoke or fumes. In the event of fire: see Section 5.

## 11 Toxicological information

### Information on toxicological effects

**Toxicokinetic, metabolism and distribution:** No information available.

### Acute toxicity:

Inhalation: No data available

Dermal: No data available

### Irritation and corrosivity

Eye: May be irritating. Symptoms of eye irritation include pain, tearing, reddening, and swelling.

Skin: May be irritating. Symptoms include rash and redness.

Inhalation: May be irritating. Symptoms of respiratory irritation include runny nose, sore throat, cough, chest discomfort, shortness of breath and reduced lung function.

### Sensitizing effects

No data available

### Carcinogenic/mutagenic/toxic effects for reproduction

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**STOT-single exposure**

No data available

**STOT-repeated exposure**

No data available

**Aspiration hazard**

No data available

**Specific effects in experiment on an animal**

No information available

**Ingredients**

**Magnesium chloride, hexahydrate:**

Acute oral toxicity: LD50 Oral (Rat): 8,100 mg/kg

**Glycerol:**

Acute oral toxicity: LD50 Oral (Rat): 12,000 mg/kg

Acute dermal toxicity: LD50 Dermal Rabbit: 10,000 mg/kg

## 12 Ecological information

### **Toxicity**

#### **Ingredients:**

#### **Glycerol:**

Toxicity to fish: LC0 (Leuciscus idus (Golden orfe)): > 250 mg/l

Exposure time: 48 h

#### **Persistence and degradability**

No data available

#### **Bio accumulative potential**

No information available.

#### **Mobility in soil**

No information available.

#### **Results of PBT and vPvB assessment**

No information available.

#### **Other adverse effects**

No information available.

#### **Further information**

Do not allow uncontrolled discharge of product into the environment.

## 13 Disposal considerations

### **Waste treatment methods**

Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous waste regulations to ensure complete accurate classification to ensure proper disposal.



## 14 Transport information

**DOT (US)**

Not a hazardous material.

**IMDG**

Not a dangerous goods.

**IATA**

Not dangerous goods.

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**Special precautions for user**

See Section 8.

## 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SARA 302 components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 hazards:**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

## 16 Other information

### Disclaimer:

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall IDT be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if IDT has been advised of the possibility of such damages.

### Abbreviations and acronyms:

CAS Chemical Abstracts Service

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

SARA: Superfund Amendments and Reauthorization Act

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

### 1 Product and company identification

<b>Product identifier:</b>	Ligation Step 2
<b>SDS number:</b>	SDS0018
<b>Version:</b>	3
<b>Internal ID:</b>	SA0197 SA0224 SA0376
<b>Relevant identified uses of the substance or mixture and uses advised against:</b>	For research use only. Not for use in diagnostic procedures.
<b>Supplier details:</b>	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
<b>Phone:</b>	877-771-1093
<b>Fax:</b>	303-736-7150
<b>Email:</b>	<a href="mailto:archer-tech@idtdna.com">archer-tech@idtdna.com</a>
<b>Web:</b>	<a href="http://www.archerdx.com/">http://www.archerdx.com/</a>
<b>Emergency telephone number:</b>	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)
<b>Further information:</b>	This sheet was prepared on a voluntary basis.

### 2 Hazards identification

**Classification of the substance or mixture**

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

**Label elements**

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

**Other hazards**

None

### 3 Composition/information on ingredients

#### Ingredients

This product contains no substances that are hazardous as defined in Section 2.

### 4 First aid measures

#### Description of first aid measures

<b>General information:</b>	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
<b>Inhalation:</b>	In case of inhalation: move affected person to fresh air and keep at rest. If not breathing, give artificial respiration. If symptoms are severe or persist, seek medical advice immediately.
<b>Skin contact:</b>	Immediately remove all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.
<b>Eye contact:</b>	Rinse immediately with plenty of water for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. Get medical attention if any discomfort continues.
<b>Ingestion:</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. When in doubt or if symptoms are observed, get medical advice/attention.
<b>Most important symptoms and effects, both acute and delayed:</b>	The most important known symptoms and effects are described in labelling (see Section 2) and/or in Section 11.
<b>Indication of any immediate medical attention and special treatment needed:</b>	No data available

## 5 Firefighting measures

### Extinguishing media

**Suitable extinguishing media:** Extinguish with water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.

### Specific hazards arising from the chemical:

Carbon oxides (CO, CO<sub>2</sub>)

Chlorine compounds

Magnesium oxides

Nitrogen oxides (NO<sub>x</sub>)

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

Exposure to decomposition products may be a hazard to health.

### Advice for firefighters:

In case of fire: Wear self-contained breathing apparatus.

## 6 Accidental release measures

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

Avoid inhalation of dust, vapors, mist, or gas. Ensure adequate ventilation. Evacuate untrained or unnecessary personnel to safe areas. For personal protection see Section 8.

### Environmental precautions

Do not allow to enter surface water or drains. Discharge into the environment must be avoided. Prevent spread over a wide area (e.g., by containment or oil barriers).

### Methods and materials for containment and cleaning up

Clear up spills immediately. Avoid creating dust. Clean any contaminated surfaces thoroughly. Mop up small spills. Dike area with sand or other inert material for large spills. Disposal should be in accordance with Section 13. Keep in suitable, closed containers for disposal.

### Reference to other sections

Safe handling: See Section 7.

Personal Protective Equipment: See Section 8.

Disposal: See Section 13.

## 7 Handling and storage

### Precautions for safe handling

**Advice on safe handling:** Ensure adequate ventilation, especially in confined areas.

Avoid contact with eyes or repeated or prolonged contact with skin.

Avoid inhalation.

Launder or discard contaminated clothing.

Smoking, eating, and drinking should be prohibited in application area.

Normal measures for preventative fire protection.

### Advice on protection against fire and explosion:

See Section 5.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels:

Keep in original or labeled container.

Keep container closed and store in cool, dry place.

Recommended storage temperature: 4°C/ 40°F.

#### Further information on storage conditions:

Protect against: Light. UV-radiation/sunlight. Extreme heat. Extreme cold. Moisture.

#### Specific end use(s):

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

## 8 Exposure controls/personal protection

**Control parameters:** Hazardous components without workplace control parameters

Ingredients	CAS-No.
Magnesium chloride, hexahydrate	7791-18-6

### Exposure controls

#### Appropriate engineering controls:

General industrial hygiene practice. Provide adequate ventilation, showers, and eyewash stations.

#### Protective and hygiene measures:

Always close containers tightly after the removal of product. Change contaminated clothing. Wash hands after working with product. When using do not eat, drink, or smoke.

#### Eye/face protection:

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Respiratory protection:

If necessary, use respirator as a backup to engineering controls. Use respirators and approved under appropriate government standards such as OSHA 29 CFR 1910.134 or European Standard EN 149.

#### Environmental exposure controls:

Keep container tightly closed when not in use. Do not let product enter drains.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Lyophilized powder
<b>Color</b>	White
<b>Odor</b>	Not determined
<b>pH</b>	Not applicable
<b>Melting point</b>	Not determined
<b>Initial boiling point and boiling range</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Sustaining combustion</b>	Not available
<b>Lower explosive limits</b>	Not available
<b>Upper explosive limits</b>	Not available
<b>Ignition temperature</b>	Not available
<b>Oxidizing properties</b>	Not available
<b>Vapor pressure (at 20°C)</b>	Not applicable
<b>Density (at 20°C)</b>	Not available
<b>Water solubility</b>	Not determined
<b>Solubility in other solvents</b>	Not available
<b>Auto-ignition temperature</b>	Not determined
<b>Decomposition temperature</b>	Not available



## 10 Stability and reactivity

<b>Reactivity:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Chemical Stability:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to Avoid:</b>	Strong oxidizing agents
<b>Incompatible materials:</b>	None known
<b>Hazardous decomposition products:</b>	Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO <sub>2</sub> ), other possibly toxic smoke or fumes. In the event of fire: see Section 5.

## 11 Toxicological information

### Information on toxicological effects

**Toxicokinetic, metabolism and distribution:** No information available.

### Acute toxicity:

Inhalation: No data available

Dermal: No data available

### Ingredients

#### Magnesium chloride, hexahydrate:

Acute oral toxicity: LD50 Oral (Rat): 8,100 mg/kg

### Irritation and corrosivity

Eye: May be irritating. Symptoms of eye irritation include pain, tearing, reddening, and swelling.

Skin: May be irritating. Symptoms include rash and redness.

Inhalation: May be irritating. Symptoms of respiratory irritation include runny nose, sore throat, cough, chest discomfort, shortness of breath and reduced lung function.

### Sensitizing effects

No data available

### Carcinogenic/mutagenic/toxic effects for reproduction

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration hazard

No data available

### Specific effects in experiment on an animal

No information available

## 12 Ecological information

### **Toxicity**

No information available.

### **Persistence and degradability**

No information available

### **Bio accumulative potential**

No information available.

### **Mobility in soil**

No information available.

### **Results of PBT and vPvB assessment**

No information available.

### **Other adverse effects**

No information available.

### **Further information**

Do not allow uncontrolled discharge of product into the environment.

## 13 Disposal considerations

### **Waste treatment methods**

Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous waste regulations to ensure complete accurate classification to ensure proper disposal.

## 14 Transport information

### **DOT (US)**

Not a hazardous material.

### **IMDG**

Not a dangerous goods.

### **IATA**

Not dangerous goods.

### **Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

### **Special precautions for user**

See Section 8.

## 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SARA 302 components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 hazards:**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

## 16 Other information

### Disclaimer:

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall IDT be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if IDT has been advised of the possibility of such damages.

### Abbreviations and acronyms:

CAS Chemical Abstracts Service

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

SARA: Superfund Amendments and Reauthorization Act

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

## 1 Product and company identification

<b>Product identifier:</b>	First PCR for Illumina®-HGC
<b>SDS number:</b>	SDS0082
<b>Version:</b>	2
<b>Internal ID:</b>	SA0361 SA0643 SA0660
<b>Relevant identified uses of the substance or mixture and uses advised against:</b>	For research use only. Not for use in diagnostic procedures.
<b>Supplier details:</b>	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301 877-771-1093
<b>Phone:</b>	877-771-1093
<b>Fax:</b>	303-736-7150
<b>Email:</b>	<a href="mailto:archer-tech@idtdna.com">archer-tech@idtdna.com</a>
<b>Web:</b>	<a href="http://www.archerdx.com/">http://www.archerdx.com/</a>
<b>Emergency telephone number:</b>	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)
<b>Further information:</b>	This sheet was prepared on a voluntary basis.

## 2 Hazards identification

### Classification of the substance or mixture

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Label elements

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Other hazards

None

## 3 Composition/information on ingredients

### Ingredients

This product contains no substances that are hazardous as defined in Section 2.

## 4 First aid measures

### Description of first aid measures

- General information:** In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
- Inhalation:** In case of inhalation: move affected person to fresh air and keep at rest. If not breathing, give artificial respiration. If symptoms are severe or persist, seek medical advice immediately.
- Skin contact:** Immediately remove all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.
- Eye contact:** Rinse immediately with plenty of water for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. Get medical attention if any discomfort continues.
- Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. When in doubt or if symptoms are observed, get medical advice/attention.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in labelling (see Section 2) and/or in Section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available

## 5 Firefighting measures

### Extinguishing media

**Suitable extinguishing media:** Extinguish with water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.

### Specific hazards arising from the chemical:

Carbon oxides (CO, CO<sub>2</sub>)

Sulfur oxides

Nitrogen oxides (NO<sub>x</sub>)

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

Exposure to decomposition products may be a hazard to health.

### Advice for firefighters:

In case of fire: Wear self-contained breathing apparatus.

## 6 Accidental release measures

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

Avoid inhalation of dust, vapors, mist, or gas. Ensure adequate ventilation. Evacuate untrained or unnecessary personnel to safe areas. For personal protection see Section 8.

### Environmental precautions

Do not allow to enter surface water or drains. Discharge into the environment must be avoided. Prevent spread over a wide area (e.g., by containment or oil barriers).

### Methods and materials for containment and cleaning up

Clear up spills immediately. Avoid creating dust. Clean any contaminated surfaces thoroughly. Mop up small spills. Dike area with sand or other inert material for large spills. Disposal should be in accordance with Section 13. Keep in suitable, closed containers for disposal.

### References to other sections

Safe handling: See Section 7.

Personal Protective Equipment: See Section 8.

Disposal: See Section 13.



## 7 Handling and storage

### Precautions for safe handling

**Advice on safe handling:** Ensure adequate ventilation, especially in confined areas.

Smoking, eating, and drinking should be prohibited in application area.

Normal measures for preventative fire protection.

Wear suitable protective clothing (See section 8).

Avoid contact with eyes or repeated or prolonged contact with skin.

Avoid inhalation.

Launder or discard contaminated clothing.

### Advice on protection against fire and explosion:

See Section 5.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels:

Keep in original or labeled container.

Keep container closed and store in cool, dry place.

Recommended storage temperature: 4°C/40°F.

#### Further information on storage conditions:

Protect against: Light. UV-radiation/sunlight. Extreme heat. Extreme cold. Moisture.

#### Specific end use(s):

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

## 8 Exposure controls/personal protection

**Control parameters:** Ingredients with workplace control parameter

Component	CAS-No.	Value type (Form of exposure)	Control parameters/ Permissible concentration	Basis
Dimethyl sulfoxide	67-68-5	TWA	250 ppm	US WEEL
Glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist total dust)	15 mg/m3	OSAH Z-1
		TWA (Mist – total dust)	10 mg/m3	OSAH P0
		TWA (Mist – respirable fraction)	5 mg/m3	OSHA P0

### Exposure controls

#### Appropriate engineering controls:

General industrial hygiene practice. Provide adequate ventilation, showers, eyewash stations.

#### Protective and hygiene measures:

Always close containers tightly after the removal of product. Change contaminated clothing. Wash hands after working with product. When using do not eat, drink, or smoke.

#### Eye/face protection:

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Respiratory protection:

If necessary, use respirator as a backup to engineering controls. Use respirators and approved under appropriate government standards such as OSHA 29 CFR 1910.134 or European Standard EN 149.

#### Environmental exposure controls:

Keep container tightly closed when not in use. Do not let product enter drains.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Lyophilized powder
<b>Color</b>	White
<b>Odor</b>	Not determined
<b>pH</b>	Not available
<b>Melting point</b>	Not determined
<b>Initial boiling point and boiling range</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Sustaining combustion</b>	Not available
<b>Lower explosive limits</b>	Not available
<b>Upper explosive limits</b>	Not available
<b>Ignition temperature</b>	Not available
<b>Oxidizing properties</b>	Not available
<b>Vapor pressure (at 20°C)</b>	Not applicable
<b>Density (at 20°C)</b>	Not available
<b>Water solubility</b>	Not determined
<b>Solubility in other solvents</b>	Not available
<b>Auto-ignition temperature</b>	Not determined
<b>Decomposition temperature</b>	Not available

## 10 Stability and reactivity

<b>Reactivity:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Chemical stability:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to avoid:</b>	Strong oxidizing agents
<b>Incompatible materials:</b>	None known
<b>Hazardous decomposition products:</b>	Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO <sub>2</sub> ), other possibly toxic smoke or fumes. In the event of fire: see Section 5.

## 11 Toxicological information

2425 55<sup>th</sup> Street, Boulder, CO 80301 | [www.archerdx.com](http://www.archerdx.com) | [archer-tech@idtdna.com](mailto:archer-tech@idtdna.com)

For research use only. Not for use in diagnostic procedures. May 2023.

## Information on toxicological effects

**Toxicokinetic, metabolism and distribution:** No information available.

### Acute toxicity:

Inhalation: No data available

Dermal: No data available

### Dimethyl sulfoxide:

Acute oral toxicity: LD50 Oral (Rat): 14,500 mg/kg

Acute inhalation toxicity: LC50 (Rat): 40,250 mg/l, 40250 ppm

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity: LD50 Dermal (Rabbit): > 5,000 mg/kg

### Glycerol:

Acute oral toxicity: LD50 Oral (Rat): 12,000 mg/kg

Acute dermal toxicity: LD50 Dermal (Rabbit): 10,000 mg/kg

### Irritation and corrosivity

Eye: May be irritating. Symptoms of eye irritation include pain, tearing, reddening, and swelling.

Skin: May be irritating. Symptoms include rash and redness.

Inhalation: May be irritating. Symptoms of respiratory irritation include runny nose, sore throat, cough, chest discomfort, shortness of breath and reduced lung function.

### Sensitizing effects

No data available

### Carcinogenic/mutagenic/toxic effects for reproduction

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

## Aspiration hazard

No data available

## Specific effects in experiment on an animal

No information available

## 12 Ecological information

### Toxicity

No data available.

### Components:

#### Dimethyl sulfoxide:

Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 34,000 mg/l

Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 35,000 mg/l

Exposure time: 96 h

Toxicity to daphnia and other: EC50 (Daphnia pulex (Water flea)): 27,000 mg/l  
aquatic invertebrates

#### Glycerol:

Toxicity to fish: LC0 (Leuciscus idus (Golden orfe)): > 250 mg/l

Exposure time: 48 h

### Persistence and degradability

No data available

### Bio accumulative potential

No information available.

### Mobility in soil

No information available.

### Results of PBT and vPvB assessment

No information available.

### Other adverse effects

No information available.

### Further information

Do not allow uncontrolled discharge of product into the environment.

## 13 Disposal considerations

### Waste treatment methods

2425 55<sup>th</sup> Street, Boulder, CO 80301 | [www.archerdx.com](http://www.archerdx.com) | [archer-tech@idtdna.com](mailto:archer-tech@idtdna.com)

For research use only. Not for use in diagnostic procedures. May 2023.

Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous waste regulations to ensure complete accurate classification to ensure proper disposal.

## 14 Transport information

### DOT (US)

Not a hazardous material.

### IMDG

Not a dangerous goods.

### IATA

Not dangerous goods.

### Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### Special precautions for user

See Section 8.

## 15 Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### SARA 302 components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### SARA 313 components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 311/312 hazards:

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

## 16 Other information

### Disclaimer:

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall IDT be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if IDT has been advised of the possibility of such damages.

### Abbreviations and acronyms:

CAS Chemical Abstracts Service

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

SARA: Superfund Amendments and Reauthorization Act

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.



## 1 Product and company identification

<b>Product identifier:</b>	Second PCR Reactions 1 thru 8 for Illumina®-HGC
<b>SDS number:</b>	SDS0083
<b>Version:</b>	2
<b>Internal ID:</b>	SA0362 SA0644
<b>Relevant identified uses of the substance or mixture and uses advised against:</b>	For research use only. Not for use in diagnostic procedures.
<b>Supplier details:</b>	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
<b>Phone:</b>	877-771-1093
<b>Fax:</b>	303-736-7150
<b>Email:</b>	<a href="mailto:archer-tech@idtdna.com">archer-tech@idtdna.com</a>
<b>Web:</b>	<a href="http://www.archerdx.com/">http://www.archerdx.com/</a>
<b>Emergency telephone number:</b>	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)
<b>Further information:</b>	This sheet was prepared on a voluntary basis.

## 2 Hazards identification

### Classification of the substance or mixture

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Label elements

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Other hazards

None

## 3 Composition/information on ingredients

### Ingredients

This product contains no substances that are hazardous as defined in Section 2.

## 4 First aid measures

### Description of first aid measures

**General information:** In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**Inhalation:** In case of inhalation: move affected person to fresh air and keep at rest. If not breathing, give artificial respiration. If symptoms are severe or persist, seek medical advice immediately.

**Skin contact:** Immediately remove all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.

**Eye contact:** Rinse immediately with plenty of water for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. Get medical attention if any discomfort continues.

**Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. When in doubt or if symptoms are observed, get medical advice/attention.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in labelling (see Section 2) and/or in Section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available

## 5 Firefighting measures

### Extinguishing media

**Suitable extinguishing media:** Extinguish with water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.

### Specific hazards arising from the chemical:

Carbon oxides (CO, CO<sub>2</sub>)

Sulfur oxides

Nitrogen oxides (NO<sub>x</sub>)

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

Exposure to decomposition products may be a hazard to health.

### Advice for firefighters:

In case of fire: Wear self-contained breathing apparatus.

## 6 Accidental release measures

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

Avoid inhalation of dust, vapors, mist, or gas. Ensure adequate ventilation. Evacuate untrained or unnecessary personnel to safe areas. For personal protection see Section 8.

### Environmental precautions

Do not allow to enter surface water or drains. Discharge into the environment must be avoided. Prevent spread over a wide area (e.g., by containment or oil barriers).

### Methods and materials for containment and cleaning up

Clear up spills immediately. Avoid creating dust. Clean any contaminated surfaces thoroughly. Mop up small spills. Dike area with sand or other inert material for large spills. Disposal should be in accordance with Section 13. Keep in suitable, closed containers for disposal.

### References to other sections

Safe handling: See Section 7.

Personal Protective Equipment: See Section 8.

Disposal: See Section 13.

## 7 Handling and storage

### Precautions for safe handling

**Advice on safe handling:** Ensure adequate ventilation, especially in confined areas.

Smoking, eating, and drinking should be prohibited in application area.

Normal measures for preventative fire protection.

Wear suitable protective clothing (See section 8).

Avoid contact with eyes or repeated or prolonged contact with skin.

Avoid inhalation.

Launder or discard contaminated clothing.

### Advice on protection against fire and explosion:

See Section 5.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels:

Keep in original or labeled container.

Keep container closed and store in cool, dry place.

Recommended storage temperature: 4°C/40°F.

#### Further information on storage conditions:

Protect against: Light. UV-radiation/sunlight. Extreme heat. Extreme cold. Moisture.

#### Specific end use(s):

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

## 8 Exposure controls/personal protection

**Control parameters:** Ingredients with workplace control parameters

Component	CAS-No.	Value type (Form of exposure)	Control parameters/ Permissible concentration	Basis
Dimethyl sulfoxide	67-68-5	TWA	250 ppm	US WEEL
Glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/mg3	OSHA Z-1
		TWA (mist, total dust)	15 mg/mg3	OSHA Z-1
		TWA (Mist – total dust)	10 mg/m3	OSHA P0
		TWA (Mist – respirable fraction)	5 mg/m3	OSHA P0

### Exposure controls

#### Appropriate engineering controls:

General industrial hygiene practice. Provide adequate ventilation, showers, eyewash stations.

#### Protective and hygiene measures:

Always close containers tightly after the removal of product. Change contaminated clothing. Wash hands after working with product. When using do not eat, drink, or smoke.

#### Eye/face protection:

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Respiratory protection:

If necessary, use respirator as a backup to engineering controls. Use respirators and approved under appropriate government standards such as OSHA 29 CFR 1910.134 or European Standard EN 149.

#### Environmental exposure controls:

Keep container tightly closed when not in use. Do not let product enter drains.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Lyophilized powder
<b>Color</b>	White
<b>Odor</b>	Not determined
<b>pH</b>	Not available
<b>Melting point</b>	Not determined
<b>Initial boiling point and boiling range</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Sustaining combustion</b>	Not available
<b>Lower explosive limits</b>	Not available
<b>Upper explosive limits</b>	Not available
<b>Ignition temperature</b>	Not available
<b>Oxidizing properties</b>	Not available
<b>Vapor pressure (at 20°C)</b>	Not applicable
<b>Density (at 20°C)</b>	Not available
<b>Water solubility</b>	Not determined
<b>Solubility in other solvents</b>	Not available
<b>Auto-ignition temperature</b>	Not determined
<b>Decomposition temperature</b>	Not determined

## 10 Stability and reactivity

<b>Reactivity:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Chemical stability:</b>	Stable under recommended use and storage conditions. Hydroscopic.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to avoid:</b>	Strong oxidizing agents
<b>Incompatible materials:</b>	None known
<b>Hazardous decomposition products:</b>	Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO <sub>2</sub> ), other possibly toxic smoke or fumes. In the event of fire: see Section 5.

## 11 Toxicological information

2425 55<sup>th</sup> Street, Boulder, CO 80301 | [www.archerdx.com](http://www.archerdx.com) | [archer-tech@idtdna.com](mailto:archer-tech@idtdna.com)

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## Information on toxicological effects

**Toxicokinetic, metabolism and distribution:** No information available.

### Acute toxicity:

Inhalation: No data available

Dermal: No data available

### Dimethyl sulfoxide:

Acute oral toxicity: LD50 Oral (Rat): 14,500 mg/kg

Acute inhalation toxicity: LC50 (Rat): 40,250 mg/l, 40250 ppm

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity: LD50 Dermal (Rabbit): > 5,000 mg/kg

### Glycerol:

Acute oral toxicity: LD50 Oral (Rat): 12,000 mg/kg

Acute dermal toxicity: LD50 Dermal (Rabbit): 10,000 mg/kg

### Irritation and corrosivity

Eye: May be irritating. Symptoms of eye irritation include pain, tearing, reddening, and swelling.

Skin: May be irritating. Symptoms include rash and redness.

Inhalation: May be irritating. Symptoms of respiratory irritation include runny nose, sore throat, cough, chest discomfort, shortness of breath and reduced lung function.

### Sensitizing effects

No data available

### Carcinogenic/mutagenic/toxic effects for reproduction

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration hazard



No data available

**Specific effects in experiment on an animal**

No information available

## 12 Ecological information

**Toxicity**

No data available.

**Components:**

**Dimethyl sulfoxide:**

Toxicity to fish: LC50 (Pimephales promelas (fathead minnow)): 34,000 mg/l

Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 35,000 mg/l

Exposure time: 96 h

Toxicity to daphnia and other: EC50 (Daphnia pulex (Water flea)): 27,000 mg/l  
aquatic invertebrates

**Glycerol:**

Toxicity to fish: LC0 (Leuciscus idus (Golden orfe)): > 250 mg/l

Exposure time: 48 h

**Persistence and degradability**

No data available

**Bio accumulative potential**

No information available.

**Mobility in soil**

No information available.

**Results of PBT and vPvB assessment**

No information available.

**Other adverse effects**

No information available.

**Further information**

Do not allow uncontrolled discharge of product into the environment.

## 13 Disposal considerations

**Waste treatment methods**

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Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous waste regulations to ensure complete accurate classification to ensure proper disposal.

## 14 Transport information

### DOT (US)

Not a hazardous material.

### IMDG

Not a dangerous goods.

### IATA

Not dangerous goods.

### Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### Special precautions for user

See Section 8.

## 15 Regulatory information

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### SARA 302 components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### SARA 313 components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 311/312 hazards:

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

## 16 Other information

### Disclaimer:

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall IDT be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if IDT has been advised of the possibility of such damages.

### Abbreviations and acronyms:

CAS Chemical Abstracts Service

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

SARA: Superfund Amendments and Reauthorization Act

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

## 1 Product and company identification

<b>Product identifier:</b>	Ligation Cleanup Buffer
<b>SDS number:</b>	SDS0073
<b>Version:</b>	4
<b>Internal ID:</b>	SA0209, SA0656, SA0690
<b>Relevant identified uses of the substance or mixture and uses advised against:</b>	For research use only. Not for use in diagnostic procedures.
<b>Supplier details:</b>	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301 877-771-1093
<b>Phone:</b>	877-771-1093
<b>Fax:</b>	303-736-7150
<b>Email:</b>	<a href="mailto:archer-tech@idtdna.com">archer-tech@idtdna.com</a>
<b>Web:</b>	<a href="http://www.archerdx.com">www.archerdx.com</a>
<b>Emergency telephone number:</b>	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)
<b>Further information:</b>	This sheet was prepared on a voluntary basis.

## 2 Hazards identification

### Classification of the substance or mixture

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Label elements

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Other hazards

None

## 3 Composition/information on ingredients

### Ingredients

This product contains no substances that are hazardous as defined in Section 2.

## 4 First aid measures

### Description of first aid measures

**General information:** In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

**Inhalation:** In case of inhalation: move affected person to fresh air and keep at rest. If symptoms are severe or persist, seek medical advice immediately.

**Skin contact:** Immediately remove all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.

**Eye contact:** Rinse immediately with plenty of water for several minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. Get medical attention if any discomfort continues.

**Ingestion:** Do NOT induce vomiting. Rinse mouth thoroughly with water. When in doubt or if symptoms are observed, get medical advice/attention.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in Section 2 (Label elements) and/or in Section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available

## 5 Firefighting measures

### Extinguishing media

**Suitable extinguishing media:** Extinguish with water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.

### Specific hazards arising from the chemical:

Carbon oxides  
Sodium oxides  
Hydrogen chloride gas

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

Exposure to decomposition products may be a hazard to health.

**Advice for firefighters:** In case of fire: Wear self-contained breathing apparatus.

## 6 Accidental release measures

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

Avoid inhalation of fume/gas/mist/vapors. For personal protection see Section 8.

### Environmental precautions

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided. Prevent spread over a wide area (e.g., by containment or oil barriers).

### Methods and materials for containment and cleaning up

Clear up spills immediately. Clean any contaminated surfaces thoroughly. Disposal should be in accordance with Section 13. Keep in suitable, closed containers for disposal.

### Reference to other sections

Safe handling: See Section 7.

Personal Protective Equipment: See Section 8.

Disposal: See Section 13.

## 7 Handling and storage

### Precautions for safe handling

**Advice on safe handling:** Ensure adequate ventilation, especially in confined areas.

Smoking, eating, and drinking should be prohibited in application area.

Normal measures for preventative fire protection.

Wear suitable protective clothing (See section 8).

For precautions see Section 2.

### Advice on protection against fire and explosion:

See Section 5.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels:

Keep container tightly closed in dry and well-ventilated place.

#### Further information on storage conditions:

Protect against: Light. UV-radiation/sunlight. Extreme heat. Extreme cold. Moisture.

#### Specific end use(s):

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

## 8 Exposure controls/personal protection

**Control parameters:** This product, as supplied, does not contain any substances with established occupational exposure limits.

### Exposure controls

#### Appropriate engineering controls:

General industrial hygiene practice. Provide adequate ventilation, showers, and eyewash stations.

#### Protective and hygiene measures:

Always close containers tightly after the removal of product. Change contaminated clothing. Wash hands after working with product. When using do not eat, drink, or smoke.

**Eye/face protection:** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Respiratory protection:** If necessary, use respirator as a backup to engineering controls. Use respirators and approved under appropriate government standards such as OSHA 29 CFR 1910.134 or European Standard EN 149.

#### Environmental exposure controls:

Keep container tightly closed when not in use. Do not let product enter drains.



## 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Color</b>	Colorless
<b>Odor</b>	Odorless
<b>pH</b>	5 - 10
<b>Melting point</b>	Not available
<b>Initial boiling point and boiling range</b>	Not available
<b>Flash point</b>	Not available
<b>Sustaining combustion</b>	Not available
<b>Lower explosive limits</b>	Not available
<b>Upper explosive limits</b>	Not available
<b>Ignition temperature</b>	Not available
<b>Oxidizing properties</b>	Not available
<b>Vapor pressure (at 20°C)</b>	Not available
<b>Density (at 20°C)</b>	Not available
<b>Water solubility</b>	Not available
<b>Solubility in other solvents</b>	Not available
<b>Auto-ignition temperature</b>	Not available
<b>Decomposition temperature</b>	Not available

## 10 Stability and reactivity

<b>Reactivity:</b>	No information available.
<b>Chemical Stability:</b>	This product is chemically stable under normal conditions of storage, use and temperature.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to Avoid:</b>	Exposure to air or moisture over prolonged periods. Strong heating (decomposition)
<b>Incompatible materials:</b>	Strong oxidizing agents.
<b>Hazardous decomposition products:</b>	Hazardous decomposition products formed under fire conditions – Nature of decomposition products not known. In the event of fire: see Section 5.

## 11 Toxicological information

### Information on toxicological effects

**Toxicokinetic, metabolism and distribution:** No information available.

### Acute toxicity:

Inhalation: No data available

Dermal: No data available

### Irritation and corrosivity

No data available

### Sensitizing effects

No data available

### Carcinogenic/mutagenic/toxic effects for reproduction

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration hazard

No data available

### Specific effects in experiment on an animal

No information available

## 12 Ecological information

### Toxicity

No data available.

### Persistence and degradability

No data available

### Bio accumulative potential

No information available.

### Mobility in soil

No information available.

### Results of PBT and vPvB assessment

No information available.

### Other adverse effects

No information available.

### Further information

Do not allow uncontrolled discharge of product into the environment.

## 13 Disposal considerations

### Waste treatment methods

Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous waste regulations to ensure complete accurate classification to ensure proper disposal.

## 14 Transport information

### DOT (US)

Not a hazardous material.

### IMDG

Not a dangerous goods.

### IATA

Not dangerous goods.

### Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### Special precautions for user

See Section 8.

## 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SARA 302 components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 hazards:**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

## 16 Other information

### Disclaimer:

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall IDT be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if IDT has been advised of the possibility of such damages.

### Abbreviations and acronyms:

CAS Chemical Abstracts Service

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

SARA: Superfund Amendments and Reauthorization Act

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## 1 Product and company identification

<b>Product identifier:</b>	Ligation Cleanup Beads
<b>SDS number:</b>	SDS0075
<b>Version:</b>	4
<b>Internal ID:</b>	SA0210, SA0655, SA0689
<b>Relevant identified uses of the substance or mixture and uses advised against:</b>	For research use only. Not for use in diagnostic procedures.
<b>Supplier details:</b>	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301 877-771-1093
<b>Phone:</b>	877-771-1093
<b>Fax:</b>	303-736-7150
<b>Email:</b>	<a href="mailto:archer-tech@idtdna.com">archer-tech@idtdna.com</a>
<b>Web:</b>	<a href="http://www.archerdx.com">www.archerdx.com</a>
<b>Emergency telephone number:</b>	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)
<b>Further information:</b>	This sheet was prepared on a voluntary basis.

## 2 Hazards identification

### Classification of the substance or mixture

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Label elements

Not a hazardous substance or mixture (GHS-US, 1272/2008- EU)

### Other hazards

None

## 3 Composition/information on ingredients

### Ingredients

This product contains no substances that are hazardous as defined in Section 2.

## 4 First aid measures

### Description of first aid measures

- General information:** In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
- Inhalation:** In case of inhalation: move affected person to fresh air and keep at rest. If symptoms are severe or persist, seek medical advice immediately.
- Skin contact:** Immediately remove all contaminated clothing. After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention.
- Eye contact:** Rinse immediately with plenty of water for several minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing for several minutes. Get medical attention if any discomfort continues.
- Ingestion:** Do NOT induce vomiting. Rinse mouth thoroughly with water. When in doubt or if symptoms are observed, get medical advice/attention.

**Most important symptoms and effects, both acute and delayed:** The most important known symptoms and effects are described in Section 2 (Label elements) and/or in Section 11.

**Indication of any immediate medical attention and special treatment needed:** No data available



## 5 Firefighting measures

### Extinguishing media

**Suitable extinguishing media:** Extinguish with water fog, alcohol-resistant foam, dry chemical, or carbon dioxide.

### Specific hazards arising from the chemical:

No data available.

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

No data available.

### Advice for firefighters:

Standard procedure for chemical fires.

## 6 Accidental release measures

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

Avoid inhalation of fume/gas/mist/vapors. For personal protection see Section 8.

### Environmental precautions

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided. Prevent spread over a wide area (e.g., by containment or oil barriers).

### Methods and materials for containment and cleaning up

Clear up spills immediately. Clean any contaminated surfaces thoroughly. Disposal should be in accordance with Section 13. Keep in suitable, closed containers for disposal.

### Reference to other sections

Safe handling: See Section 7.

Personal Protective Equipment: See Section 8.

Disposal: See Section 13.

## 7 Handling and storage

### Precautions for safe handling

**Advice on safe handling:** Ensure adequate ventilation, especially in confined areas.

Smoking, eating, and drinking should be prohibited in application area.

Normal measures for preventative fire protection.

Wear suitable protective clothing (See section 8).

For precautions see Section 2.

### Advice on protection against fire and explosion:

See Section 5.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels:

Keep container tightly closed in dry and well-ventilated place.

#### Further information on storage conditions:

Protect against: Light. UV-radiation/sunlight. Extreme heat. Extreme cold. Moisture.

#### Specific end use(s):

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

## 8 Exposure controls/personal protection

**Control parameters:** This product, as supplied, does not contain any substances with established occupational exposure limits.

### Exposure controls

#### Appropriate engineering controls:

General industrial hygiene practice. Provide adequate ventilation, showers, and eyewash stations.

#### Protective and hygiene measures:

Always close containers tightly after the removal of product. Change contaminated clothing. Wash hands after working with product. When using do not eat, drink, or smoke.

**Eye/face protection:** Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Respiratory protection:** If necessary, use respirator as a backup to engineering controls. Use respirators and approved under appropriate government standards such as OSHA 29 CFR 1910.134 or European Standard EN 149.

#### Environmental exposure controls:

Keep container tightly closed when not in use. Do not let product enter drains.

## 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Color</b>	Clear with brown beads
<b>Odor</b>	Odorless
<b>pH</b>	5 - 10
<b>Melting point</b>	Not available
<b>Initial boiling point and boiling range</b>	Not available
<b>Flash point</b>	Not available
<b>Sustaining combustion</b>	Not available
<b>Lower explosive limits</b>	Not available
<b>Upper explosive limits</b>	Not available
<b>Ignition temperature</b>	Not available
<b>Oxidizing properties</b>	Not available
<b>Vapor pressure (at 20°C)</b>	Not available
<b>Density (at 20°C)</b>	Not available
<b>Water solubility</b>	Not available
<b>Solubility in other solvents</b>	Not available
<b>Auto-ignition temperature</b>	Not available
<b>Decomposition temperature</b>	Not available

## 10 Stability and reactivity

<b>Reactivity:</b>	No information available.
<b>Chemical Stability:</b>	This product is chemically stable under normal conditions of storage, use and temperature.
<b>Possibility of hazardous reactions:</b>	No data available.
<b>Conditions to Avoid:</b>	Hazardous reaction has not been reported.
<b>Incompatible materials:</b>	No dangerous reactions known under normal conditions of use.
<b>Hazardous decomposition products:</b>	No data available.

## 11 Toxicological information

### Information on toxicological effects

**Toxicokinetic, metabolism and distribution:** No information available.

### Acute toxicity:

Inhalation: No data available

Dermal: No data available

### Irritation and corrosivity

No data available

### Sensitizing effects

No data available

### Carcinogenic/mutagenic/toxic effects for reproduction

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### STOT-single exposure

No data available

### STOT-repeated exposure

No data available

### Aspiration hazard

No data available

### Specific effects in experiment on an animal

No information available

## 12 Ecological information

### Toxicity

No data available.

### Persistence and degradability

No data available

### Bio accumulative potential

No information available.

### Mobility in soil

No information available.

### Results of PBT and vPvB assessment

No information available.

### Other adverse effects

No information available.

### Further information

Do not allow uncontrolled discharge of product into the environment.

## 13 Disposal considerations

### Waste treatment methods

Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous waste regulations to ensure complete accurate classification to ensure proper disposal.

## 14 Transport information

### DOT (US)

Not a hazardous material.

### IMDG

Not a dangerous goods.

### IATA

Not dangerous goods.

### Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

### Special precautions for user

See Section 8.

## 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SARA 302 components:**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 components:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 hazards:**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No



## 16 Other information

### Disclaimer:

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall IDT be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if IDT has been advised of the possibility of such damages.

### Abbreviations and acronyms:

CAS Chemical Abstracts Service

IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

N/A: not applicable

OSHA: Occupational Safety and Health Administration

PBT: Persistent bioaccumulative toxic

SARA: Superfund Amendments and Reauthorization Act

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.