Safety Data Sheet Summary

VARIANT*Plex*™-LAC Reagents for Illumina®

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

Telephone: 877-771-1093

Fax: 303-736-7150

Email: archer-tech@idtdna.com

Web: www.archerdx.com

Emergency Telephone: 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)

VARIANT*Plex*™-LAC Reagents for Illumina® contains the following parts:

Sales Kit Number	Part Number	SDS Number	Part Description
SK0194	SA0653	SDS0085	DNA Fragmentation 2.0 – 8 reactions
	SA0204	SDS0071	End Repair – 8 reactions
	SA0196	SDS0016	Ligation Step 1 – 8 reactions
	SA0197	SDS0018	Ligation Step 2 – 8 reactions
	SA0361	SDS0082	First PCR for Illumina®-HGC, 8 reactions
	SA0843	SDS0160	Second PCR for Illumina®-HGC, 8 reactions
	SA0209	SDS0073	Ligation Cleanup Buffer – 8 reactions
	SA0210	SDS0075	Ligation Cleanup Beads – 8 reactions

Safety Data Sheet

DNA Fragmentation 2.0

1 Product and company identification

Product identifier:	DNA Fragmentation 2.0
SDS number:	SDS0085
Version:	1
Internal ID:	SA0653 SA0675
Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
Supplier details:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	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)
Further information:	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 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

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

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

10 Stability and reactivity

Reactivity: No information available.

Chemical stability: The product is chemically stable under recommended conditions of storage, use and temperature.

Possibility of hazardous reactions:

No data available.

Conditions to avoid: Exposure to air or moisture over prolonged periods.

Incompatible materials: Strong oxidizing agents.

Hazardous decomposition products:

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 was regulations to ensure complete accurate classification to endure 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.

Safety Data Sheet

End Repair

1 Product and company identification

Product identifier:	End Repair
SDS number:	SDS0071
Version:	2
Internal ID:	SA0204 SA0222 SA0658
Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
Supplier details:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	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)
Further information:	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, CO2).

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

10 Stability and reactivity

Reactivity: Stable under recommended use and storage conditions. Hydroscopic.

Chemical stability: Stable under recommended use and storage conditions. Hydroscopic.

Possibility of hazardous reactions:

No data available.

Conditions to avoid: Strong oxidizing agents

Incompatible materials: None known

Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO2), 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

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 was regulations to ensure complete accurate classification to endure 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.

Safety Data Sheet

Ligation Step 1

1 Product and company identification

Product identifier:	Ligation Step 1
SDS number:	SDS0016
Version:	3
Internal ID:	SA0196 SA0223 SA0375
Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
Supplier details:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	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)
Further information:	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, CO2)

Chlorine compounds

Magnesium oxides

Nitrogen oxides (NOx)

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.

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.

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 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

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

10 Stability and reactivity

Reactivity: Stable under recommended use and storage conditions. Hydroscopic.

Chemical stability: This product is chemically stable under recommended use and storage conditions. Hydroscopic.

Possibility of hazardous reactions:

Can react briskly with oxidizers, danger of explosion

Conditions to avoid: Strong oxidizing agents.

Incompatible materials

Ignition sources

Heat

Incompatible materials: Strong oxidizing agents

Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO2), 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

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

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 was regulations to ensure complete accurate classification to endure 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.

Safety Data Sheet

Ligation Step 2

1 Product and company identification

Product identifier:	Ligation Step 2
SDS number:	SDS0018
Version:	3
Internal ID:	SA0197 SA0224 SA0376
Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
Supplier details:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	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)
Further information:	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, CO2)

Chlorine compounds

Magnesium oxides

Nitrogen oxides (NOx)

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

10 Stability and reactivity

Reactivity: Stable under recommended use and storage conditions. Hydroscopic.

Chemical Stability: Stable under recommended use and storage conditions. Hydroscopic.

Possibility of hazardous reactions:

No data available.

Conditions to Avoid: Strong oxidizing agents

Incompatible materials: None known

Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO2), 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 was regulations to ensure complete accurate classification to endure 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.

Safety Data Sheet

First PCR for Illumina®-HGC

1 Product and company identification

Product identifier:	First PCR for Illumina®-HGC
SDS number:	SDS0082
Version:	2
Internal ID:	SA0361 SA0643 SA0660
Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
Supplier details:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	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)
Further information:	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, CO2)

Sulfur oxides

Nitrogen oxides (NOx)

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

10 Stability and reactivity

Reactivity: Stable under recommended use and storage conditions. Hydroscopic.

Chemical stability: Stable under recommended use and storage conditions. Hydroscopic.

Possibility of hazardous reactions:

No data available.

Conditions to avoid: Strong oxidizing agents

Incompatible materials: None known

Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO2), 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

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

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

Safety Data Sheet

Second PCR for Illumina®-HGC, 8 Reactions

1 Product and company identification

Product identifier:	Second PCR for Illumina®-HGC, 8 Reactions
SDS number:	SDS0160
Version:	1
Internal ID:	SA0843
Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
Supplier details:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	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)
Further information:	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, CO2)

Sulfur oxides

Nitrogen oxides (NOx)

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

Physical state	Lyophilized powder
Color	White
Odor	Not determined
pH	Not available
Melting point	Not determined
Initial boiling point and boiling range	Not applicable
Flash point	Not applicable
Sustaining combustion	Not available
Lower explosive limits	Not available
Upper explosive limits	Not available
Ignition temperature	Not available
Oxidizing properties	Not available

Vapor pressure (at 20°C)	Not applicable
Density (at 20°C)	Not available
Water solubility	Not determined
Solubility in other solvents	Not available
Auto-ignition temperature	Not determined
Decomposition temperature	Not available

10 Stability and reactivity

Reactivity: Stable under recommended use and storage conditions. Hydroscopic.

Chemical stability: Stable under recommended use and storage conditions. Hydroscopic.

Possibility of hazardous reactions:

No data available.

Conditions to avoid: Strong oxidizing agents

Incompatible materials: None known

Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions: carbon oxides (CO, CO2), 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

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

Waste generators must determine whether a waste is hazardous and consult local, state, and national hazardous was regulations to ensure complete accurate classification to endure 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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Safety Data Sheet

Ligation Cleanup Buffer

1 Product and company identification

Product identifier:	Ligation Cleanup Buffer
SDS number:	SDS0073
Version:	4
Internal ID:	SA0209, SA0656, SA0690
Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
Supplier details:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	archer-tech@idtdna.com
Web:	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)
Further information:	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	
Physical state	Liquid
Color	Colorless
Odor	Odorless
pH	5 - 10
Melting point	Not available
Initial boiling point and boiling range	Not available
Flash point	Not available
Sustaining combustion	Not available
Lower explosive limits	Not available
Upper explosive limits	Not available
Ignition temperature	Not available
Oxidizing properties	Not available
Vapor pressure (at 20°C)	Not available
Density (at 20°C)	Not available
Water solubility	Not available
Solubility in other solvents	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available

10 Stability and reactivity

Reactivity:	No information available.
Chemical Stability:	This product is chemically stable under normal conditions of storage, use and temperature.
Possibility of hazardous reactions:	No data available.
Conditions to Avoid:	Exposure to air or moisture over prolonged periods. Strong heating (decomposition)
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	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 was regulations to ensure complete accurate classification to endure 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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Safety Data Sheet

Ligation Cleanup Beads

1 Product and company identification

Product identifier:	Ligation Cleanup Beads
SDS number:	SDS0075
Version:	4
Internal ID:	SA0210, SA0655, SA0689
Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
Supplier details:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	archer-tech@idtdna.com
Web:	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)
Further information:	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	
Physical state	Liquid
Color	Clear with brown beads
Odor	Odorless
pH	5 - 10
Melting point	Not available
Initial boiling point and boiling range	Not available
Flash point	Not available
Sustaining combustion	Not available
Lower explosive limits	Not available
Upper explosive limits	Not available
Ignition temperature	Not available
Oxidizing properties	Not available
Vapor pressure (at 20°C)	Not available
Density (at 20°C)	Not available
Water solubility	Not available
Solubility in other solvents	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available

10 Stability and reactivity

Reactivity: No information available.

Chemical Stability: This product is chemically stable under normal conditions of storage, use and temperature.

Possibility of hazardous reactions:

No data available.

Conditions to Avoid: Hazardous reaction has not been reported.

Incompatible materials: No dangerous reactions known under normal conditions of use.

Hazardous decomposition products:

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 was regulations to ensure complete accurate classification to endure 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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