Safety Data Sheet Summary

VariantPlex® - HT Standard Liquid Reagents for Illumina®

1 Product and company identification

Supplier Address:	Integrated DNA Technologies, Inc. (IDT) 2425 55th Street Boulder, CO 80301
Phone:	877-771-1093
Fax:	303-736-7150
Email:	archer-tech@idtdna.com
Web:	http://www.archerdx.com/
Emergency telephone number:	For Spill, Leak, Fire, Exposure, or Accident CHEMTREC Within USA and Canada: 1-800-424-9300 CCN871892 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

VariantPlex® - HT Standard Liquid Reagents for Illumina® contains the following parts:

Kit Number	SDS Number	Part Description
SK0185	SDS0132	DNA Fragmentation, End Repair, dA-Tailing Buffer Mix – 96 Reactions
	SDS0133	DNA Fragmentation, End Repair, and dA-Tailing Enzyme Mix – 96 Reactions
	SDS0134	Adapter Ligation Master Mix – 48 reactions
	SDS0135	First PCR Buffer Mix – 96 Reactions
	SDS0136	Second PCR Buffer Mix – 96 Reactions
	SDS0086	PCR Enzyme – 96 Reactions

Safety Data Sheet

DNA Fragmentation, End Repair, dA-Tailing Buffer Mix

1 Product and company identification

Product identifier:	DNA Fragmentation, End Repair, dA-Tailing Buffer Mix – 96 Reactions
SDS number:	SDS0132
Version:	1
Internal ID:	SA0795
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

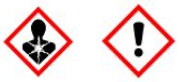
Classification of the substance or mixture

Acute Toxicity (oral) – Category 4

Specific Target Organ Toxicity – single exposure, Oral (Category 1), Central nervous system

Long term (chronic) aquatic hazard – Category 3

Label elements

Hazard Pictograms: 

Signal word	Danger
Hazard statements	H302 – Harmful if swallowed H370 – Causes damage to organs (central nervous system)(ingestion) H412 – Harmful to aquatic life with long lasting effects
Precautionary statement Prevention	P273 – Avoid release to the environment P260 – Do not breathe vapor P270 – Do not eat, drink, or smoke when using this product P264 – Wash hands thoroughly after handling
Response	P308 + P316 – IF exposed or concerned Get emergency medical help immediately P301 + P317, P330 – IF SWALLOWED: Get medical help. Rinse mouth.
Storage Disposal	P405 – Store locked up
Disposal	P501 – Dispose of contents and container in accordance with all local, regional, national, and international regulations.

Other hazards

None known

3 Composition/information on ingredients

Substance/mixture: Mixture

Other means of identification: Not available

Ingredient name	%	CAS number
Tetramethylammonium chloride	≥5 - <6	75-57-0

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 dioxide

Carbon monoxide

Nitrogen oxides

Halogenated compounds

Metal oxide/oxides

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.

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).

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.

Store at: 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:

Occupational exposure limits

Ingredient name	Exposure limits
Tetramethylammonium chloride	None

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	Liquid
Color	Clear
Odor	Mild
pH	8.3
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 specific test data related to reactivity available for this product or its ingredients

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

Possibility of hazardous reactions:

Under normal conditions of storage and use, hazardous reactions will not occur

Conditions to avoid: No data available

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials

Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced

11 Toxicological information

Information on toxicological effects

Toxicokinetic, metabolism and distribution: No information available.

Acute toxicity:

Inhalation: No data available

Dermal: No data available

Components:

Tetramethylammonium chloride:

Acute oral toxicity: LD50 Oral (Rat): 50 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

Components:

Tetramethylammonium chloride:

Toxicity to fish: LC50 (Pimephales promelas): 462 mg/l

Exposure time: 96 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	Yes
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

DNA Fragmentation, End Repair, and dA-Tailing Enzyme Mix

1 Product and company identification

Product identifier:	DNA Fragmentation, End Repair, and dA-Tailing Enzyme Mix – 96 Reactions
SDS number:	SDS0133
Version:	1
Internal ID:	SA0796
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 Section 2 (Label elements) and/or in Section 11.
Indication of any immediate medical attention and special treatment needed:	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

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 dioxide

Carbon monoxide

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 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.

Store at: 4°C/40°F.

Further information on storage conditions:

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

Specific end use(s): Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

8 Exposure controls/personal protection

Control parameters: Ingredients with workplace control parameters

Component	Exposure limits
Glycerol	**OSHA PEL (United States, 5/2018).** TWA: 5 mg/m^3 8 hours. Form: Respirable fraction TWA: 15 mg/m^3 8 hours. Form: Total dust

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	Liquid
Color	Clear
Odor	Mild
pH	7
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 specific test data related to reactivity available for this product or its ingredients

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

Possibility of hazardous reactions:

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid: No data available

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials.

Hazardous decomposition products:

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

Information on toxicological effects

Toxicokinetic, metabolism and distribution: No information available.

Acute toxicity:

Inhalation: No data available

Dermal: No data available

Components:

Glycerol:

Acute oral toxicity: LD50 Oral (Rat): 12,600 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

Persistence and degradability

No data available

Bio accumulative potential

Product/ingredient name	$LogP_{OW}$	BCF	Potential
Glycerol	-1.76	-	low

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

Adapter Ligation Master Mix

1 Product and company identification

Product identifier:	Adapter Ligation Master Mix – 48 Reactions
SDS number:	SDS0134
Version:	1
Internal ID:	SA0797
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

Causes Eye Irritation – Category 2B

Label elements

Signal word	Warning
Hazard statements	H320 – Causes eye irritation
Precautionary statements	P264 – Wash thoroughly after handling
Response	P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 – If eye irritation persists: Get medical help
Storage	Not applicable
Disposal	Not applicable

Other hazards

None known

3 Composition/information on ingredients

Substance/mixture: Mixture

Other means of identification: Not available

Ingredient name	%	CAS number
Glycerol	≥25 - ≤50	56-81-5
Poly(ethylene glycol)	≥10 - ≤25	25322-68-3

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 dioxide

Carbon monoxide

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.

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).

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.

Store at: 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:

Occupational exposure limits

Ingredient name	Exposure limits
Glycerol	**OSHA PEL (United States, 5/2018).** TWA: 5 mg/m^3 8 hours. Form: Respirable fraction TWA: 15 mg/m^3 8 hours. Form: Total dust
Poly(ethylene glycol)	**AIHA WEEL (United States, 7/2020).** TWA: 10 mg/m^3 8 hours

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	Liquid
Color	Clear
Odor	Mild
pH	7.8
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 specific test data related to reactivity available for this product or its ingredients
Chemical stability:	This product is chemically stable under normal conditions of storage, use and temperature
Possibility of hazardous reactions:	
	Under normal conditions of storage and use, hazardous reactions will not occur
Conditions to avoid:	No data available
Incompatible materials:	Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products:	
	Under normal conditions of storage and use, hazardous decomposition products should not be produced

11 Toxicological information

Information on toxicological effects

Toxicokinetic, metabolism and distribution: No information available.

Acute toxicity:

Ingredient name	Exposure limits
Glycerol	**OSHA PEL (United States, 5/2018).** TWA: 5 mg/m^3 8 hours. Form: Respirable fraction TWA: 15 mg/m^3 8 hours. Form: Total dust
Poly(ethylene glycol)	**AIHA WEEL (United States, 7/2020).** TWA: 10 mg/m^3 8 hours

Inhalation: No data available

Dermal: No data available

Components:

Glycerol:

Acute oral toxicity: LD50 Oral (Rat): 12,600 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.

Components:

Poly(ethylene glycol): Eyes – Mild irritant (Rabbit): 24 hours 500 mg
Eyes – Mild irritant (Rabbit): 500 mg
Skin – Mild irritant (Rabbit): 24 hours 500 mg
Skin – Mild irritant (Rabbit): 500 mg

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

Components:

Poly(ethylene glycol):

Toxicity to fish: LC50 (Fish(Salmo Salar(Parr))) > 100000 mg/l

Exposure time: 96 h

Persistence and degradability

No data available

Bio accumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Glycerol	-1.76	-	Low
Poly(ethylene glycol)	-	3.2	low

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 Buffer Mix

1 Product and company identification

Product identifier:	First PCR Buffer Mix – 96 Reactions
SDS number:	SDS0135
Version:	1
Internal ID:	SA0792
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 known

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:

Nitrogen oxides (NOx)

Sulfur oxides

Carbon oxides

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.

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).

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.

Store at: 4°C/40°F.

Further information on storage conditions:

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

Specific end use(s): Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

8 Exposure controls/personal protection

Control parameters: Ingredients with workplace control parameters

Component	CAS-No.	Value (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	OSHA Z-1
		TWA (Mist – total dust)	10 mg/m3	OSHA P0
		TWA (Mist – respirable fraction)	5 mg/m3	OSHA P0

Exposure controls

Appropriate engineering controls:

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

Protective and hygiene measures:

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

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

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

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

Environmental exposure controls:

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

9 Physical and chemical properties

Information on basic physical and chemical properties	
Physical state	Liquid
Color	Colorless
Odor	Odorless
pH	Not applicable
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: Stable under recommended storage conditions

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: No data available

Incompatible materials: No data available

Hazardous decomposition products:

No decomposition if stored and applied as directed

11 Toxicological information

Information on toxicological effects

Toxicokinetic, metabolism and distribution: No information available.

Acute toxicity:

Inhalation: No data available

Dermal: No data available

Components:

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: 4h

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

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 aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 27,000 mg/l

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

PCR Enzyme

1 Product and company identification

Product identifier:	PCR Enzyme
SDS number:	SDS0086
Version:	1
Internal ID:	SA0837 SA0836 SA0679
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

Irritant to eyes and skin.

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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

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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:

Nitrogen oxides

Sulfur oxides

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.

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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.

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8 Exposure controls/personal protection

Control parameters: Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Sucrose	57-50-1	TWA	10 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Dental erosion. Not classifiable as a human carcinogen.		
		TWA		
		TWA	5 mg/m3	USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants
		TWA	5 mg/m3	USA. NIOSH Recommended 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.

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9 Physical and chemical properties

Information on basic physical and chemical properties	
Physical state	Liquid
Color	Colorless
Odor	Odorless
pH	Not applicable
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

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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, strong bases.
Hazardous decomposition products:	Carbon monoxide, carbon dioxide.

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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

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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.

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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

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16 Other information

Disclaimer:

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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.

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