



Hybridization Enhancer

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 6/2/2025 Version: 1.0

SECTION 1 Identification

1.1. Product identifier

Product form : Substance
Trade name : Hybridization Enhancer
Product code : 101266, 100937, 100986

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : For nucleic-acid and nucleic-acid-derived applications

1.4. Supplier's details

Twist Bioscience Corporation
681 Gateway Blvd
South San Francisco, California 94080
T 1-800-719-0671
sds@twistbioscience.com

1.5. Emergency phone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virginia, USA)
CCN 827463
Back-up Emergency Number: +1 703-741-5970 (Washington, DC)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. Label elements

GHS US labeling

No labeling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 3 Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
Hybridization Enhancer (Main constituent)	-	100

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Induce artificial respiration with mask fitted with one-way valve or other suitable device but not mouth-to-mouth. If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	: Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion	: Not expected to present a significant ingestion hazard under anticipated conditions of normal use. May cause irritation to the digestive tract.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide. For large fires: use water in flooding quantities as spray and fog.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: Not flammable.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon monoxide. Carbon dioxide. Formaldehyde. Silicon oxides.

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Use water spray or fog for cooling exposed containers. Use extinguishing media appropriate for surrounding fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Evacuate the danger area. If outdoors, move to an area upwind of the danger area. If possible without taking personal risks, Remove ignition sources, ventilate area.

For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Ventilate spillage area. Stop leak if safe to do so.
Environmental precautions	: Do not let the product reach soil, drains, sewers, or surface and ground water.

6.2. Methods and materials for containment and cleaning up

For containment	: Contain with non-combustible inert absorbent.
Methods for cleaning up	: Take up in non-combustible inert absorbent and place into container for disposal. Contaminated absorbent material may pose the same hazard as the spilled product. Decontaminate surfaces and equipment with water and detergent. Until a sufficient level of dilution is achieved, the decontamination water may pose the same hazards as the product. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

For further information refer to section 8: "Exposure controls/personal protection", For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Wear personal protective equipment when handling bulk product. Avoid contact with eyes.
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7.2. Conditions for safe storage, including incompatibilities

Storage conditions	: Store in a dry place. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Keep cool. Storage for large quantities(warehouse) should be well ventilated. Keep container closed when not in use.
Incompatible products	: Strong oxidizing agents. Strong bases. Strong acids.

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment. Body protection should be chosen depending on activity and possible exposure.

Hand protection:
Wear protective gloves. Nitrile rubber
Eye protection:
Wear safety glasses which protect from splashes. Wear a face shield
Skin and body protection:
Protective clothing. Body protection should be chosen depending on activity and possible exposure
Respiratory protection:
No respiratory protection needed under normal use conditions. In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid.

Color : Colorless

Odor : Odorless

Odor threshold : No data available

pH : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : > 95 °F / 35 °C

Flash point : > 214 °F / 101.1 °C

Flammability (solid, gas) : Not applicable.

Vapor pressure : No data available

Relative vapor density at 20°C : No data available

Relative density : 0.915

Solubility : No data available

Partition coefficient n-octanol/water (Log Pow) : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Viscosity, kinematic	: 5 mm²/s
Explosion limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Strong acids, strong bases and strong oxidants.

10.6. Hazardous decomposition products

Thermal decomposition generates: Carbon dioxide. Carbon monoxide. Formaldehyde. Silicon oxides.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

Hybridization Enhancer	
Viscosity, kinematic	5 mm²/s

Symptoms/effects after inhalation	: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
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Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	: Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion	: Not expected to present a significant ingestion hazard under anticipated conditions of normal use. May cause irritation to the digestive tract.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

12.2. Persistence and degradability

Hybridization Enhancer	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Hybridization Enhancer	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No

SECTION 13 Disposal considerations

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.

SECTION 14 Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

DOT	IMDG	IATA
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
	Not regulated	
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not regulated

IMDG

Not regulated

IATA

Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Hybridization Enhancer

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 16 Other information

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Issue date : 6/2/2025

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
LC50	Median lethal concentration
LD50	Median lethal dose
NOEC	No-Observed Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
vPvB	Very Persistent and Very Bioaccumulative
AIHA	American International Health Alliance
ACGIH	American Conference of Government Industrial Hygienists
DOT	Department of Transport
DSL	Canada DSL (Domestic Substances List)
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
NDSL	Canada NDSL (Non-Domestic Substances List)
NIOSH	National Institute for Occupational Safety and Health
SDS	Safety Data Sheet

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



Amplification Primers, ILMN

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)
Issue date: 6/2/2025 Version: 1.0

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Trade name : Amplification Primers, ILMN
Product code : 100287, 100586, 100770, 100220, 100583

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : For nucleic-acid and nucleic-acid-derived applications

1.4. Supplier's details

Twist Bioscience Corporation
681 Gateway Blvd
South San Francisco, California 94080
T 1-800-719-0671
sds@twistbioscience.com

1.5. Emergency phone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virginia, USA)
CCN 827463
Back-up Emergency Number: +1 703-741-5970 (Washington, DC)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. Label elements

GHS US labeling

No labeling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

Amplification Primers, ILMN

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria for section 3.2 of HCS

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Induce artificial respiration with mask fitted with one-way valve or other suitable device but not mouth-to-mouth. If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	: Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion	: Not expected to present a significant ingestion hazard under anticipated conditions of normal use. May cause irritation to the digestive tract.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide. For large fires: use water in flooding quantities as spray and fog.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: Not flammable.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon monoxide. Carbon dioxide.

Amplification Primers, ILMN

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Use water spray or fog for cooling exposed containers. Use extinguishing media appropriate for surrounding fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Evacuate the danger area. If outdoors, move to an area upwind of the danger area. If possible without taking personal risks, Remove ignition sources, ventilate area.

For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Evacuate unnecessary personnel. Ventilate spillage area. Stop leak if safe to do so.
Environmental precautions	: Do not let the product reach soil, drains, sewers, or surface and ground water.

6.2. Methods and materials for containment and cleaning up

For containment	: Contain with non-combustible inert absorbent.
Methods for cleaning up	: Take up in non-combustible inert absorbent and place into container for disposal. Contaminated absorbent material may pose the same hazard as the spilled product. Decontaminate surfaces and equipment with water and detergent. Until a sufficient level of dilution is achieved, the decontamination water may pose the same hazards as the product. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

For further information refer to section 8: "Exposure controls/personal protection", For further information refer to section 13

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Wear personal protective equipment when handling bulk product. Avoid contact with eyes.
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7.2. Conditions for safe storage, including incompatibilities

Storage conditions	: Store in a dry place. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Keep cool. Storage for large quantities(warehouse) should be well ventilated. Keep container closed when not in use.
Incompatible products	: Strong oxidizing agents. Strong bases. Strong acids.

Amplification Primers, ILMN

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment. Body protection should be chosen depending on activity and possible exposure.

Hand protection:
Wear protective gloves. Nitrile rubber
Eye protection:
Wear safety glasses which protect from splashes. Wear a face shield
Skin and body protection:
Protective clothing. Body protection should be chosen depending on activity and possible exposure
Respiratory protection:
No respiratory protection needed under normal use conditions. In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state : Liquid

Appearance : Liquid.

Color : Colorless

Odor : No data available

Odor threshold : No data available

pH : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Flammability (solid, gas) : Not applicable.

Vapor pressure : No data available

Relative vapor density at 20°C : No data available

Relative density : No data available

Solubility : No data available

Partition coefficient n-octanol/water (Log Pow) : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Amplification Primers, ILMN

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Viscosity, kinematic	: No data available
Explosion limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Incompatible materials.

10.5. Incompatible materials

Strong acids, strong bases and strong oxidants.

10.6. Hazardous decomposition products

Thermal decomposition generates: Carbon dioxide. Carbon monoxide.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified

Serious eye damage/irritation	: Not classified
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Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified

Carcinogenicity	: Not classified
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Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

Amplification Primers, ILMN	
Viscosity, kinematic	No data available

Symptoms/effects after inhalation	: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
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Amplification Primers, ILMN

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	: Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion	: Not expected to present a significant ingestion hazard under anticipated conditions of normal use. May cause irritation to the digestive tract.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

12.2. Persistence and degradability

Amplification Primers, ILMN	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Amplification Primers, ILMN	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No

SECTION 13 Disposal considerations

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.

SECTION 14 Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated

Amplification Primers, ILMN

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

DOT	IMDG	IATA
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
	Not regulated	
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not regulated

IMDG

Not regulated

IATA

Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:		
Deoxyribonucleic Acid Sodium Salt	CAS-No. 9007-49-2	< 1%

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Amplification Primers, ILMN

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 16 Other information

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Issue date : 6/2/2025

Abbreviations and acronyms	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
LC50	Median lethal concentration
LD50	Median lethal dose
NOEC	No-Observed Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
vPvB	Very Persistent and Very Bioaccumulative
AIHA	American International Health Alliance
ACGIH	American Conference of Government Industrial Hygienists
DOT	Department of Transport
DSL	Canada DSL (Domestic Substances List)
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
NDSL	Canada NDSL (Non-Domestic Substances List)
NIOSH	National Institute for Occupational Safety and Health
SDS	Safety Data Sheet

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Trade name : Hybridization Mix
Product code : 100587, 100528, 100212

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : For nucleic-acid and nucleic-acid-derived applications
Restrictions on use : All other uses not recommended above

1.4. Supplier's details

Twist Bioscience Corporation
681 Gateway Blvd
South San Francisco, California 94080
T 1-800-719-0671
sds@twistbioscience.com

1.5. Emergency phone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virginia, USA)
CCN 827463
Back-up Emergency Number: +1 703-741-5970 (Washington, DC)

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation, Category 2 H319 Causes serious eye irritation.
Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Warning
Hazard statements (GHS US) : Causes serious eye irritation
Precautionary statements (GHS US) : Wash hands, forearms and face thoroughly after handling.
Wear eye and face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice or attention.

Hybridization Mix

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Dimethyl Sulfoxide (DMSO)	CAS-No.: 67-68-5	15-25	Flam. Liq. 4, H227 Eye Irrit. 2B, H320
Sodium chloride	CAS-No.: 7647-14-5	7-8	Eye Irrit. 2A, H319

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Induce artificial respiration with mask fitted with one-way valve or other suitable device but not mouth-to-mouth. If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact	: Gently wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth out with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	: Stinging, redness, itching, tears, blurred vision, swelling.
Symptoms/effects after ingestion	: Not expected to present a significant ingestion hazard under anticipated conditions of normal use. May cause irritation to the digestive tract.
Most Important Symptoms/Effects	: Causes eye irritation.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Treat symptomatically.
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Hybridization Mix

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- | | |
|--------------------------------|--|
| Suitable extinguishing media | : Water spray. Dry powder. Foam. Carbon dioxide. For large fires: use water in flooding quantities as spray and fog. |
| Unsuitable extinguishing media | : Do not use a heavy water stream. |

5.2. Specific hazards arising from the chemical

- | | |
|--|--|
| Fire hazard | : Product contains combustible organic components. |
| Explosion hazard | : No direct explosion hazard. |
| Hazardous decomposition products in case of fire | : Toxic fumes may be released. Carbon monoxide. Carbon dioxide. Sulfur oxides (SOx). |

5.3. Special protective equipment and precautions for fire-fighters

- | | |
|--------------------------------|---|
| Firefighting instructions | : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Use water spray or fog for cooling exposed containers. Use extinguishing media appropriate for surrounding fire. Prevent fire-fighting water from entering environment. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

- | | |
|----------------------|---|
| Protective equipment | : Wear recommended personal protective equipment. |
| Emergency procedures | : Evacuate the danger area. If outdoors, move to an area upwind of the danger area. If possible without taking personal risks, Remove ignition sources, ventilate area. |

For emergency responders

- | | |
|---------------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. Ventilate spillage area. Stop leak if safe to do so. |
| Environmental precautions | : Do not let the product reach soil, drains, sewers, or surface and ground water. |

6.2. Methods and materials for containment and cleaning up

- | | |
|-------------------------|--|
| For containment | : Contain with non-combustible inert absorbent. |
| Methods for cleaning up | : Take up in non-combustible inert absorbent and place into container for disposal. Contaminated absorbent material may pose the same hazard as the spilled product. Decontaminate surfaces and equipment with water and detergent. Until a sufficient level of dilution is achieved, the decontamination water may pose the same hazards as the product. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations. |

For further information refer to section 8: "Exposure controls/personal protection", For further information refer to section 13

Hybridization Mix

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 7 Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Wear personal protective equipment when handling bulk product. Avoid contact with eyes.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Store in a dry place. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking. Keep cool. Storage for large quantities(warehouse) should be well ventilated. Keep container closed when not in use.

Incompatible products : Strong oxidizing agents. Strong bases. Strong acids.

SECTION 8 Exposure controls/personal protection

8.1. Control parameters

Dimethyl Sulfoxide (DMSO) (67-68-5)	
USA - AIHA - Occupational Exposure Limits	
WEEL TWA	250 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment. Body protection should be chosen depending on activity and possible exposure.

Hand protection:
Wear protective gloves. Nitrile rubber
Eye protection:
Wear safety glasses which protect from splashes. Wear a face shield
Skin and body protection:
Protective clothing. Body protection should be chosen depending on activity and possible exposure
Respiratory protection:
No respiratory protection needed under normal use conditions. In case of insufficient ventilation, wear suitable respiratory equipment

Personal protective equipment symbol(s):



Hybridization Mix

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colorless
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Particle characteristics	: No data available

Dimethyl Sulfoxide (DMSO)	
Particle characteristics	No data available

Sodium chloride	
Particle characteristics	No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Incompatible materials. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

10.5. Incompatible materials

Strong acids, strong bases and strong oxidants.

Hybridization Mix

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

10.6. Hazardous decomposition products

Thermal decomposition generates: Carbon dioxide. Carbon monoxide. Sulfur oxides.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Dimethyl Sulfoxide (DMSO)	
LD50 oral rat	28300 mg/kg body weight
LD50 dermal rat	40000 mg/kg body weight
LC50 Inhalation - Rat	> 5.33 mg/l

Sodium chloride	
LD50 oral rat	3000 mg/kg body weight
LD50 dermal rabbit	> 10000 mg/kg body weight

Skin corrosion/irritation : Not classified

Dimethyl Sulfoxide (DMSO)	
Additional information	Not irritating to rabbits on cutaneous application
Sodium chloride	
Additional information	Not irritating to rabbits on cutaneous application

Serious eye damage/irritation : Causes serious eye irritation.

Dimethyl Sulfoxide (DMSO)	
Serious eye damage/irritation, rabbit	Mildly irritating
Sodium chloride	
Serious eye damage/irritation, rabbit	Moderate eye irritant

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Dimethyl Sulfoxide (DMSO)	
LOAEC (inhalation, rat, dust/mist/fume, 90 days)	2.783 mg/l air
NOAEL (oral, rat, 90 days)	≥ 1000 mg/kg body weight

Aspiration hazard : Not classified

Hybridization Mix	
Viscosity, kinematic	No data available

Hybridization Mix

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Dimethyl Sulfoxide (DMSO)	
Viscosity, kinematic	No data available
Sodium chloride	
Viscosity, kinematic	No data available
Symptoms/effects after inhalation	: Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
Symptoms/effects after skin contact	: Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	: Stinging, redness, itching, tears, blurred vision, swelling.
Symptoms/effects after ingestion	: Not expected to present a significant ingestion hazard under anticipated conditions of normal use. May cause irritation to the digestive tract.
Most Important Symptoms/Effects	: Causes eye irritation.

SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Dimethyl Sulfoxide (DMSO)	
LC50 - Fish [1]	> 25 g/l
EC50 - Crustacea [1]	24.6 g/l
Sodium chloride	
LC50 - Fish [1]	5840 mg/l
LOEC (chronic)	441 mg/l
NOEC (chronic)	314 mg/l

12.2. Persistence and degradability

Hybridization Mix	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Hybridization Mix	
Bioaccumulative potential	Not established.
Dimethyl Sulfoxide (DMSO)	
Partition coefficient n-octanol/water (Log Pow)	-1.35

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	: Not classified
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Hybridization Mix

Safety Data Sheet

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Fluorinated greenhouse gases : No

SECTION 13 Disposal considerations

Regional waste regulation : Disposal must be done according to official regulations.
Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Disposal must be done according to official regulations.
Product/Packaging disposal recommendations : Disposal must be done according to official regulations.

SECTION 14 Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
	Not regulated	
No supplementary information available		

14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not regulated

IMDG

Not regulated

IATA

Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:		
Edetate disodium	CAS-No. 6381-92-6	< 1%

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Dimethyl Sulfoxide (DMSO) (67-68-5)

Listed on the Canadian DSL (Domestic Substances List)

Sodium chloride (7647-14-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Dimethyl Sulfoxide (DMSO) (67-68-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Sodium chloride (7647-14-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Dimethyl Sulfoxide (DMSO) (67-68-5)	U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16 Other information

According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Issue date : 6/2/2025

Full text of hazard classes and H-statements

H227	Combustible liquid
H319	Causes serious eye irritation
H320	Causes eye irritation

Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS-No.	Chemical Abstract Service number

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According to 29 CFR § 1910.1200, Hazard Communication Standard (HCS)

Abbreviations and acronyms	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
LC50	Median lethal concentration
LD50	Median lethal dose
NOEC	No-Observed Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
vPvB	Very Persistent and Very Bioaccumulative
AIHA	American International Health Alliance
ACGIH	American Conference of Government Industrial Hygienists
DOT	Department of Transport
DSL	Canada DSL (Domestic Substances List)
EC50	Median effective concentration
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
NDSL	Canada NDSL (Non-Domestic Substances List)
NIOSH	National Institute for Occupational Safety and Health
SDS	Safety Data Sheet

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.