



SAFETY DATA SHEET

Product Name Linear DNA Expression Kit
Product Number 508024, 508096
Kit Components LS70 Master Mix
P70a-deGFP Positive Control Fragment

1. COMPANY AND PRODUCT IDENTIFICATION

Kit Component Name LS70 Master Mix
Product Number n/a

Recommended use For research use only
Uses advised against No information available

Supplier Address Daicel Arbor Biosciences
5840 Interface Drive, Suite 101
Ann Arbor, MI 48103
USA

Email info@arbor.daicel.com
Phone + 1 (734) 998-0751

Emergency Phone Number +1 (800) 222-1222 (American Association of Poison Control Centers)
Available 24 hours everyday

2. HAZARD(S) IDENTIFICATION

Emergency Overview

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. Use prudent laboratory practices for handling chemical substances.

Appearance Clear, slightly amber **Physical State** Liquid **Odor** Odorless

3. COMPOSITION/INFORMATION ON INGREDIENTS

LS70 Master Mix is a mixture of hazardous substances and non-hazardous substances. The exact concentration percentages of those substances may be withheld as a Daicel Arbor Bioscience trade secret.

Component	CAS-No	%
Tris base	77-86-1	1-5
Potassium acetate	127-08-2	1-5
Magnesium acetate	142-72-3	1-5
Substance 1-31	Trade Secret	85-97

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. FIRST-AID MEASURES

General Advice

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Wash skin with soap and water.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Note to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Substance is non-flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing.

Personal Protective Equipment [PPE]

Use personal protection recommended in Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Environmental Precautions

Should not be released into the environment.

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

7. HANDLING AND STORAGE

Advice on Safe Handling

Handle in accordance with good industrial hygiene and safety practice.

Storage Temperature

Refer to the current version of the myTXTL Handbook available at www.arborbiosci.com for specific information.

Storage Conditions

Keep/store only in original container. Keep tightly closed in a dry and cool place.

Incompatible Materials

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines

This product does not contain any hazardous materials.

Personal protective equipment (PPE)

Refer to OSHA's regulations in 29 CFR 1910.133 or European Standard EN166 for eye/face protection and 29 CFR 1910.134 or European standard EN149 for respiratory protection.

Eye/face Protection

Wear safety glasses with side shields (or goggles).

Skin and Body Protection

Wear suitable protective clothing and gloves.

Respiratory Protection

Use in well ventilated areas.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Clear, slightly amber
Odor	Odorless

Property

Property	Notes/Method
pH	8.0 at 20°C (68°F)
Melting Point/Freezing Point	No information available
Boiling Point/Boiling Range	100°C (212°F)
Flash Point	Not applicable
Evaporation Rate	Flammability (solid, gas)
Flammability Limit in Air	No information available
Upper Flammability Limit	Not applicable
Lower Flammability Limit	Not applicable
Vapor Pressure	No information available
Vapor Density	No information available
Relative Density	No information available
Specific Gravity	No information available
Water solubility	No information available
Solubility in Other Solvents	No information available

Partition Coefficient	No information available
Autoignition Temperature	Product is not self-igniting
Decomposition Temperature	No information available
Kinematic Viscosity	No information available
Dynamic Viscosity	No information available
Explosive Properties	Not explosive
Oxidizing Properties	Not oxidizing

Other Information

Softening Point	No information available
Molecular Weight	Not applicable
VOC Content (%)	Not applicable
Density	Not applicable
Bulk Density	No information available

10. STABILITY AND REACTIVITY

Reactivity	No data available.
Stability	Stable under Normal Conditions.
Possibility of Hazardous Reactions	None under normal processing.
Conditions to Avoid	Incompatible materials. Ignition sources. Heat. Exposure to air or moisture over prolonged periods.
Incompatible Materials	Strong Oxidizing Agents.
Hazardous Decomposition Products	None known

11. TOXICOLOGICAL INFORMATION

**Acute Toxicity
Product Information**

Product does not present an acute toxicity hazard based on known or supplied information.

Inhalation Avoid breathing vapors or mists. May cause irritation of respiratory tract.

Eye Contact Redness. May cause slight irritation.

Skin Contact Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.

Ingestion May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Chronic Toxicity

<i>Skin Corrosion/Irritation</i>	Mild
<i>Serious Eye Damage/Eye Irritation</i>	Mild
<i>Irritation</i>	Mild
<i>Corrosivity</i>	Mild
<i>Sensitization</i>	
Skin	No information available
Respiratory	No information available
<i>Germ Cell Mutagenicity</i>	No information available
<i>Carcinogenicity</i>	No information available
<i>Reproductive Toxicity</i>	No information available
<i>Developmental Toxicity</i>	No information available
<i>Teratogenicity</i>	No information available

<i>STOT - Single Exposure</i>	No information available
<i>STOT - Repeated Exposure</i>	No information available
<i>Chronic Toxicity</i>	No information available
<i>Subchronic Toxicity</i>	No information available
<i>Target Organ Effects</i>	Kidneys, Respiratory system, Eyes, Skin.
<i>Neurological Effects</i>	No information available
<i>Other Adverse Effects</i>	The toxicological properties have not been fully investigated.
<i>Aspiration Hazard</i>	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial)	Do not empty into drains.
Persistence and Degradability	No information available
Bioaccumulative Potential	No information available
Mobility in Soil	No information available
Other Adverse Effects	<i>Ozone depletion potential (ODP)</i> No information available

13. DISPOSAL CONSIDERATIONS

Relevant Information

Keep out of drains, sewers, ditches, and waterways.

Disposal Considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated Packaging

Empty containers must be triple rinsed prior to disposal.

14. TRANSPORT INFORMATION

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO (air)	Not regulated
IATA	Not regulated
IMDG	Not regulated
RID	Not regulated
ADR	Not regulated
AND	Not regulated

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Complies
NDSL	Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

<i>Acute health hazard</i>	No
<i>Chronic Health Hazard</i>	No
<i>Fire hazard</i>	No
<i>Sudden Release of Pressure Hazard</i>	No
<i>Reactive Hazard</i>	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

International Regulations

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

Canadian NPRI	Not Listed
WHIMIS (Canada)	Not Classified

16. OTHER INFORMATION

Training advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Prepared by Daicel Arbor Biosciences
+1 (734) 998-0751

Creation Date October 01, 2019

Revision Date November 5, 2020

Version 02

Revision Note SDS is valid three (3) years from revision date. Contact info@arborbiosci.com for latest revision.

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1. COMPANY AND PRODUCT IDENTIFICATION

Component Name	P70a-deGFP Positive Control Fragment
Product Number	n/a
Recommended use	For research use only
Uses advised against	No information available
Supplier Address	Daicel Arbor Biosciences 5840 Interface Drive, Suite 101 Ann Arbor, MI 48103 USA
Email	info@arborbiosci.com
Phone	+ 1 (734) 998-0751
Emergency Phone Number	+1 (800) 222-1222 (American Association of Poison Control Centers) Available 24 hours everyday

2. HAZARD(S) IDENTIFICATION

Emergency Overview

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. Use prudent laboratory practices for handling chemical substances.

Appearance Colorless **Physical State** Liquid **Odor** Odorless

3. COMPOSITION/INFORMATION ON INGREDIENTS

Daicel Arbor Biosciences P70a-deGFP Positive Control Fragment is dissolved in nuclease-free, molecular biology-grade water.

Component	CAS-No	%
Deoxyribonucleic acids	9007-49-2	99

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. FIRST-AID MEASURES

General Advice

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin Contact	Wash skin with soap and water.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.

Note to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Substance is non-flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Ensure adequate ventilation, especially in confined areas. Avoid contact with skin, eyes and clothing.

Personal Protective Equipment [PPE]

Use personal protection recommended in Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Environmental Precautions

Should not be released into the environment.

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

7. HANDLING AND STORAGE

Advice on Safe Handling

Handle in accordance with good industrial hygiene and safety practice.

Storage Temperature

Refer to the current version of the myTXTL Handbook available at www.arborbiosci.com for specific information.

Storage Conditions

Keep/store only in original container. Keep tightly closed in a dry and cool place.

Incompatible Materials

None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Exposure Guidelines

This product does not contain any hazardous materials.

Personal protective equipment (PPE)

Refer to OSHA`s regulations in 29 CFR 1910.133 or European Standard EN166 for eye/face protection and 29 CFR 1910.134 or European standard EN149 for respiratory protection.

<i>Eye/face Protection</i>	Wear safety glasses with side shields (or goggles).
<i>Skin and Body Protection</i>	Wear suitable protective clothing and gloves.
<i>Respiratory Protection</i>	Use in well ventilated areas.
<i>General Hygiene Considerations</i>	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Oder	Odorless

Property

	Notes/Method
pH	Not applicable
Melting Point/Freezing Point	No information available
Boiling Point/Boiling Range	100°C (212°F)
Flash Point	Not applicable
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	Not applicable
Upper Flammability Limit	Not applicable
Lower Flammability Limit	Not applicable
Vapor Pressure	No information available
Vapor Density	No information available
Relative Density	No information available
Specific Gravity	No information available
Water solubility	No information available
Solubility in Other Solvents	No information available
Partition Coefficient	No information available
Autoignition Temperature	Product is not self-igniting
Decomposition Temperature	No information available
Kinematic Viscosity	No information available
Dynamic Viscosity	No information available
Explosive Properties	Not explosive
Oxidizing Properties	Not oxidizing

Other Information

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk Density	No information available

10. STABILITY AND REACTIVITY

Reactivity No data available.

Stability	Stable under Normal Conditions.
Possibility of Hazardous Reactions Conditions to Avoid	None under normal processing. Incompatible materials. Ignition sources. Heat. Exposure to air or moisture over prolonged periods.
Incompatible Materials	Strong Oxidizing Agents.
Hazardous Decomposition Products	None known

11. TOXICOLOGICAL INFORMATION

Acute Toxicity Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

<i>Inhalation</i>	Avoid breathing vapors or mists. May cause irritation of respiratory tract.
<i>Eye Contact</i>	Redness. May cause slight irritation.
<i>Skin Contact</i>	Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.
<i>Ingestion</i>	May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Chronic Toxicity

<i>Skin Corrosion/Irritation</i>	Mild
<i>Serious Eye Damage/Eye Irritation</i>	Mild
<i>Irritation</i>	Mild
<i>Corrosivity</i>	Mild
<i>Sensitization</i>	
Skin	No information available
Respiratory	No information available
<i>Germ Cell Mutagenicity</i>	No information available
<i>Carcinogenicity</i>	No information available
<i>Reproductive Toxicity</i>	No information available
<i>Developmental Toxicity</i>	No information available
<i>Teratogenicity</i>	No information available
<i>STOT - Single Exposure</i>	No information available
<i>STOT - Repeated Exposure</i>	No information available
<i>Chronic Toxicity</i>	No information available
<i>Subchronic Toxicity</i>	No information available
<i>Target Organ Effects</i>	Kidneys, Respiratory system, Eyes, Skin.
<i>Neurological Effects</i>	No information available
<i>Other Adverse Effects</i>	The toxicological properties have not been fully investigated.
<i>Aspiration Hazard</i>	No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial)	Do not empty into drains.
Persistence and Degradability	No information available
Bioaccumulative Potential	No information available
Mobility in Soil	No information available

Other Adverse Effects

Ozone depletion potential (ODP)
No information available

13. DISPOSAL CONSIDERATIONS

Relevant Information

Keep out of drains, sewers, ditches and waterways.

Disposal Considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated Packaging

Empty containers must be tripled rinsed prior to disposal.

14. TRANSPORT INFORMATION

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO (air)	Not regulated
IATA	Not regulated
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<i>Fire hazard</i>	No
<i>Sudden Release of Pressure Hazard</i>	No
<i>Reactive Hazard</i>	No

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Prepared by	Daicel Arbor Biosciences +1 (734) 998-0751
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Creation Date	October 01, 2019
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Revision Date	November 5, 2020
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Version	02
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Revision Note SDS is valid three (3) years from revision date. Contact info@arbor.daicel.com for latest revision.

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Disclaimer

IMPORTANT: The information in this SDS is provided in good faith based on our knowledge as of the creation date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties or merchantability or fitness for a particular purpose. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable governmental requirements. Since conditions of use of the product are not under the control of Daicel Arbor Biosciences, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. Daicel Arbor Biosciences will not be liable for any damages resulting from handling or contact with the product.

End of Safety Data Sheet