SAFETY DATA SHEET

Issue date 2 M a r c h 2 0 2 6 **Version** 2

1.IDENTIFICATION

Product name 5x Hot Start Cesium Klentaq C PCR Kit

Product No HS285

Recommended use Nucleic acid amplification

Supplier Address

DNA Polymerase Technology Inc.
1040 South Taylor Ave
Saint Louis MO 63110
USA

Phone Number 314 771 5566

Fax 314 771 5581

E-mail address enzyme@klentaq.com

Emergency Phone 512 289 6324

2.HAZARDS IDENTIFICATION

Classification Not a hazardous substance or mixture

GHS Label elements Not a hazardous substance or mixture

Hazard Statement

The product contains no substances which at their given concentration, are known to be hazardous to health.

Hazards not otherwise classified (HNOC) None

3.COMPOSITION/INFORMATION ON INGREDIENTS

Enzyme

Ingredient	% by weight	CAS #
Glycerol $HOCH_2CH(OH)CH_2OH$	63	56-81-5
Ammonium sulfate $(NH_4)_2SO_4$	1.9	7783-20-2
Tris HCl $NH_2C(CH_2OH)_3 \cdot HCl$ Tris(hydroxymethyl)aminomethane hydrochloride	<1	1185-53-1
2-Mercaptoethanol $HSCH_2CH_2OH$ ß-mercaptoethanol, BME	<1	60-24-2
Brij® 58 $HO(CH_2CH_2O)_{20}C_{16}H_{33}$ Polyethylene glycol hexadecyl ether	<1	9004-95-9
EDTA $(HO_2CCH_2)_2NCH_2CH_2N(CH_2CO_2H)_2$ Ethylenediaminetetraacetic acid	<1	60-00-4
Cesium Klentaq C DNA Polymerase	<1	N/A
SsDNA	<1	N/A

Master Mix

Ingredient	% by weight	CAS #
Tris base $NH_2C(CH_2OH)_3$ Tris(hydroxymethyl)aminomethane	3	77-86-1
Ammonium sulfate $(NH_4)_2SO_4$	<1	7783-20-2
Brij® 58 $HO(CH_2CH_2O)_{20}C_{16}H_{33}$ Polyethylene glycol hexadecyl ether	<1	9004-95-9
Magnesium Chloride $MgCl_2$	<1	7786-30-3
dNTPs Deoxynucleoside triphosphates	<1	N/A

4.FIRST AID MEASURES

First Aid Instructions

Inhalation Remove to fresh air.

Skin contact Wash skin with soap and water.

Eye contact Flush eyes with water.

Ingestion Rinse mouth with water.

Most important symptoms and effects, both acute and delayed No information available.

Recommendations for medical care Treat symptomatically.

5.FIRE-FIGHTING MEASURES

Suitable extinguishing equipment
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide, as indicated by local circumstances and the surrounding environment.

Specific hazards arising from the chemical
No information available.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus and full protective gear.

6.ACCIDENTAL RELEASE MEASURES

Personal precautions and emergency procedures

Enzyme: Avoid breathing vapors.

Enzyme and Master Mix: Use of standard laboratory Personal Protective Equipment (PPE) such as a lab coat, gloves, and safety glasses is recommended. No evacuation, expert consultation, or additional PPE is required for dealing with accidental release.

Environmental precautions

Do not flush this product down the drain.

Containment and cleanup

Absorb with inert absorbent material and dispose with dry waste.

7.HANDLING AND STORAGE

Precautions for safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage

Storage temperature	-20° F
Storage Conditions	Store in original containers with lids closed.
Incompatible materials	unknown

8.EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Exposure Guidelines
All ingredients with occupational exposure limits are listed below.

Ingredient	Basis	Control Parameters (TWA PEL)	Concentration in this product (Enzyme)
Glycerol $HOCH_2CH(OH)CH_2OH$ CAS 56-81-5	OSHA	5 mg/m^3 mist, total particulate 5 mg/m^3 mist, respirable fraction	5 mg/m^3
2-Mercaptoethanol $HSCH_2CH_2OH$ ß-mercaptoethanol, BME CAS 60-24-2	WEEL	0.2 ppm Skin	780 ppm

Engineering controls

Standard lab safety components such as showers, eyewash stations, and standard ventilation systems are recommended.

Personal protection measures
Use of standard laboratory Personal Protective Equipment (PPE) such as a lab coat, gloves, and safety glasses is recommended. Keep laboratory well ventilated. Handle product in accordance with good industrial hygiene and safety practice.

9.PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid
Appearance	colorless/cloudy
Odor	none/mild
Vapor pressure	No information available
pH	**Enzyme 8.5, Master mix 9.2**
Relative density	No information available
Melting point / freezing point	No information available
Water solubility	No information available
Solubility in other solvents	No information available
Boiling point / boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Partition coefficient	No information available
Auto-ignition temperature	No information available
Decomposition temperature	No information available
Viscosity	No information available

10.STABILITY AND REACTIVITY

Reactivity No data available.

Chemical stability Stable under recommended storage conditions.

Other

Possibility of hazardous reactions
No hazardous reactions are known or expected. The product is not known to react or polymerize resulting in excess pressure, heat, or any other hazardous conditions.

Conditions to avoid
None

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
None are known or expected.

11.TOXICOLOGICAL INFORMATION

Likely routes of exposure

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

Ingestion Avoid ingestion.

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

Eye contact Avoid eye contact. May cause redness and irritation.

Delayed, immediate, or chronic effects from short and long-term exposure None are known or expected.

Numerical measures of toxicity

Enzyme

Ingredient	% by weight	CAS #	LD50
Glycerol $HOCH_2CH(OH)CH_2OH$	63	56-81-5	Oral (rat) 27,200 mg/kg Dermal (rabbit) > 10,000 mg/kg
Ammonium sulfate $(NH_4)_2SO_4$	1.9	7783-20-2	Oral (rat) 4,250 mg/kg Dermal (rat) 2,000 mg/kg
Tris HCl $NH_2C(CH_2OH)_3 \cdot HCl$ Tris(hydroxymethyl)aminomethane hydrochloride	<1	1185-53-1	Oral (rat) >5,000 mg/kg Dermal (rat) >5,000 mg/kg
2-Mercaptoethanol $HSCH_2CH_2OH$ ß-mercaptoethanol, BME	<1	60-24-2	Oral (mouse) 190 mg/kg Inhalation (rat) 2.05 mg/L at 4 hours Dermal (rabbit) 112-224 mg/kg
Brij® 58 $HO(CH_2CH_2O)_{20}C_{16}H_{33}$ Polyethylene glycol hexadecyl ether	<1	9004-95-9	Oral (rat) 2,500 mg/kg
EDTA $(HO_2CCH_2)_2NCH_2CH_2N(CH_2CO_2H)_2$ Ethylenediaminetetraacetic acid	<1	60-00-4	Oral (rat) 4,500 mg/kg
Cesium Klentaq C DNA Polymerase	<1	N/A	No information
SsDNA	<1	N/A	No information

Master Mix

Ingredient	% by weight	CAS #	LD50
Tris base $NH_2C(CH_2OH)_3$ Tris(hydroxymethyl)aminomethane	3	77-86-1	Oral (rat) >5,000 mg/kg Dermal (rat) >5,000 mg/kg
Ammonium sulfate $(NH_4)_2SO_4$	<1	7783-20-2	Oral (rat) 4,250 mg/kg Dermal (rat) 2,000 mg/kg
Brij® 58 $HO(CH_2CH_2O)_{20}C_{16}H_{33}$ Polyethylene glycol hexadecyl ether	<1	9004-95-9	Oral (rat) 2,500 mg/kg
Magnesium Chloride $MgCl_2$	<1	7786-30-3	Oral (rat) >5,000 mg/kg Dermal (rat) >2,000 mg/kg
dNTPs Deoxynucleoside triphosphates	<1	N/A	No data available

Symptoms of exposure No information available.

Potential carcinogen status

NTP Report on Carcinogens	Not a known or anticipated carcinogen
IARC Monographs	Not a probable, possible, or confirmed carcinogen
OSHA	Not listed

12.ECOLOGICAL INFORMATION

Ecotoxicity

Marine pollutant: Components of this product known to be toxic to fish, aquatic invertebrates, algae, and/or bacteria are listed below.

Component	Fish	Aquatic Invertebrates	Fresh water Algae	Bacteria
Ammonium sulfate $(NH_4)_2SO_4$ CAS 7783-20-2	LC50 (rainbow trout) 53 mg/L at 96 hours	EC50 (water flea) 121.7 mg/L at 48 hours	ErC50 2,700 mg/L at 18 days	EC50 (activated sludge) 1,618 mg/L at 30 minutes
Glycerol $HOCH_2CH(OH)CH_2OH$ CAS 56-81-5	LC50 (rainbow trout) 54,000 mg/L at 96 hours	--	--	--

2-Mercaptoethanol $HSCH_2CH_2OH$ ß-mercaptoethanol, BME, CAS 60-24-2	LC50 (golden orfe) 37 mg/L at 96 hours	EC50 (water flea) 0.4 mg/L at 48 hours	ErC50 19 mg/L at 72 hours	EC50 (Pseudomonas putida)113 mg/L at 17 hours
EDTA $(HO_2CCH_2)_2NCH_2CH_2N(CH_2CO_2H)_2$ Ethylenediaminetetraacetic acid CAS 60-00-4	LC50 (bluegill sunfish) 41 mg/L at 96 hours	EC50 (Water flea) 625 mg/L at 24 hours	--	--

Persistence and degradability Glycerol (CAS 56-81-5) is 90% readily biodegradable.
2-Mercaptoethanol (CAS 60-24-2) is 69% biodegradable in 60 days
EDTA (CAS 60-00-4) is 0-20% biodegradable in 20 days
No information available about other components.

Bioaccumulation EDTA (CAS 60-00-4) 80 ug/L Bluegill sunfish in 28 days
No information available about other components

Mobility from soil to groundwater No information available

Other adverse effects No information available

13.DISPOSAL CONSIDERATIONS

Disposal guidelines Dispose with dry waste, do not flush down drains. Refer to Section 8 for PPE recommendations.

14.TRANSPORT INFORMATION

DOT Not regulated

15.REGULATORY INFORMATION

US Federal Regulations

SARA 311/312 Hazards

Chemical Name	CAS #	SARA 311/312 Hazards
2-Mercaptoethanol $HSCH_2CH_2OH$ ß-mercaptoethanol, BME	60-24-2	Fire Hazard, Acute Health Hazard

SARA 313
The following product components are subject to reporting requirements:

Chemical Name	CAS #	SARA 313 Threshold Value	Concentration in this product (Enzyme)
Ammonium sulfate	7783-20-2	1.00%	1.90%

US State Regulations

California Proposition 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right To Know Components	Ammonium sulphate CAS-No. 7783-20-2
Pennsylvania Right To Know Components	Polyethylene glycol hexadecyl ether CAS-No. 9004-95-9
	Ammonium sulphate CAS-No. 7783-20-2
	Magnesium chloride CAS-No. 7786-30-3
New Jersey Right To Know Components	Polyethylene glycol hexadecyl ether CAS-No. 9004-95-9
	Ammonium sulphate CAS-No. 7783-20-2
	Magnesium chloride CAS-No. 7786-30-3

16.OTHER INFORMATION

This document was prepared on 18June2022

Disclaimer

IMPORTANT: The information in this SDS is provided in good faith based on our knowledge as of the issue 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 DNA Polymerase Technology, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. DNA Polymerase Technology will not be liable for any damages resulting from handling or contact with the product.

End of Safety Data Sheet