

MATERIAL SAFETY DATA SHEET

SharkaTAQ™ Hot Start Master Mix

(888) 498-0188

Frontier enomics Inc.

SHARKATAQ

#800885

Box 211276

Auke Bay, AK 99821

info@frontiergenomics.com

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SECTION 1–CHEMICAL INFORMATION

Product Name: SharkaTAQ™ TAQ Polymerase

1. Taq DNA Polymerase 45-48% Cas. #9012-90-2 SARA - NO

2. Glycerol 50% Cas. #56-81-5 SARA - N

3. Tris-HCl < 1% Cas. #1185-53-1 SARA - NO

4. KCl < 1% Cas. #7447-40-7 SARA - NO

5. Dithiothreitol < 1% Cas. #3483-1--3 SARA - NO

6. EDTA < 1% Cas. #60-00-4 SARA - NO

SECTION 2–COMPOSITION/ INFORMATION ON INGREDIENT

EC No: 200-289-5

MF: C3H8O3

CHEMICAL NAME: GLYCEROL

CAS No.: 56-81-5

SYNONYMS: CITIFLOUR AF 2 * GLYCERIN * GLYCERIN, ANHYDROUS * GLYCERINE * GLYCERIN MIST (ACGIH, OSHA) * GLYCERIN, SYNTHETIC * GLYCERITOL GLYCYL ALCOHOL * CLYZERIN, WASSERFREI (GERMAN) * GROCOLENE * OSMOGLYN * 1,2,3-PROPANETRIOL * STAR * SYNTHETIC GLYCERIN * TECHNICAL GLYCERINE * TRIHYDROXYPROPANE * 1,2,3-TRIHYDROXYPROPANE.

SECTION 3–HAZARDOUS IDENTIFICATION

EMERGENCY OVERVIEW

Caution: Avoid contact and inhalation.

HMIS RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

NFPA RATING

HEALTH: 2

FLAMMABILITY: 0

REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

SECTION 4 –FIRST AID MEASURES

ORAL EXPOSURE: If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE: If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

DERMAL EXPOSURE: In case of contact, immediately wash skin with soap and copious amounts of water. Remove clothing and call a physician.

EYE EXPOSURE: In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

SECTION 5–FIRE FIGHTING MEASURES

Extinguishing Media: Water Spray, Carbon Dioxide, Dry Chemical powder or appropriate foam. Suitable: Use extinguishing media appropriate to surrounding fire conditions.

Unusual Fire and Explosions Hazard (s): Emits toxic toxic fumes under fire conditions.

Special Firefighting Procedures: Wear self contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Prevent contact with skin and eyes.

Flash Point: N/A

Autoignition Temp: N/A

Flammability: N/A

SECTION 6 – ACCIDENTAL RELEASE MEASURES

PROCEDURE(S) OF PERSONAL PRECAUTION(S):

METHODS FOR CLEANING UP:

Absorb on sand or vermiculite and place in a closed container for disposal.

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of vapors

Ventilate area and wash spill site after material pickup is complete.

Wear disposable coveralls and discard them after use

SECTION 7 – HANDLING AND STORAGE

HANDLING: User Exposure: Avoid contact with eyes, skin, and clothing. Avoid inhalation. Avoid prolonged or repeated exposure.

STORAGE: Suitable: Keep tightly closed. Store at $\square 20^{\circ}\text{C}$

SECTION 8–EXPOSURE CONTROLS /PPE

Engineering Controls: Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment:

General Hygiene Measures:

Wash thoroughly after handling.

Respiratory

Wash contaminated clothing before use.

NIOSH/MSHA \square approved respirator.

AVOID INHALATION

Hand:

Compatible chemical-resistant gloves.

Keep Tightly Closed

Store in a cool dry place.

Freeze. Store at -20°C

Eye:

Compatible safety goggles.

SECTION 9– PHYSICAL AND CHEMICAL PROPERTIES

Physical Properties:

Explosion Limits in Air:

Vapor Density: 3.1 G/L

Lower: 0.9%

Melting Point: 20° C

PH: 5.5–8.0

Boiling Point: 182° C

Specific Gravity: 1.262

Flash Point: > 392 F, > 200° C

Solubility: Water □Z26130

Vapor Pressure: < 1 MMHG @ 20°C

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable

Hazardous Decomposition Products:

Materials to Avoid:

Carbon Monoxide, Carbon Dioxide

Strong oxidizing agents, strong bases.

Hazardous Polymerization: Will not occur.

PROTECT FROM HEAT AND MOISTURE

SECTION 11–TOXICOLOGICAL INFORMATION

Route of Exposure:

Multiple Routes

Eye Contact:

Skin Contact

May be harmful by inhalation, ingestion, or skin absorption

May cause skin irritation

May cause eye irritation

Materials may be irritating to mucous membranes and upper respiratory tract.

Chronic Effects: Target Organs, Kidney

Signs and Symptoms of Exposure: Prolonged exposure can cause: Nausea, headache and vomiting

RTECS #:MA8050000

To the best of our knowledge, the properties have not yet been thoroughly investigated.

IRRITATION DATA:

SKN□RBT 500 MG/24H MLD

85JCAE □, 207, 1986

EYE□RBT 126 MG MLD

BIOFX* 9□4/970

85JCAE □, 207, 1986

EYE□RBT 500 MG/24H MLD

TOXICITY DATA:

ORL□RAT LD50: 12600 MG/KG IHL□RAT LC50: > 570 MG/M3/1H

FEPRA7 4, 142, 1945

BIOFX* 9□4/970

IPR□RAT LD50: 4420 MG/KG

RCOCB8 56, 125,1987

NIIRDN 6, 215, 1982

SCU□RAT LD50: 100 MG/KG

IVN□RAT LD50: 5566 MG/KG

ARZNAD 26,1581,1976

ORL□MUS LD50: 4090 MG/KG

FRZKAP (6), 56, 1977

ARZNAD 28,1579,1978

IPR□MUS LD50: 8700 MG/KG

NIIRDN 6, 215, 1982

SCU□MUS LD50: 91 MG/KG

JAPMA8 39, 583, 1950

IVN□MUS LD50: 4250 MG/KG

DMDJAP 31, 276,1959

ORL□RBT LD50: 27 GM/KG

BIOFX* 9□4/970

SKN□RBT LD50: >10 GM/KG

NIIRDN 6, 215, 1982

IVN□RBT LD50: 53 GM/KG

JIHTAB 23, 259, 1941

ORL□GPG LD50: 7750 MG/KG

TARGET ORGAN DATA:

Behavioral (headache)

Paternal effects (testes, epididymis, sperm duct)

Gastrointestinal (nausea or vomiting)

Effects on fertility (male fertility index)

Kidney, ureter, bladder (changes in tubules)

Effects on fertility (post□implantation mortality)

Kidney, ureter, bladder (changes in urine composition)

Only selected registry of toxic effects of chemical substance (RTECS) data is presented here. See actual entry in RTECS

Paternal effects (spermatogenesis)

SECTION 12–ECOLOGICAL INFORMATION

Data not yet available

SECTION 13–DISPOSAL CONSIDERATIONS

Contact a licensed professional waste disposal service to dispose of this material.

Observe all federal state and local environmental regulations.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

SECTION 14– TRANSPORT INFORMATION

DOT

IATA

Proper Shipping Name: None

Non☐Hazardous for Air Transport: Non☐hazardous for air transport.

Non☐hazardous for transport

This substance is considered to be non☐hazardous for transport

SECTION 15– REGULATORY INFORMATION

US CLASSIFICATION AND LABEL TEXT

US Statements: Caution: Avoid contact and inhalation.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

SECTION 16–REGULATORY INFORMATION

DISCLAIMER: For R&D use only. Not for drug, household or other uses.

WARRANTY: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Frontier Genomics Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

SECTION 17– OTHER INFORMATION

Frontier Genomics shall not be held liable for any damage resulting from handling or from contact with the above product. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide.