



MATERIAL SAFETY DATA SHEET

(In compliance with 29 CFR 1910.1200 and based on Directive 91/155 EEC et seq.)

**Product Name: LIFECODES HLA-SSO DNA Typing Kits. For Use With Luminex
(HLA-A, HLA-A eRES, HLA-B, HLA-B eRES, HLA-C, HLA-DRB, HLA-DRB1,
HLA-DRB1 eRES, HLA-DQB, HLA-DQA, HLA-DPB, KIR, CYTOKINE)**

1. INFORMATION OF THE SUBSTANCE/PREPARATION AND COMPANY

1.1	Date:	February 24, 2010
	Product Name:	LIFECODES HLA-SSO DNA Typing Kits. For Use With Luminex
	Intended Use:	DNA Typing of Class I and Class II HLA alleles
	Catalog Numbers:	HLA-A: 628410-50 HLA-A eRES: 628459-50 HLA-B: 628510-50 HLA-B eRES: 628559-50 HLA-C: 628810-50 HLA-DRB: 628710-50 HLA-DRB1: 628751-50 HLA-DRB1 eRES: 628759-50 HLA-DQB: 628610-50 HLA-DQA: 628061 HLA-DPB: 628910 KIR: 545110 CYTOKINE: 345110

Kit Components:

Kit	Primer Mix/Master Mix	Probe Mix	Dilution Solution
HLA-A	HLA-A Master Mix (870µL)	HLA-A Probe Mix (810µL)	9.9mL
HLA-A eRES	HLA-A Master Mix (870µL)	HLA-A Probe Mix (810µL) HLA-A eRES Probe Mix (810µL)	19.7mL
HLA-B	HLA-B Master Mix (870µL)	HLA-B Probe Mix (810µL)	9.9mL
HLA-B eRES	HLA-B Master Mix (870µL)	HLA-B Probe Mix (810µL) HLA-B eRES Probe Mix (810µL)	19.7mL
HLA-C	HLA-C Master Mix (870µL)	HLA-C Probe Mix (810µL)	9.9mL
HLA-DRB	DRB Generic Master Mix (870 µL) DR52 Master Mix (870 µL)	HLA-DRB Probe Mix (810µL x2)	19.7mL
HLA-DRB1	HLA-DRB1 Master Mix (870uL)	HLA-DRB1 Probe Mix (810 µL)	9.9 mL
HLA-DRB1 eRES	HLA-DRB1 Master Mix (870uL)	HLA-DRB1 Probe Mix (810 µL) HLA-DRB1 eRES Probe Mix (810µL)	19.7mL
HLA-DQB	HLA-DQB Master Mix (870µL)	HLA-DQB Probe Mix (810µL)	9.9mL
HLA-DQA	HLA-DQA Master Mix (420µL)	HLA-DQA Probe Mix (360µL)	9.9mL
HLA-DPB	HLA-DPB Master Mix (420µL)	HLA-DPB Probe Mix (360µL)	9.9mL
KIR	KIR 1 Master Mix (170µL) KIR 2 Master Mix (170µL)	KIR Probe Mix (720µL)	9.9mL
CYTOKINE	Cytokine I Master Mix (225µL) Cytokine II Master Mix (225µL) TGFb Master Mix (225µL)	Cytokine I Probe Mix (360µL) Cytokine II Probe Mix (360µL) TGFb Probe Mix (360µL)	19.7mL



1.2 Company Gen-Probe Transplant Diagnostics, Inc.
550 West Avenue
Stamford, CT 06902 USA
(203) 328-9500
technicalsupport@gen-probe.com

1.3 In emergencies: CHEMTREC 1-800-424-9300 (24 Hours, 7 days/week)

2. HAZARDS IDENTIFICATION

The hazards identified with this product are those associated with tetramethylammonium chloride.

Tetramethylammonium chloride is a slight irritant and poison by ingestion. Potential Health Effects include: Inhalation may cause irritation, Eye Contact may cause irritation, Skin contact may cause irritation, Ingestion may cause dizziness, nausea and shortness of breath (nicotine-like symptoms). Acts as a ganglionic blocking agent and vasodilator. May be fatal if swallowed. Chronic effects may cause irritation.

Exposure Limits 8 hrs. TWA

<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>Supplier rec.</u>
None established	None established	None established

NEPA HAZARD IDENTIFICATION RATING SYSTEM

HEALTH: 3 FIRE: 0 REACTIVITY: 0

EMERGENCY OVERVIEW:

Wear personal protective equipment to prevent contact with eyes. May cause skin, respiratory tract and eye irritation. May be fatal if swallowed. Remove and wash all contaminated clothing before re-use. Thoroughly wash effected area with water.

3. COMPONENTS/INFORMATION ON INGREDIENTS

Probe Mix
Tetramethylammonium chloride CAS Registry # 75-57-0

All other components are confidential as per the trade secret provision of 29 CFR 1910.1200.

4. FIRST AID MEASURES:

Probe Mix:

Inhalation: Remove to fresh air, if breathing has stopped, give artificial respiration and consult a physician. Eye Contact: Immediately flush with water until no evidence of chemical remains (at least 15 minutes) and consult a physician. Skin Contact: Immediately flush with water with sufficient volume until there is no evidence of the chemical on the affected area. Ingestion: may cause dizziness, nausea and shortness of breath (nicotine-like symptoms). Acts as a ganglionic blocking agent and vasodilator. May be fatal if swallowed.

5. FIRE FIGHTING MEASURES:

All Kit Components

Suitable extinguishing Media:	Water Spray, Carbon Dioxide, dry chemicals.
Unsuitable extinguishing Media:	No data available.
Special exposure hazards:	No generation of hazardous or toxic gases in dangerous quantities.
Instructions:	Due to small quantities, no special instructions apply.



Special protective equipment for Firefighters: Due to small quantities, no special instructions apply.

6. ACCIDENTAL RELEASE MEASURES:

All Kit Components

Land Spill: Contain spill. Use personal protective equipment to prevent contact with eyes, skin and clothing. Avoid routing to water bodies or streams. Pick up and place in containers for recovery and disposal.

Water Spill: Contain spill. Prevent eye contact. Prevent flow to water supplies. Isolate and take up for disposal.

7. HANDLING AND STORAGE

All Kit Components

Handling: Observe normal hygiene standards. Discharge waste according to local regulations. Remove and clean contaminated clothing. Handle open container with care.

Storage: Follow storage conditions on label. Keep container tightly closed. Keep away from heat sources, **LIGHT**, combustible materials, acids and metals. Storage temperature: Consult component label.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

All Kit Components

Eye Protection: Safety glasses or face shield.

Hand Protection: Protective gloves.

Skin Protection: Protective clothing.

Eyewash and safety shower readily available in the immediate area.

9. PHYSICAL AND CHEMICAL PROPERTIES

All Kit Components

Liquid

Probe Mix

Gray

10. STABILITY AND REACTIVITY

All Kit Components

General: Stable when stored at specified conditions (see label) until expiry date noted on vial.

Reactivity/Hazardous Decomposition products:

Probe Mix pertains to Tetramethylammonium chloride, In fire conditions can emit carbon monoxide, hydrochloric acid and nitrogen oxides.

11. TOXICOLOGICAL INFORMATION:

See section "2. Composition/Information on Ingredients" to identify kit components that contain the substances mentioned in this section.



Acute Toxicity:

Tetramethylammonium chloride

LD50 for 50% solution = 94 mg/kg (oral-rat)

Not identified as an OSHA, NTP or IARC carcinogen. No data available indicating any carcinogenic activity.

Chronic toxicity:

Carcinogenicity (TLV) :A4

Routes of exposure:

Ingestion, inhalation, eyes and skin

Caution! Most components contain (a) substance(s) that are absorbed through the skin.

Acute effects/Symptoms:

Probe Mix contains tetramethylammonium chloride which may cause dizziness, nausea and shortness of breath (nicotine-like symptoms) upon ingestion. All other components may be Harmful if swallowed.

Chronic Effects: See also chronic toxicity.

12. ECOLOGICAL INFORMATION

Aquatic toxicity:

Tetramethylammonium chloride: This material may be biodegradable in an acclimated biological treatment facility. Reportedly: ~50% inhibition of nitrification at 2200 mg/L; Reportedly for daphnia magna: LOEC (lowest observed effect concentration) = 0.05 mg/L; NOEC(no observed effect concentration) 0.03 mg/L. Acute aquatic toxicity testing has shown this compound to be highly toxic to ceriodaphnia dubia (water flea).

13. WASTE DISPOSAL CONSIDERATIONS

Provision relating to waste: Hazardous waste (91/689/EC)

Packaging/container: Waste material code packaging (91/689/EEC, Council Decision 2001/118/EC, O/J. L47 of 16/2/2001: 15 01 10 packaging containing residues of contaminated substances)

Disposal methods:

Incinerate and/or dispose of according to all federal, state and local regulations, do not discharge directly into surface waters.

14. TRANSPORT INFORMATION

No restrictions.

15. REGULATORY INFORMATION

Classifications according to directives 67/548/EEC and 1999/45/EC

Probe Mix contains tetramethylammonium chloride, which is classified as Harmful.

R25 Toxic if swallowed

R36/37/38 Irritating to eyes, respiratory system and skin

R21 Harmful in contact with skin

S26 Irritating to eyes, respiratory system and skin

S36/37 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S45 Wear suitable protective clothing and gloves



16. OTHER INFORMATION

Tetramethylammonium chloride: RETCS Number: BS7700000

This information is believed to be accurate and represents the best information currently available to Lifecodes.

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