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**MATERIAL SAFETY DATA SHEET**

**HELENA LABORATORIES**  
**1530 Lindbergh Dr./P.O. Box 752**  
**Beaumont, TX 77704-0752**  
**USA Toll Free 800-231-5663**

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DATE PREPARED: **4/2/2010**  
 REVISION: **3**

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**1. IDENTIFICATION:**

PRODUCT NAME: **QUICKGEL ACID HEMOGLOBIN KIT-SPIFE,**  
**QUICKGEL ACID HEMOGLOBIN KIT**

PRODUCT NO.: **3419,3519**

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**2. INGREDIENTS (THE ABOVE KIT CONTAINS THE FOLLOWING ITEMS):**

<u>PRODUCT NUMBER</u>	<u>PRODUCT IDENTIFICATION (LABEL NAME)</u>	<u>COMMENTS</u>
552007	QUICKGEL ACID HEMOGLOBIN KIT	
552006	QUICKGEL ACID HEMOGLOBIN GEL	
	HAZARDOUS INGREDIENT	CAS # %
	<b>THIMEROSAL</b>	<b>54-64-8 &lt;0.1</b>
		<b>MSDS ATTACHED</b>
551965	REP/SPIFE HEMOLYSATE REAGENT	NON-HAZARDOUS
551151	ACID BLUE STAIN	
	HAZARDOUS INGREDIENT	CAS # %
	<b>ACID BLUE 29</b>	<b>5850-35-1 100%</b>
		<b>NON-HAZARDOUS</b>
551959	CITRIC ACID DESTAIN	
	HAZARDOUS INGREDIENT	CAS # %
	<b>CITRIC ACID</b>	<b>77-92-9 100%</b>
		<b>MSDS ATTACHED</b>

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**ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.**

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DATE PREPARED: 3/23/2010  
 REVISION: 6

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1. IDENTIFICATION:

NAME: THIMEROSAL

SYNONYMS: 2-(ETHYLMERCURIOMERCAPTO)BENZOIC ACID SODIUM SALT  
 ETHYLMERCURITHIOSALICYLIC ACID SODIUM SALT  
 MERCURY-( [O-CARBOXYPHENYL] )ETHYL SODIUM SALT  
 SODIUM ETHYLMERCURITHIOSALICYLATE

MOLECULAR WEIGHT: 404.81 G/MOL

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2. CHEMICAL COMPOSITION:

CHEMICAL NAME/COMMON NAME	CAS #	%	EXPOSURE LIMITS	
			OSHA PEL	ACGIH TLV
THIMEROSAL	54-64-8	100	0.01 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>

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NA = Not Applicable                      NE = Not Established  
 NL = Not Listed                            NIF = No Information Found

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3. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW: HIGHLY TOXIC BY INHALATION, HIGHLY TOXIC BY INGESTION, HIGHLY TOXIC BY SKIN ABSORPTION.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

ACUTE EFFECT OF OVEREXPOSURE:

EYES: CAUSES EYE IRRITATION

SKIN: MAY BE FATAL IF ABSORBED THROUGH THE SKIN. CAUSES SKIN IRRITATION.

INHALATION: MAY BE FATAL IF INHALED. MATERIAL IS IRRITATING TO UPPER RESPIRATORY TRACT.

INGESTION: MAY BE FATAL IF SWALLOWED.

CHRONIC EFFECTS OF EXPOSURE: MAY CAUSE CONGENITAL MALFORMATION IN THE FETUS.

TARGET ORGANS: KIDNEYS, CENTRAL NERVOUS SYSTEM.

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4. FIRST AID MEASURES:

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. CALL A PHYSICIAN IMMEDIATELY.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. CALL A PHYSICIAN IMMEDIATELY.

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER, PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN IMMEDIATELY.

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5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): > 482°F (> 250°C)

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

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5. FIRE AND EXPLOSION HAZARD DATA(cont):

SPECIAL FIRE FIGHTING PROCEDURES: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

UNUSUAL FIRE AND EXPLOSION HAZARDS: EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

6. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: EVACUATE AREA. WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, BOOTS AND HEAVY GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICK UP IS COMPLETE.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: DO NOT BREATH DUST. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE. WASH THOROUGHLY AFTER HANDLING. KEEP TIGHTLY CLOSED. STORE IN A COOL DRY PLACE. LIGHT SENSITIVE.

8. EXPOSURE CONTROL/PERSONAL PROTECTION:

RESPIRATORY PROTECTION (SPECIFY TYPE): APPROPRIATE NIOSH/MSHA - APPROVED

VENTILATION: LOCAL EXHAUST: MECHANICAL: OTHER: CHEMICAL FUME HOOD

PROTECTIVE GLOVES: CHEMICAL RESISTANT

EYE PROTECTION: SAFETY GOGGLES OR GLASSES

OTHER PROTECTIVE EQUIPMENT: OTHER PROTECTIVE CLOTHING, SAFETY SHOWER AND EYE BATH.

9. PHYSICAL DATA:

BOILING POINT: NA SPECIFIC GRAVITY (H2O = 1): NA pH:

VAPOR PRESSURE (MM HG.): NA MELTING POINT: 232°C - 234°C

VAPOR DENSITY (AIR = 1): NA

SOLUBILITY IN WATER: SOLUBLE APPEARANCE AND ODOR: WHITE TO BEIGE POWDER

10. STABILITY AND REACTIVITY:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG BASES. MAY DISCOLOR ON EXPOSURE TO LIGHT.

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: TOXIC FUMES OF CARBON MONOXIDE, CARBON DIOXIDE, SULFUR OXIDES, MERCURY/MERCURY OXIDES.

HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X

11. TOXICOLOGICAL INFORMATION:

LD50/LC50: LD50 ORAL - RAT - 75 MG/KG

BEHAVIORAL: ATAXIA. INGESTION MAY CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING AND DIARRHEA. PROLONGED OR REPEATED EXPOSURE MAY CAUSE ALLERGIC REACTIONS IN CERTAIN SENSITIVE INDIVIDUALS.

CARCINOGENICITY: NL NTP? NL IARC? NL OSHA? NL

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

12. ECOLOGICAL INFORMATION: NO DATA AVAILABLE

13. DISPOSAL CONSIDERATIONS: OBSERVE ALL FEDERAL, STATE AND LOCAL REGULATIONS.

14. TRANSPORTATION INFORMATION:

UN#: 2025
PROPER SHIPPING NAME: MERCURY COMPOUND, SOLID, N.O.S.
PG: III
CLASSES: 6.1

15. REGULATORY INFORMATION: THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS - MERCURY COMPOUNDS.

16. OTHER INFORMATION: NONE

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The information herein is given in good faith but no warranty, expressed or implied, is made.

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DATE PREPARED: 5/13/2009
REVISION: 3

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1. IDENTIFICATION:

NAME: CITRIC ACID

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3. CHEMICAL COMPOSITION:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL), and LIMITS (ACGIH TLV). Row 1: CITRIC ACID, 77-92-9, 100, NIF, NIF.

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NA = Not Applicable NE = Not Established
NL = Not Listed NIF = No Information Found

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3. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

ACUTE EFFECT OF OVEREXPOSURE:

EYES: CAN CAUSE SEVERE EYE IRRITATION. SYMPTOMS INCLUDE STINGING, TEARING, REDNESS, AND SWELLING OF EYES. CAN INJURE EYE TISSUE.

SKIN: CAN CAUSE SKIN IRRITATION. SYMPTOMS MAY INCLUDE REDNESS AND BURNING OF SKIN AND OTHER SKIN DAMAGE.

INHALATION: BREATHING SMALL AMOUNTS OF THIS MATERIA DURING NORMAL HANDLING IS NOT LIKELY TO CAUSE HARMFUL EFFECTS. BREATHING LARGE AMOUNTS MAY BE HARMFUL.

INGESTION: SWALLOWING SMALL AMOUNTS OF THIS MATERIAL DURING NORMAL HANDLING IS NOT LIKELY TO CAUSE HARMFUL EFFECTS. SWALLOWING LARGE AMOUNTS MAY BE HARMFUL.

CHRONIC EFFECTS OF EXPOSURE: PROLONGED EXPOSURE MAY DAMAGE TOOTH ENAMEL.

4. FIRST AID MEASURES:

EYE CONTACT: FLUSH EYES GENTLY WITH WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS APART; SEEK IMMEDIATE MEDICAL ATTENTION.

SKIN CONTACT: REMOVE CONTAMINATED CLOTHING. WASH EXPOSED AREA WITH SOAP AND WATER. IF SYMPTOMS PERSISTS, SEEK MEDICAL ATTENTION. LAUNDRER CLOTHING BEFORE REUSE.

INHALATION: IF SYMPTOMS DEVELOP, MOVE INDIVIDUAL AWAY FROM EXPOSURE AND INTO FRESH AIR. IF SYMPTOMS PERSISTS, SEEK MEDICAL ATTENTION. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. KEEP PERSON WARM AND QUIET; SEEK IMMEDIATE MEDICAL ATTENTION.

INGESTION: SEEK MEDICAL ATTENTION. IF INDIVIDUAL IS DROWSY OR UNCONSCIOUS, DO NOT GIVE ANYTHING BY MOUTH; PLACE INDIVIDUAL ON THE LEFT SIDE WITH THE HEAD DOWN. CONTACT A PHYSICIAN, MEDICAL FACILITY, OR POISON CONTROL CENTER FOR ADVICE ABOUT WHETHER TO INDUCE VOMITING. IF POSSIBLE, DO NOT LEAVE INDIVIDUAL UNATTENDED.

5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): >100°C

FLAMMABLE LIMITS: NIF LEL UEL

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5. FIRE AND EXPLOSION HAZARD DATA (cont):

EXTINGUISHING MEDIA: WATER SPRAY, CARBON DIOXIDE (CO2), DRY CHEMICAL.

SPECIAL FIRE FIGHTING PROCEDURES: NO SPECIAL FIRE HAZARDS ARE KNOWN TO BE ASSOCIATED WITH THIS PRODUCT. WEAR FULL FIREFIGHTING TURN-OUT GEAR (FULL BUNKER GEAR), AND RESPIRATORY PROTECTION (SCBA).

UNUSUAL FIRE AND EXPLOSION HAZARDS: NIF

6. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: SHOVEL MATERIALS INTO CONTAINERS. THOROUGHLY SWEEP AREA OF SPILL TO CLEAN UP ANY RESIDUAL MATERIAL. SWEEP UP MATERIAL FOR DISPOSAL OR RECOVERY.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPITED. SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPOR, LIQUID, AND/OR SOLID), ALL HAZARD PRECAUTIONS GIVEN IN THE DATA SHEET MUST BE OBSERVED. STORE IN A COOL, DRY, VENTILATED AREA, AWAY FROM INCOMPATIBLE SUBSTANCE.

OTHER PRECAUTIONS: NIF

8. EXPOSURE CONTROL/PERSONAL PROTECTION:

RESPIRATORY PROTECTION (SPECIFY TYPE): IF NEEDED, USE A NIOSH-APPROVED DUST RESPIRATOR. (ASK YOUR SAFETY REPRESENTATIVE.)

VENTILATION: LOCAL EXHAUST: X MECHANICAL: OTHER:

PROTECTIVE GLOVES: CHEMICAL RESISTANT GLOVES.

EYE PROTECTION: GOGGLES OR SAFETY GLASSES.

OTHER PROTECTIVE EQUIPMENT: WEAR NORMAL WORK CLOTHING COVERING ARMS AND LEGS.

9. PHYSICAL DATA:

BOILING POINT: NA SPECIFIC GRAVITY (H2O = 1): pH .2.2@10 g/L

VAPOR PRESSURE (MM HG.): 0 MELTING POINT: 153°C AUTOIGNITION TEMP: 1010°C

9. PHYSICAL DATA (cont):

VAPOR DENSITY (AIR = 1): NO DATA

SOLUBILITY IN WATER: SOLUBLE APPEARANCE AND ODOR: ODORLESS WHITE CRYSTALLINE

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10. STABILITY AND REACTIVITY:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG ALKALIS

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: CARBON DIOXIDE AND CARBON MONOXIDE, HYDROCARBONS

HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X

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11. TOXICOLOGICAL INFORMATION:

LD50/LC50: LD50 MOUSE: 5040 MG/KG

REPRODUCTIVE TOXICITY: CITRIC ACID DID NOT CAUSE HARMFUL EFFECTS ON DEVELOPING FETUS WHEN GIVEN IN THE DIET OF LABORATORY ANIMALS, EVEN AT CONCENTRATIONS WHICH WERE HARMFUL TO THE PREGNANT ANIMALS.

IRRITANCY, SENSITIVITY: NIF

CARCINOGENICITY: NL NTP? IARC? OSHA?

POTENTIAL HEALTH EFFECTS:

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12. ECOLOGICAL INFORMATION: NIF

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13. DISPOSAL CONSIDERATIONS: DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

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14. TRANSPORTATION INFORMATION: NOT DANGEROUS GOODS

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15. REGULATORY INFORMATION:

CALIFORNIA PROPOSITION 65: THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH, OR ANY OTHER REPRODUCTIVE DEFECTS.

	HEALTH	FLAMMABILITY	REACTIVITY	OTHER
HMIS	1	1	0	
NFPA	1	1	0	

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16. OTHER INFORMATION: NONE

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