
MATERIAL SAFETY DATA SHEET

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

DATE PREPARED: 11/1/2012
REVISION: 6

1. IDENTIFICATION:

PRODUCT NAME: SPIFE LD - 20,40,60 SAMPLES

PRODUCT NO.: 3337,3336,3335

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

Table with 4 columns: PRODUCT NUMBER, PRODUCT IDENTIFICATION (LABEL NAME), CAS #, %, COMMENTS. Rows include SPIFE LD GEL KIT, CITRIC ACID DESTAIN, SPIFE LD GEL, LD REAGENT KIT, LD DILUENT, LD REAGENT, and L-LACTIC ACID LITHIUM.

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ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

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DATE PREPARED: 11/1/2012
REVISION: 4

1. IDENTIFICATION:

NAME: CITRIC ACID

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2. CHEMICAL COMPOSITION:

Table with 5 columns: CHEMICAL NAME/Common Name, CAS #, %, EXPOSURE LIMITS (OSHA PEL, 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

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.

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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.

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5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): >100°C

FLAMMABLE LIMITS: NIF LEL UEL

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

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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.

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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

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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.

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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

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

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1. IDENTIFICATION:

NAME: L-LACTIC ACID LITHIUM

CAS #: 27848-80-2

MOLECULAR FORMULA: C3H5LiO3

MOLECULAR WEIGHT: 96.0

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2. CHEMICAL COMPOSITION:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL, ACGIH TLV). Row 1: L-LACTIC ACID LITHIUM, 27848-80-2, 100%, 10 mg/m3, NIF.

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NA = Not Applicable

NE = Not Established

NL = Not Listed

NIF = No Information Found

3. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW:

MAY BE IRRITATING TO THE SKIN, EYES AND UPPER RESPIRATORY TRACT.
MAY BE HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

ACUTE EFFECT OF OVEREXPOSURE:

EYES: DIRECT CONTACT MAY CAUSE IRRITATION, REDNESS, TEARING AND
BLURRED VISION.

SKIN: THIS MATERIAL MAY CAUSE SKIN IRRITATION. REDDENING, ITCHING
AND INFLAMMATION MAY RESULT.
MAY BE ABSORBED THROUGH THE SKIN.

INHALATION: MAY CAUSE IRRITATION TO THE RESPIRATORY TRACT.
THIS MATERIAL MAY CAUSE INJURY OR ILLNESS IF INHALED.

INGESTION: IF INGESTED, THIS MATERIAL MAY CAUSE IRRITATION TO THE MOUTH,
THROAT AND GASTROINTESTINAL TRACT.
MAY BE HARMFUL IF SWALLOWED.

CHRONIC EFFECTS OF EXPOSURE:

4. FIRST AID MEASURES:

EYE CONTACT: FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER FOR AT LEAST
15 MINUTES. EYELIDS SHOULD BE HELD AWAY FROM THE EYEBALL TO ENSURE
THOROUGH RINSING.

SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15
MINUTES, WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. CONTAMINATED
CLOTHING MUST BE LAUNDERED BEFORE REUSE.

INHALATION: SAFELY REMOVE VICTIM TO FRESH AIR. IF NOT BREATHING,
INSTITUTE ARTIFICIAL/RESCUE BREATHING. IF BREATHING IS DIFFICULT, ENSURE
CLEAR AIRWAY AND GIVE OXYGEN.

INGESTION: IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS
CONSCIOUS. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): NA

FLAMMABLE LIMITS: NA LEL UEL

EXTINGUISHING MEDIA: USE A DRY CHEMICAL, ALCOHOL FOAM, ALL PURPOSE
FOAM OR CARBON DIOXIDE TO EXTINGUISH FIRE.

5. FIRE AND EXPLOSION HAZARD DATA (cont):

SPECIAL FIRE FIGHTING PROCEDURES: AS IN ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS PRESSURE-DEMAND, (MSHA/NIOSH) APPROVED OR EQUIVALENT) AND FULL PROTECTIVE GEAR. EVACUATE THE AREA AND FIGHT FIRE FROM A SAFE DISTANCE.

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

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6. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

VACUUM OR SWEEP UP MATERIAL AND PLACE IN A DISPOSAL CONTAINER. CLEAN UP SPILLS IMMEDIATELY UNDER QUALIFIED SUPERVISION OBSERVING PRECAUTIONS IN PROTECTIVE EQUIPMENT SECTION. AVOID CLEAN UP PROCEDURES THAT GENERATE DUST OR RESULT IN WATER POLLUTION.

AFTER REMOVAL, SCRUB THE CONTAMINATED AREA WITH DETERGENT AND FLUSH THOROUGHLY WITH WATER. ABSORB WASH LIQUID AND PLACE IN THE DISPOSABLE CONTAINER. DO NOT FLUSH TO SEWER. AVOID RUNOFF INTO STORM SEWERS AND DITCHES WHICH LEAD TO WATERWAYS.

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7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

DO NOT GET IN EYES, ON SKIN OR CLOTHING. MINIMIZE DUST GENERATION DURING HANDLING AND CONTACT. WASH HANDS THOROUGHLY BEFORE EATING, DRINKING OR SMOKING.

STORE IN REFRIGERATOR. HYGROSCOPIC. KEEP CONTAINERS TIGHTLY CLOSED AND UPRIGHT WHEN NOT IN USE.

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8. EXPOSURE CONTROL/PERSONAL PROTECTION:

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

VENTILATION: LOCAL EXHAUST: X MECHANICAL: OTHER:

PROTECTIVE GLOVES: CHEMICAL RESISTANT.

EYE PROTECTION: SAFETY GOGGLES.

OTHER PROTECTIVE EQUIPMENT: EYEWASH STATION AND SAFETY SHOWER.

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9. PHYSICAL DATA:

BOILING POINT: NO DATA SPECIFIC GRAVITY (H2O = 1): NO DATA
pH: NO DATA
VAPOR PRESSURE (MM HG.): NO DATA MELTING POINT: NO DATA
VAPOR DENSITY (AIR = 1): NO DATA
SOLUBILITY IN WATER: APPEARANCE AND ODOR: WHITE CRYSTALLINE POWDER

10. STABILITY AND REACTIVITY:

STABILITY: UNSTABLE: STABLE: X
INCOMPATIBILITY (MATERIALS TO AVOID): INCOMPATIBLE WITH STRONG OXIDIZING AGENTS.
HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: COMBUSTION MAY PRODUCE CO AND CO2.
HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X

11. TOXICOLOGICAL INFORMATION:

LD50/LC50: THE ORAL LD50 IN RATS IS = 2100 mg/kg.
ORAL LD50 - MOUSE = 2100 mg/kg. SUBCUTANEOUS LD50 - MOUSE = 1530 mg/kg.

REPRODUCTIVE TOXICITY:
IRRITANCY, SENSITIVITY:
CARCINOGENICITY: NOT LISTED NTP? IARC? OSHA?
POTENTIAL HEALTH EFFECTS: THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED.

12. ECOLOGICAL INFORMATION: NO DATA AVAILABLE.

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

14. TRANSPORTATION INFORMATION:

DOT:
PROPER SHIPPING NAME: NOT REGULATED
HAZARD CLASS: NA (SOLID)
PACKAGING GROUP: NA

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15. REGULATORY INFORMATION: THIS PRODUCT IS LISTED ON THE INVENTORY OF EXISTING CHEMICAL SUBSTANCES UNDER THE TOXIC SUBSTANCES CONTROL ACT (TSCA). TSCA SECTION 8 (b).

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16. OTHER INFORMATION:

NFPA HAZARD RATING:

HEALTH	FLAMMABILITY	REACTIVITY	SPECIAL HAZARDS
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