
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: 9/15/2010
REVISION:

1. IDENTIFICATION:

PRODUCT NAME: SPIFE CK - 20,40 SAMPLES

PRODUCT NO.:

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

Table with 5 columns: PRODUCT NUMBER, PRODUCT IDENTIFICATION (LABEL NAME), HAZARDOUS INGREDIENT, CAS #, %, COMMENTS. Rows include SPIFE CK GEL KIT, CITRIC ACID DESTAIN, SPIFE CK GEL, SPIFE CK REAGENT KIT, SPIFE CK REAGENT, SPIFE CK DILUENT, SPIFE CK ACTIVATOR, SPIFE CK CHROMOGEN, N.N-DIMETHYLFORMAMIDE, and TETRANITRO BLUE TETRAZOLIUM.

ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

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DATE PREPARED: 5/13/2009
REVISION: 3

1. IDENTIFICATION:

NAME: CITRIC ACID

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2. CHEMICAL COMPOSITION:

CHEMICAL NAME/COMMON NAME	CAS #	%	EXPOSURE LIMITS	
			OSHA PEL	ACGIH TLV
CITRIC ACID	77-92-9	100	NIF	NIF

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NA = Not Applicable
NL = Not Listed

NE = Not Established
NIF = No Information Found

3. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW

PRIMARY ROUTE(S) OF ENTRY:

INHALATION?

SKIN?

INGESTION?

EYES:

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:

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EYE CONTACT:

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. LAUNDER 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.

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:

LEL

UEL

5. FIRE AND EXPLOSION HAZARD DATA (cont):

WATER SPRAY, CARBON DIOXIDE (CO2), DRY CHEMICAL.

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).

NIF

6. SPILL OR LEAK PROCEDURES:

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:

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.

NIF

8. EXPOSURE CONTROL/PERSONAL PROTECTION:

IF NEEDED, USE A NIOSH-APPROVED DUST RESPIRATOR. (ASK YOUR SAFETY REPRESENTATIVE.)

X

CHEMICAL RESISTANT GLOVES.

GOGGLES OR SAFETY GLASSES.

OTHER PROTECTIVE EQUIPMENT:

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BOILING POINT:

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:

APPEARANCE AND ODOR:

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STABILITY: UNSTABLE: STABLE:

INCOMPATIBILITY (MATERIALS TO AVOID):

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS:

HAZARDOUS POLYMERIZATION:

MAY OCCUR:

WILL NOT OCCUR:

=====

LD50/LC50:

REPRODUCTIVE TOXICITY:

IRRITANCY, SENSITIVITY:

CARCINOGENICITY:

NTP?

IARC?

OSHA?

POTENTIAL HEALTH EFFECTS:

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NIF

=====

DISPOSE OF IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

14. TRANSPORTATION INFORMATION:

15. REGULATORY INFORMATION:

CALIFORNIA PROPOSITION 65:

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

16. OTHER INFORMATION:

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9/10/2010
3

1. IDENTIFICATION:

N,N-DIMETHYLFORMAMIDE

68-12-2

C3H7NO
73.09

2. CHEMICAL COMPOSITION:

N,N-DIMETHYLFORMAMIDE	68-12-2	100	30 MG/M3	10 PPM
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NA = Not Applicable
NL = Not Listed

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3. HAZARD IDENTIFICATION:

FLAMMABLE LIQUID AND VAPOR. HARMFUL IF ABSORBED THROUGH SKIN OR IF INHALED.

PRIMARY ROUTE(S) OF ENTRY:

X X X

ACUTE EFFECT OF OVEREXPOSURE:

IRRITATING TO EYES. LACHRYMATOR (SUBSTANCE WHICH INCREASES THE FLOW OF TEARS.)

HARMFUL IN CONTACT WITH SKIN. IRRITATING TO SKIN.

HARMFUL BY INHALATION. MAY CAUSE METHEMOGLOBINEMIA. INHALATION MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE IRRITATION OF RESPIRATORY TRACT.

MAY BE HARMFUL IF SWALLOWED. MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE ADVERSE LIVER EFFECTS. MAY CAUSE ADVERSE KIDNEY EFFECTS. INGESTION MAY CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING AND DIARRHEA.

MAY CAUSE HARM TO THE UNBORN CHILD. EXPERIMENTS HAVE SHOWN REPRODUCTIVE TOXICITY EFFECTS ON LABORATORY ANIMALS. MAY CAUSE ADVERSE LIVER EFFECTS. MAY CAUSE ADVERSE KIDNEY EFFECTS.

4. FIRST AID MEASURES

RINSE IMMEDIATELY WITH PLENTY OF WATER, ALSO UNDER THE EYELIDS, FOR AT LEAST 15 MINUTES. IMMEDIATE MEDICAL ATTENTION IS REQUIRED.

WASH OFF IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. IMMEDIATE MEDICAL ATTENTION IS REQUIRED.

MOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, GIVE OXYGEN. DO NOT USE MOUTH-TO-MOUTH RESUCITATION IF VICTIM INGESTED OR INHALED THE SUBSTANCE; INDUCE ARTIFICIAL RESPIRATION WITH A RESPIRATORY MEDICAL DEVICE. IMMEDIATE MEDICAL ATTENTION IS REQUIRED.

DO NOT INDUCE VOMITING. CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY.

5. FIRE AND EXPLOSION HAZARD DATA:

58°C/136.4°F

2.2%

15.2%

5. FIRE AND EXPLOSION HAZARD DATA (cont):

USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY CHEMICAL OR CARBON DIOXIDE. COOL CLOSED CONTAINERS EXPOSED TO FIRE WITH WATER SPRAY.

AS IN ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS PRESSURE-DEMAND, MSHA/NIOSH (APPROVED OR EQUIVALENT) AND FULL PROTECTIVE GEAR. THERMAL DECOMPOSTION CAN LEAD TO RELEASE OF IRRITATING GASES OR VAPORS.

FLAMMABLE. RISK OF IGNITION. CONTAINERS MAY EXPLODE WHEN HEATED. VAPORS MAY FORM EXPLOSIVE MIXTURES WITH AIR. VAPORS MAY TRAVEL TO SOURCE OF IGNITION AND FLASH BACK.

6. SPILL OR LEAK PROCEDURES:

ENSURE ADEQUATE VENTIALTION. USE PROTECTIVE EQUIPMENT. KEEP PEOPLE AWAY FROM AND UPWIND OF SPILL/LEAK. EVACUATE PERSONNEL TO SAFE AREAS. REMOVE ALL SOURCES OF IGNITION. TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.

SHOULD NOT BE RELEASED INTO THE ENVIRONMENT.

SOAK UP WITH INERT ABSORBENT MATERIAL. KEEP IN SUITABLE AND CLOSED CONTAINERS FOR DISPOSAL. REMOVE ALL SOURCES OF IGNITION. USE SPARK-PROOF TOOLS AND EXPLOSION-PROOF EQUIPMENT.

7. HANDLING AND STORAGE:

USE ONLY UNDER A CHEMICAL FUME HOOD. WEAR PERSONAL PROTECTIVE EQUIPMENT. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. DO NOT BREATHE VAPORS OR SPRAY MIST. KEEP AWAY FROM OPEN FLAMES, HOT SURFACES AND SOURCES OF IGNITION. USE ONLY NON-SPARKING TOOLS. USE EXPLOSION-PROOF EQUIPMENT. TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.

KEEP CONTAINERS TIGHTLY CLOSED IN A DRY, COOL AND WELL-VENTILATED PLACE. KEEP AWAY FROM HEAT AND SOURCES OF IGNITION. FLAMMABLE AREAS.

8. EXPOSURE CONTROL/PERSONAL PROTECTION:

NIOSH/MSHA-APPROVED

WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT SKIN EXPOSURE.

WEAR APPROPRIATE PROTECTIVE EYEGLASSES OR CHEMICAL SAFETY GOGGLES.

9. PHYSICAL DATA:

153°C 0.945

6-8. 20% aq.sol.

4.9 mbar @20°C -61°C

2.5

SOLUBLE COLORLESS

LIQUID WITH ROTTEN-EGG LIKE ODOR

10. STABILITY AND REACTIVITY:

X

STRONG OXIDIZING AGENTS,

HALOGENS, HALOGENATED COMPOUNDS.

CARBON MONOXIDE (CO), CARBON

DIOXIDE (CO₂), NITROGEN OXIDES (NO_x).

X

11. TOXICOLOGICAL INFORMATION:

9400 mg/m³/24 (MOUSE)

3421 ppm/h (RAT)

EXPERIMENTS HAVE SHOWN REPRODUCTIVE TOXICITY EFFECTS ON LABORATORY ANIMALS.

IRRITATING TO EYES AND SKIN.

11. TOXICOLOGICAL INFORMATION (cont):

NO

MAY CAUSE METHEMOGLOBINEMIA. IRRITATING TO EYES AND SKIN. LACHRYMATOR (SUBSTANCE WHICH INCREASES THE FLOW OF TEARS). MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS. MAY CAUSE ADVERSE LIVER

EFFECTS. MAY CAUSE ADVERSE KIDNEY EFFECTS. MAY CAUSE HARM TO THE UNBORN CHILD.

12. ECOLOGICAL INFORMATION:

13. DISPOSAL CONSIDERATIONS:

14. TRANSPORTATION INFORMATION:

DOT

UN2265
N,N-DIMETHYLFORMAMIDE
3
III

15. REGULATORY INFORMATION:

SARA 313: THRESHOLD VALUE % -1.0

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16. OTHER INFORMATION:

HAZARD RATINGS:

NFPA: HEALTH = 2 FLAMMABILITY = 2 INSTABILITY = 0
PHYSICAL HAZARDS = NA

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DATE PREPARED: 9/10/2010
REVISION: 3

1. IDENTIFICATION:

NAME: TETRANITRO BLUE TETRAZOLIUM

CAS #: 1184-43-6

MOLECULAR FORMULA: C4OH28CL2N12O10

MOLECULAR WEIGHT: 907.60

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2. CHEMICAL COMPOSITION:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL, ACGIH TLV). Row 1: TNBT, 1184-43-6, 100, NIF, NIF.

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NA = Not Applicable
NL = Not Listed

NE = Not Established
NIF = No Information Found

3. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW: NO KNOWN OSHA HAZARDS.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION?

SKIN?

INGESTION?

ACUTE EFFECT OF OVEREXPOSURE:

EYES: MAY CAUSE EYE IRRITATION.

SKIN: MAY CAUSE SKIN IRRITATION.

INHALATION: MAY BE HARMFUL IF INHALED.

INGESTION: MAY BE HARMFUL IF SWALLOWED.

CHRONIC EFFECTS OF EXPOSURE:

4. FIRST AID MEASURES:

EYE CONTACT: FLUSH EYES WITH WATER AS A PRECAUTION.

SKIN CONTACT: WASH OFF WITH SOAP AND PLENTY OF WATER.

INHALATION: IF BREATHED IN. MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION.

INGESTION: NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER.

5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): NA

FLAMMABLE LIMITS: NA LEL UEL

EXTINGUISHING MEDIA: CO2, EXTINGUISHING POWDER OR WATER SPRAY. FIGHT LARGER FIRES WITH WATER SPRAY OR ALCOHOL RESISTANT-FOAM.

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:

WEAR PROTECTIVE CLOTHING.

DO NOT ALLOW TO ENTER SEWERS/SURFACE OR GROUND WATER.

PICKUP AND ARRANGE DISPOSAL WITHOUT CREATING DUST. SWEEP UP AND SHOVEL. KEEP IN SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

PREVENT FORMATION OF DUST.

KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE.

8. EXPOSURE CONTROL/PERSONAL PROTECTION:

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

VENTILATION: LOCAL EXHAUST: MECHANICAL: X
OTHER:

PROTECTIVE GLOVES: CHEMICAL RESISTANT GLOVES.

EYE PROTECTION: SAFETY GLASSES OR GOGGLES.

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWER AND EYE BATH.

9. PHYSICAL DATA:

BOILING POINT: NO DATA AVAILABLE SPECIFIC GRAVITY (H2O = 1): NIF
pH: NIF

VAPOR PRESSURE (MM HG.): NO DATA AVAILABLE MELTING POINT: >160°C
NO DATA AVAILABLE

VAPOR DENSITY (AIR = 1): NO DATA AVAILABLE

SOLUBILITY IN WATER: NIF APPEARANCE AND ODOR: YELLOW
ODORLESS POWDER

10. STABILITY AND REACTIVITY:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): NO DATA AVAILABLE

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: HAZARDOUS DECOMPOSITION
PRODUCTS UNDER FIRE CONDITIONS. CARBON OXIDES, NITROGEN OXIDES (NOx),
HYDROGEN CHLORIDE GAS.

HAZARDOUS POLYMERIZATION:
MAY OCCUR: WILL NOT OCCUR: X

11. TOXICOLOGICAL INFORMATION:

LD50/LC50:

MSDS: TETRANITRO BLUE TETRAZOLIUM
REPRODUCTIVE TOXICITY: NO DATA AVAILABLE

IRRITANCY, SENSITIVITY: NO DATA AVAILABLE

CARCINOGENICITY: NO DATA AVAILABLE NTP? NO IARC? NO OSHA? NO

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

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12. ECOLOGICAL INFORMATION: NO DATA AVAILABLE.

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

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14. TRANSPORTATION INFORMATION:
DOT (US)
NOT DANGEROUS GOODS

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15. REGULATORY INFORMATION: NO KNOWN OSHA OR SARA HAZARDS.

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16. OTHER INFORMATION:
NFPA RATINGS:
HEALTH = 0 FLAMMABILITY = 0 REACTIVITY = 0

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