
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: 12/5/2005
 REVISION: 3

1. IDENTIFICATION:

PRODUCT NAME: **SPIFE CK - 20,40 SAMPLES**

PRODUCT NO.: **3332,3333**

=====

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

<u>PRODUCT NUMBER</u>	<u>PRODUCT IDENTIFICATION (LABEL NAME)</u>	<u>COMMENTS</u>
552015	SPIFE CK GEL KIT	
551959	CITRIC ACID DESTAIN	
	HAZARDOUS INGREDIENT	
	CITRIC ACID	MSDS ATTACHED
	CAS #	%
	77-92-9	100%
552014	SPIFE CK GEL	NON-HAZARDOUS
552028	SPIFE CK REAGENT KIT	
552021	SPIFE CK REAGENT	NON-HAZARDOUS
552024	SPIFE CK DILUENT	NON-HAZARDOUS
552025	SPIFE CK ACTIVATOR	NON-HAZARDOUS
552026	SPIFE CK CHROMOGEN	
	HAZARDOUS INGREDIENT	
	N.N-DIMETHYLFORMAMIDE	MSDS ATTACHED
	TETRANITRO BLUE TETRAZOLIUM	MSDS ATTACHED
	CAS #	%
	68-12-2	98%
	42798-98-1	< 3

=====

ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

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

DATE PREPARED: 11/22/2005
REVISION: 2

1. IDENTIFICATION:

NAME: CITRIC ACID

77-92-9

=====

2. HAZARDOUS INGREDIENTS:

CHEMICAL NAME/COMMON NAME CAS #	%	EXPOSURE LIMITS	
		OSHA PEL	ACGIH TLV
CITRIC ACID 77-92-9	100	5000 mg/m ³	5000 mg/m ³

=====

3. PHYSICAL DATA:

BOILING POINT: NIF SPECIFIC GRAVITY (H2O = 1): NE

VAPOR PRESSURE (MM HG.): NA MELTING POINT: 155-157°C

VAPOR DENSITY (AIR = 1): NA APPEARANCE AND ODOR: ODORLESS WHITE
CRYSTALS

SOLUBILITY IN WATER: 50%

=====

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

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION?

CARCINOGENICITY: NTP? NE IARC? NE

ACUTE EFFECTS OF OVEREXPOSURE:

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

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

INHALATION: MAY IRRITATE THE NOSE AND THROAT.

INGESTION: NONE CURRENTLY KNOWN.

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

TOXICITY DATA: ORAL RAT, LD50=11,700 MG/KG

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE

EMERGENCY AND FIRST AID PROCEDURES:

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION.

IN CASE OF SKIN CONTACT: IMMEDIATELY WASH SKIN WITH LOTS OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION PERSISTS AFTER WASHING.

IF SWALLOWED: TREATMENT NOT NORMALLY REQUIRED.

NOTES TO PHYSICIAN: NONE.

=====

5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): NONE

FLAMMABLE LIMITS: NA LEL NA UEL NA

EXTINGUISHING MEDIA: WATER, DRY CHEMICALS, CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES: NONE

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG ALKALIES

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: TOXIC FUMES UNDER FIRE.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

=====

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CLEAN BY VACUUM OR BROOM SWEEPING AND REMOVE TO DISPOSAL CONTAINER.

WASTE DISPOSAL METHODS: COVER WITH SODA ASH OR SODIUM BICARBONATE TO NEUTRALIZE. MIX AND ADD WATER IF NECESSARY. SCOOP UP SLURRY AND DISPOSE IN ACCORDANCE WITH EXISTING FEDERAL, STATE AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS.

=====

8. SPECIAL PROTECTION INFORMATION:

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE

VENTILATION: LOCAL EXHAUST: X MECHANICAL: OTHER:

PROTECTIVE GLOVES: CHEMICAL RESISTANT

EYE PROTECTION: CHEMICAL GOGGLES

OTHER PROTECTIVE EQUIPMENT: LAB COAT

=====

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN A COOL DRY PLACE.

OTHER PRECAUTIONS: NA

=====

10. OTHER INFORMATION:

NA

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

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: 12/5/2005
REVISION: 2

1. IDENTIFICATION:

NAME: N,N-DIMETHYLFORMAMIDE

CAS #: 68-12-2

MOLECULAR FORMULA: C3H7NO

MOLECULAR WEIGHT: 73.05

=====

2. HAZARDOUS INGREDIENTS:

Table with 4 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL, ACGIH TLV). Row 1: N,N-DIMETHYLFORMAMIDE, 100, 30 MG/M3, 10 PPM.

3. PHYSICAL DATA:

BOILING POINT: 153°C SPECIFIC GRAVITY (H2O = 1): 0.9450

VAPOR PRESSURE: 4.9 mbar @20°C MELTING POINT: 61°C

VAPOR DENSITY (AIR = 1): 2.5 APPEARANCE AND ODOR: CLEAR, COLORLESS LIQUID. FAINT AMINE ODOR

SOLUBILITY IN WATER: SOLUBLE

=====

NA = Not Applicable
NL = Not Listed

NE = Not Established
NIF = No Information Found

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

CARCINOGENICITY: NTP? IARC? GROUP 3 (NOT HUMAN)

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: CAUSES EYE IRRITATION.

SKIN: CAUSES SKIN IRRITATION.

INHALATION: CAUSES RESPIRATORY TRACT IRRITATION.

INGESTION: MAY CAUSE GASTROINTESTINAL IRRITATION WITH NAUSEA, VOMITING AND DIARRHEA. MAY CAUSE KIDNEY DAMAGE. MAY CAUSE LIVER DAMAGE.

CHRONIC POSSIBLE CANCER HAZARD BASED ON TESTS WITH LABORATORY ANIMALS. PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE DERMATITIS. MAY CAUSE REPRODUCTIVE AND FETAL EFFECTS.

TOXICITY DATA:

RTECS#:

CAS# 68-12-2: LQ2100000

LD50/LC50:

CAS# 68-12-2:

INHALATION, MOUSE: LC50 = 9400 MG/M3/2H;

ORAL, MOUSE: LD50 = 2900 MG/KG;

ORAL, RABBIT: LD50 = 5 GM/KG;

ORAL, RAT: LD50 = 2800 MG/KG;

SKIN, RABBIT: LD50 = 4720 MG/KG;

CARCINOGENICITY:

CAS# 68-12-2

ACGIH: A4 - NOT CLASSIFIABLE AS A HUMAN CARCINOGEN

IARC: GROUP 3 CARCINOGEN

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE LISTED

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE UPPER AND LOWER EYELIDS. GET MEDICAL AID.

SKIN CONTACT: GET MEDICAL AID. FLUSH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE REUSE.

4. HEALTH HAZARD DATA (CONT):

INHALATION: REMOVE FROM EXPOSURE TO FRESH AIR IMMEDIATELY. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET MEDICAL AID. DO NOT USE MOUTH-TO-MOUTH RESUSCITATION. IF BREATHING HAS CEASED APPLY ARTIFICIAL RESPIRATION USING OXYGEN AND A SUITABLE MECHANICAL DEVICE SUCH AS A BAG AND A MASK.

INGESTION: NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL AID. INDUCE VOMITING BY GIVING ONE TEASPOON SYRUP OF IPECAC.

=====
5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): 57°C (134.60°F)

FLAMMABLE LIMITS: LEL 2.2 UEL 15.2

EXTINGUISHING MEDIA: USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS. USE AGENT MOST APPROPRIATE TO EXTINGUISH FIRE. USE WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE, OR APPROPRIATE FOAM.

SPECIAL FIRE FIGHTING PROCEDURES: WEAR A SELF-CONTAINED BREATHING APPARATUS IN PRESSURE-DEMAND, MSHA/NIOSH (APPROVED OR EQUIVALENT), AND FULL PROTECTIVE GEAR. DURING A FIRE, IRRITATING AND HIGHLY TOXIC GASES MAY BE GENERATED BY THERMAL DECOMPOSITION OR COMBUSTION. WILL BURN IF INVOLVED IN A FIRE. USE WATER SPRAY TO KEEP FIRE-EXPOSED CONTAINERS COOL. COMBUSTIBLE LIQUID. VAPORS MAY BE HEAVIER THAN AIR. THEY CAN SPREAD ALONG THE GROUND AND COLLECT IN LOW OR CONFINED AREAS. CONTAINERS MAY EXPLODE WHEN HEATED.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NIF

=====
6. REACTIVITY DATA:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): CARBONTETRACHLORIDE, VIOLENT REACTION WITH HALOGENS, IRON, OXIDIZING MATERIALS, CHLORINATED HYDROCARBONS, ISOCYANATES, NITRATES, ORGANIC MATERIALS, PHENOLS, AMMONIA, ANHYDRIDES.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: CARBON MONOXIDE, OXIDES OF NITROGEN, IRRITATING AND TOXIC FUMES AND GASES, CARBON DIOXIDE.

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

=====

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: ABSORB SPILL WITH INERT MATERIAL (E.G. VERMICULITE, SAND OR EARTH), THEN PLACE IN SUITABLE CONTAINER. DO NOT FLUSH INTO A SEWER. CLEAN UP SPILLS IMMEDIATELY, OBSERVING PRECAUTIONS IN THE PROTECTIVE EQUIPMENT

SECTION. SCOOP UP WITH A NONSPARKING TOOL, THEN PLACE INTO A SUITABLE CONTAINER FOR DISPOSAL. REMOVE ALL SOURCES OF IGNITION. PROVIDE VENTILATION.

WASTE DISPOSAL METHODS: OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

8. SPECIAL PROTECTION INFORMATION:

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

VENTILATION: LOCAL EXHAUST: MECHANICAL: X
OTHER:

PROTECTIVE GLOVES: WEAR APPROPRIATE PROTECTIVE GLOVES TO PREVENT SKIN EXPOSURE.

EYE PROTECTION: WEAR APPROPRIATE PROTECTIVE EYEGLASSES OR CHEMICAL SAFETY GOGGLES AS DESCRIBED BY OSHA'S EYE AND FACE PROTECTION REGULATIONS IN 29 CFR 1910.133

OTHER PROTECTIVE EQUIPMENT: NONE

9. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: WASH THOROUGHLY AFTER HANDLING. USE SPARK-PROOF TOOLS AND EXPLOSION PROOF EQUIPMENT. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. DO NOT BREATHE DUST, VAPOR, MIST, OR GAS. EMPTY CONTAINERS RETAIN PRODUCT RESIDUE, (LIQUID AND/OR VAPOR), AND CAN BE DANGEROUS. KEEP CONTAINER TIGHTLY CLOSED. AVOID CONTACT WITH HEAT, SPARKS AND FLAME. AVOID INGESTION AND INHALATION. DO NOT INGEST OR INHALE. USE WITH ADEQUATE VENTILATION. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE EMPTY CONTAINERS TO HEAT, SPARKS OR OPEN FLAMES.

SOTRAGE: KEEP AWAY FROM HEAT, SPARKS, AND FLAME. KEEP AWAY FROM SOURCES OF IGNITION. STORE IN A TIGHTLY CLOSED CONTAINER. STORE IN A COOL, DRY, WELL-VENTILATED AREA AWAY FROM INCOMPATIBLE SUBSTANCES.

OTHER PRECAUTIONS: NONE

10. OTHER INFORMATION: NIF

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

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: 12/5/2005
REVISION: 2

1. IDENTIFICATION:

NAME: TETRANITRO BLUE TETRAZOLIUM
CAS #: 42798-98-1

MOLECULAR FORMULA: C4OH28CL2N12O10

=====

2. HAZARDOUS INGREDIENTS:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL, ACGIH TLV). Row 1: TNBT, 42798-98-1, 100, NL, NL.

3. PHYSICAL DATA:

BOILING POINT: NIF SPECIFIC GRAVITY (H2O = 1): NL
VAPOR PRESSURE (MM HG.): NIF MELTING POINT: 165°C
VAPOR DENSITY (AIR = 1): NL APPEARANCE AND ODOR: SOLID
SOLUBILITY IN WATER: NL

=====

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

4. HEALTH HAZARD DATA:

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

CARCINOGENICITY: NTP? NL IARC? NL

LIMITED EVIDENCE OF CARCINOGENIC EFFECT

ACUTE EFFECTS OF OVEREXPOSURE:

EYES: CAUSES EYE IRRITATION.

SKIN: CAUSES SKIN IRRITATION.

INHALATION: HARMFUL IF INHALED

INGESTION: HARMFUL IF SWALLOWED

CHRONIC EFFECTS OF EXPOSURE: LABORATORY EXPERIMENTS HAVE SHOWN MUTAGENIC EFFECTS.

TOXICITY DATA: TOXIC

TARGET ORGAN(S): EYES
KIDNEYS
LIVER
CENTRAL NERVOUS SYSTEM

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NONE

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT: IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR 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.

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

=====

5. FIRE AND EXPLOSION HAZARD:

FLASHPOINT (METHOD USE): NIF

FLAMMABLE LIMITS: NIF LEL UEL

5. FIRE AND EXPLOSION HAZARD (CONT):

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

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZING AGENTS SENSITIVE TO LIGHT.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: TOXIC FUMES OF: CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES, HYDROGEN CHLORIDE GAS

HAZARDOUS POLYMERIZATION:

MAY OCCUR: WILL NOT OCCUR: X

7. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.

WASTE DISPOSAL METHODS: OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

8. SPECIAL PROTECTION INFORMATION:

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. SPECIAL PRECAUTIONS:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE COOL DRY PLACE

OTHER PRECAUTIONS: CONTAINS METHANOL. MAY BE FATAL OR CAUSE
BLINDNESS IF SWALLOWED. CANNOT BE MADE NONPOISONOUS.

=====

10. OTHER INFORMATION: NONE

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