
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: 4/5/2010
REVISION: 4

1. IDENTIFICATION:

PRODUCT NAME: TITAN GEL IFE LIGHT CHAIN ANTISERA KIT

PRODUCT NO: 3069

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

Table with 3 columns: PRODUCT NUMBER, PRODUCT IDENTIFICATION (LABEL NAME), COMMENTS. Rows include 500421 TITAN GEL KAPPA CHAIN, 500422 TITAN GEL LAMBDA CHAIN, 500647 TITAN GEL IFE PROTEIN FIXATIVE, and hazardous ingredients: ACETIC ACID, GLACIAL and 5-SULFOSALICYLIC ACID.

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ATTACHED IS THE MSDS FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

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DATE PREPARED: 3/22/2010
REVISION: 6

1. IDENTIFICATION:

NAME: ACETIC ACID, GLACIAL

MOLECULAR FORMULA: C2H4O2
MOLECULAR WEIGHT: 60.05

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2. CHEMICAL COMPOSITION:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL, 25 mg/m3), and LIMITS (ACGIH TLV, 10 ppm, 15 ppm). Row 1: ACETIC ACID, GLACIAL, 64-19-7, 90-100.

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

3. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW: DANGER-POISON, CORROSIVE FLAMMABLE LIQUID AND VAPOR.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

ACUTE EFFECT OF OVEREXPOSURE:

EYES: CAUSES EYE BURN. CORROSIVE TO THE EYES AND MAY CAUSE SEVERE DAMAGE INCLUDING BLINDNESS. VAPORS MAY ALSO PRODUCE EYE IRRITATION. AVOID CONTACT WITH EYES.

SKIN: HARMFUL IF CONTACT WITH SKIN. CAUSES SEVERE SKIN BURNS. AVOID CONTACT WITH SKIN.

INHALATION: HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. MAY CAUSE BURNS. DIFFICULTY IN BREATHING. DO NOT BREATHE DUST/FUME/GAS/MIST/VAPORS/SPRAY. PROLONGED INHALATION MAY BE HARMFUL

INGESTION: MAY BE FATAL IF SWALLOWED. INGESTION CAUSES BURNS OF THE UPPER DIGESTIVE AND RESPIRATORY TRACTS. INGESTION MAY CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITING AND DISRRHEA. DO NOT INGEST.

CHRONIC EFFECTS OF EXPOSURE: NOT AVAILABLE

4. FIRST AID MEASURES:

EYE CONTACT: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER. GET MEDICAL ATTENTION IMMEDIATELY. WASH CLOTHING SEPARATELY BEFORE RESUE. TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.

INHALATION: IF BREATHING IS DIFFICULT, REMOVE TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING. CALL A PHYSICIAN IF SYMPTOMS DEVELOP OR PERSIST.

INGESTION: IF SWALLOWED, IMMEDIATELY CALL A POISON CENTER OR DOCTOR/PHYSICIAN. DO NOT INDUCE VOMITING WITHOUT ADVICE FROM POISON CONTROL CENTER. NEVER GIVE ANYTHING BY MOUTH TO A VICTIM WHO IS UNCONSCIOUS OR IS HAVING CONVULSIONS. DO NOT USE MOUTH-TO-MOUTH METHOD IF VICTIM INGESTED THE SUBSTANCE. INDUCE ARTIFICIAL RESPIRATION WITH THE AID OF A POCKET MASK EQUIPPED WITH A ONE-WAY VALVE OR OTHER PROPER RESPIRATORY MEDICAL DEVICE. RINSE MOUTH THOROUGHLY. IF VOMITING OCCURS, KEEP HEAD LOW SO THAT STOMACH CONTENT DOESN'T GET INTO THE LUNGS.

5. FIRE AND EXPLOSION HAZARD DATA:

MSDS: ACETIC ACID, GLACIAL
FLASH POINT (METHOD USED): 39.4°C

FLAMMABLE LIMITS: LEL 4°C UEL 16°C

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

SPECIAL FIRE FIGHTING PROCEDURES: WEAR FULL PROTECTIVE CLOTHING, INCLUDING HELMET, SELF-CONTAINED POSITIVE PRESSURE OR PRESSURE DEMAND BREATHING APPARATUS, PROTECTIVE CLOTHING AND FACE MASK. IN THE EVENT OF FIRE AND/OR EXPLOSION DO NOT BREATHE FUMES. IN THE EVENT OF FIRE, COOL TANKS WITH WATER SPRAY. USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

UNUSUAL FIRE AND EXPLOSION HAZARDS: DO NOT USE A SOLID WATER STREAM AS IT MAY SCATTER AND SPREAD FIRE.

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6. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: ENSURE ADEQUATE VENTILATION. KEEP UNNECESSARY PERSONNEL AWAY. KEEP OUT OF LOW AREAS. VENTILATE CLOSED SPACES BEFORE ENTERING THEM. AVOID INHALATION OF VAPOR, FUMES, DUST AND/OR MIST FROM THE SPILLED MATERIAL. DO NOT TOUCH DAMAGED CONTAINERS OR SPILLED MATERIALS UNLESS WEARING APPROPRIATE PROTECTIVE CLOTHING. WEAR APPROPRIATE PROTECTIVE EQUIPMENT AND CLOTHING DURING CLEAN-UP. DO NOT CONTAMINATE WATER. ELIMINATE ALL IGNITION SOURCES (NO SMOKING, FLARES, SPARKS OR FLAMES IN IMMEDIATE AREA). STOP THE FLOW OF MATERIAL, IF THIS IS WITHOUT RISK. DIKE THE SPILLED MATERIAL WHERE THIS IS POSSIBLE. USE WATER SPRAY TO REDUCE VAPORS OR DIVERT VAPOR CLOUD DRIFT. PREVENT ENTRY INTO WATERWAYS, SEWER, BASEMENTS OR CONFINED AREAS.

LARGE SPILLS: DIKE FAR AHEAD OF SPILL FOR LATER DISPOSAL. USE A NON-COMBUSTIBLE MATERIAL LIKE VERMICULITE, SAND OR EARTH TO SOAL UP THE PRODUCT AND PLACE INTO A CONTAINER FOR LATER DISPOSAL.

SMALL SPILLS: WIPE UP WITH ABSORBENT MATERIAL (EXAMPLE: CLOTH, FLEECE).

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7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: USE ONLY IN AREA PROVIDED WITH APPROPRIATE EXHAUST VENTILATION. WASH THOROUGHLY AFTER HANDLING. DO NOT HANDLE, STORE OR OPEN NEAR AN OPEN FLAME, SOURCES OF HEAT OR SOURCES OF IGNITION. PROTECT MATERIAL FROM DIRECT SUNLIGHT. STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME.

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8. EXPOSURE CONTROL/PERSONAL PROTECTION:

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

VENTILATION: LOCAL EXHAUST: X MECHANICAL:
OTHER:

PROTECTIVE GLOVES: CHEMICAL RESISTANT GLOVES

EYE PROTECTION: SAFETY GOGGLES, FACE SHIELD

OTHER PROTECTIVE EQUIPMENT: SAFETY SHOWER AND EYE BATH.

9. PHYSICAL DATA:

BOILING POINT: 118°C SPECIFIC GRAVITY (H2O = 1): NIF
pH: 2.4 (1.0 M SOLUTION)
VAPOR PRESSURE (MM HG.): 2.0931 MELTING POINT: 16.6°C
VAPOR DENSITY (AIR = 1): 21
SOLUBILITY IN WATER: MISCIBLE APPEARANCE AND ODOR: COLORLESS
CLEAR LIQUID WITH STRON ODOR

10. STABILITY AND REACTIVITY:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZING AGENTS,
PEROXIDES, ACIDS, CAUSTICS, GLYCOL. MAY BE CORROSIVE TO METALS.

CONDITIONS TO AVOID: HEAT, FLAMES AND SPARKS. HIGH TEMPERATURES,
FREEZING.

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS:

HAZARDOUS POLYMERIZATION:
MAY OCCUR: WILL NOT OCCUR: X

11. TOXICOLOGICAL INFORMATION:

LD50/LC50: ACUTE INHALATION LC50 MOUSE: 5000 MG/L 1.00 HOURS
ACUTE ORAL LD50 RAT: 3530 MG/KG

REPRODUCTIVE TOXICITY: NOT AVAILABLE

IRRITANCY, SENSITIVITY: NOT AVAILABLE

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

POTENTIAL HEALTH EFFECTS: CORROSIVE. CAUSES SEVERE SKIN AND EYE BURNS.

12. ECOLOGICAL INFORMATION: HARMFUL TO AQUATIC ORGANISMS.

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

14. TRANSPORTATION INFORMATION:

UN#: UN2789

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REVISION: 4

1. IDENTIFICATION:

NAME: 5-SULFOSALICYLIC ACID

MOLECULAR FORMULA: HOC6H3(COOH)SO3H.2H2O
MOLECULAR WEIGHT: 254.222

2. CHEMICAL COMPOSITION:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL, NIF), and LIMITS (ACGIH TLV, NIF). Row 1: 5-SULFOSALICYLIC ACID, 5965-8-3, 99, NIF, NIF.

NA = Not Applicable
NL = Not Listed

NE = Not Established
NIF = No Information Found

3. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW: HARMFUL! HARMFUL IF SWALLOWED. IRRITATING TO SKIN, EYES AND RESPIRATORY TRACT.

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

ACUTE EFFECT OF OVEREXPOSURE:

EYES: MAY CAUSE EYE IRRITATION AND POSSIBLE BURNS.

SKIN: EXPOSURE MAY CAUSE IRRITATION AND POSSIBLE BURNS.

INHALATION: MAY CAUSE SEVERE GASTROINTESTINAL TRACT IRRITATION WITH NAUSEA, VOMITING AND POSSIBLE BURNS.

INGESTION: MAY CAUSE SEVERE IRRITATION OF THE UPPER RESPIRATORY TRACT WITH PAIN, BURNS, AND INFLAMMATION.

CHRONIC EFFECTS OF EXPOSURE: NIF

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4. FIRST AID MEASURES:

EYE CONTACT: REMOVE CONTACT LENSES IF WORN. HOLD EYELIDS OPEN AND FLUSH WITH A STEADY, GENTLE STREAM OF WATER FOR AT LEAST 15 MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS OR IF VISUAL CHANGES OCCUR.

SKIN CONTACT: IMMEDIATELY WASH WITH PLENTY OF SOAP AND WATER FOR AT LEAST 5 MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVLOPS OR PERSISTS. REMOVE CONTAMINATED CLOTHING AND SHOES. CLEAN CONTAMINATED CLOTHING AND SHOES BEFORE REUSE.

INGESTION: IF VICTIM IS CONSCIOUS AND ALERT, GIVE 2-4 GLASSES OF MILK OR WATER TO DRINK. NEVER INDUCE VOMITING OR GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. SEEK IMMEDIATE MEDICAL ATTENTION. DO NOT LEAVE VICTIM UNATTENDED. VOMITING MAY OCCUR SPONTANEOUSLY. TO PREVENT ASPIRATION OF SWALLOWED PRODUCT, LAY VICTIM ON SIDE WITH HEAD LOWER THAN WAIST. SEEK IMMEDIATE MEDICAL ATTENTION.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. SEEK MEDICAL ATTENTION. DO NOT LEAVE VICTIM UNATTENDED.

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5. FIRE AND EXPLOSION HAZARD DATA:

MSDS: 5-SULFOSALICYLIC ACID
FLASH POINT (METHOD USED): NA

FLAMMABLE LIMITS: NA LEL UEL

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

SPECIAL FIRE FIGHTING PROCEDURES: FIREFIGHTERS SHOULD WEAR NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. DURING A FIRE, IRRITATING AND HIGHLY TOXIC GASES MAY BE GENERATED BY THERMAL DECOMPOSITION OR COMBUSTION.

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: WEAR ALL PROTECTIVE CLOTHING AS REQUIRED. AVOID RAISING DUST. SWEEP UP MATERIAL AND PLACE INTO CONTAINERS SUITABLE FOR DISPOSAL. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

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7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

HANDLING: AVOID PROLONGED AND REPEATED EXPOSURE. AVOID DIRECT OR PROLONGED CONTACT WITH SKIN AND EYES. AVOID INGESTION OR INHALATION. CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTY.

STORAGE: STORE IN TIGHTLY CLOSED CONTAINERS. STORE IN AN AREA THAT IS COOL AND DRY.

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8. EXPOSURE CONTROL/PERSONAL PROTECTION:

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

VENTILATION: LOCAL EXHAUST: X MECHANICAL: X
OTHER:

PROTECTIVE GLOVES: CHEMICAL-RESISTANT GLOVES

EYE PROTECTION: SAFETY GOGGLES OR GLASSES WITH SIDE SHIELD

OTHER PROTECTIVE EQUIPMENT: PROTECTIVE CLOTHING
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9. PHYSICAL DATA:

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

DECOMPOSITION TEMP: >265°C

VAPOR PRESSURE (MM HG.): NA

MELTING POINT: 108°-110°C

VAPOR DENSITY (AIR = 1): NA

SOLUBILITY IN WATER: SOLUBLE

APPEARANCE AND ODOR: WHITE CRYSTALLINE SOLID

10. STABILITY AND REACTIVITY:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS, STRONG BASES.

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: MAY PRODUCE TOXIC FUMES OF CARBON MONOXIDE, CARBON DIOXIDE, AND SULFUR OXIDE.

HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X

COMMENTS: MAY DISCOLOR ON EXPOSURE TO LIGHT.

11. TOXICOLOGICAL INFORMATION:

LD50/LC50: ORAL LD50: 2450 MG/KG (RAT)

REPRODUCTIVE TOXICITY:

IRRITANCY, SENSITIVITY:

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

POTENTIAL HEALTH EFFECTS: TO THE BEST OF OUR KNOWLEDGE THE PHYSICAL, CHEMICAL, AND TOXICOLOGICAL PROPERTIES OF THIS PRODUCT HAVE NOT BEEN FULLY TESTED.

12. ECOLOGICAL INFORMATION: NO DATA AVAILABLE

13. DISPOSAL CONSIDERATIONS: DISPOSE IN ACCORDANCE WITH LOCAL, STATE, AND FEERAL REGULATIONS.

14. TRANSPORTATION INFORMATION:

DOT: PROPER SHIPPING NAME: CORROSIVE SOLID, N.O.S.

PRIMARY HAZARD CLASS/DIVISION: 8

UN/NA#: UN1759

PG: II

15. REGULATORY INFORMATION: NOT ON TSCA INVENTORY

16. OTHER INFORMATION:

HMIS CODE HEALTH: 3 FLAMMABILITY: 0 REACTIVITY: 1

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