
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: 3/16/2010
REVISION: 12

1. IDENTIFICATION:

PRODUCT NAME: TITAN GEL IMMUNOFIX-PLUS KIT

PRODUCT NO: 3067

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

PRODUCT NUMBER PRODUCT IDENTIFICATION (LABEL NAME) COMMENTS

551275 TITAN GEL IFE PLUS GEL

HAZARDOUS INGREDIENT CAS # % COMMENTS
THIMEROSAL 54-64-8 <0.1 MSDS ATTACHED

551177 TITAN GEL IFE BUFFER

HAZARDOUS INGREDIENT CAS # % COMMENTS
BARBITAL 57-44-3 85.0 MSDS ATTACHED
THIMEROSAL 54-64-8 1.0 MSDS ATTACHED
SODIUM AZIDE 26628-22-8 5.0 MSDS ATTACHED

551151 ACID BLUE STAIN

HAZARDOUS INGREDIENT CAS # % COMMENTS
ACID BLUE 29 5850-35-1 100.0 NON-HAZARDOUS

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ATTACHED ARE THE MSDSs FOR THE ABOVE NAMED HAZARDOUS INGREDIENT.

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DATE PREPARED: 3/24/2010
REVISION: 5

1. IDENTIFICATION:

NAME: BARBITAL

MOLECULAR WEIGHT: 184.22
MOLECULAR FORMULA: C8H12N2O3

CHEMICAL NAMES: 5,5-DIETHYLBARBITURIC ACID

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2. CHEMICAL COMPOSITION:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL), and LIMITS (ACGIH TLV). Row 1: BARBITAL, 57-44-3, 100, NA, NA.

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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? INGESTION? X

ACUTE EFFECT OF OVEREXPOSURE: BARBITAL IS A SLEEPING DRUG. THE LETHAL DOSE FOR HUMAN IS 3-6 g.

4. FIRST AID MEASURES:

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

SKIN: IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS AMOUNTS OF WATER FOR 15 MINUTES. CALL A PHYSICIAN.

INHALATION: REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

INGESTION: MAKE VICTIM DRINK PLENTY OF WATER, INDUCE VOMITING. CALL A PHYSICIAN.

5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): NA

FLAMMABLE LIMITS: LEL NE UEL NE

EXTINGUISHING MEDIA: FOAM, FOG, WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL

SPECIAL FIRE FIGHTING PROCEDURES: COMBUSTIBLE. DEVELOPMENT OF TOXIC GASES OR FUMES OF CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN OXIDES. DO NOT STAY IN DANGEROUS ZONE WITHOUT SUITABLE CHEMICAL PROTECTION CLOTHING AND SELF CONTAINED BREATHING APPARATUS. PREVENT FIRE-FIGHTING WATER FROM ENTERING SURFACE WATER OR GROUDWATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NA

6. SPILL OR LEAK PROCEDURES:

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: WEAR PERSONAL PROTECTIVE EQUIPMENT. AVOID GENERATION OF DUST; DO NOT INHALE DUSTS. TAKE UP SPILLED PRODUCT. DO NOT ALLOW TO ENTER SEWERAGE SYSTEM. TAKE UP DRY. FORWARD FOR DISPOSAL. CLEAN UP AFFECTED AREA.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE AT 15°C TO 25°C. TIGHTLY CLOSED. DRY.

8. EXPOSURE CONTROL/PERSONAL PROTECTION:

RESPIRATORY PROTECTION (SPECIFY TYPE): DUST RESPIRATOR

VENTILATION: LOCAL EXHAUST: X MECHANICAL: OTHER:

PROTECTIVE GLOVES: PROTECTIVE GLOVES

EYE PROTECTION: SAFETY GLASSES OR GOGGLES

OTHER PROTECTIVE EQUIPMENT: WEAR SUITABLE PROTECTIVE CLOTHING. TAKE OFF CONTAMINATED CLOTHES IMMEDIATELY.

9. PHYSICAL DATA:

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

VAPOR PRESSURE (MM HG.): NA MELTING POINT: 190°C

VAPOR DENSITY (AIR = 1): NA

SOLUBILITY IN WATER: SLIGHTLY SOLUBLE APPEARANCE AND ODOR: WHITE SOLID

10. STABILITY AND REACTIVITY:

STABILITY: UNSTABLE: STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): ALKALINES

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: IN CASE OF FIRE: CARBON DIOXIDE, CARBON MONOXIDE, NITROGEN OXIDE

HAZARDOUS POLYMERIZATION: MAY OCCUR: WILL NOT OCCUR: X

11. TOXICOLOGICAL INFORMATION:

BARBITAL IS A SLEEPING DRUG. THE LETHAL DOSE FOR HUMAN IS 3-6 g.

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DATE PREPARED: 3/23/2010
REVISION: 6

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:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL), and LIMITS (ACGIH TLV). Row 1: THIMEROSAL, 54-64-8, 100, 0.01 mg/m³, 0.1 mg/m³

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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.

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.

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.

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

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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.

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12. ECOLOGICAL INFORMATION: NO DATA AVAILABLE

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

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

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

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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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DATE PREPARED: 3/16/2010
REVISION: 7

1. IDENTIFICATION:

NAME: SODIUM AZIDE

MOLECULAR WEIGHT: 65.01
MOLECULAR FORMULA: NA-N3

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2. CHEMICAL COMPOSITION:

Table with 5 columns: CHEMICAL NAME/COMMON NAME, CAS #, %, EXPOSURE LIMITS (OSHA PEL), and LIMITS (ACGIH TLV). Row 1: SODIUM AZIDE, 26628-28-8, 100, NONE, 0.3 mg/m³

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NL = Not Listed NIF = No Information Found

3. HAZARD IDENTIFICATION:

EMERGENCY OVERVIEW: HIGHLY TOXIC

PRIMARY ROUTE(S) OF ENTRY:

INHALATION? X SKIN? X INGESTION? X

ACUTE EFFECT OF OVEREXPOSURE:

EYES: CAUSES EYE IRRITATION.

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

INHALATION: MAY BE FATAL IF SWALLOWED. CAUSES GASTROINTESTINAL IRRITATION WITH NAUSEA, VOMITING AND DIARRHEA.

INGESTION: MAY BE FATAL IF INHALED. DUST IS IRRITATING TO THE RESPIRATORY TRACT.

CHRONIC EFFECTS OF EXPOSURE:

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4. FIRST AID MEASURES:

EYE CONTACT: WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE OCCASIONALLY LIFTING UPPER AND LOWER LIDS UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT: REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH AFFECTED AREA WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (APPROXIMATELY 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

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.

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5. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT (METHOD USED): NA

FLAMMABLE LIMITS: LEL NA UEL NA

EXTINGUISHING MEDIA: USE DRY CHEMICAL. DO NOT USE WATER.

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

UNUSUAL FIRE AND EXPLOSION HAZARDS: CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS. 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: EVACUATE AREA. WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY RUBBER GLOVES. SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

7. HANDLING AND STORAGE:

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: KEEP TIGHTLY CLOSED. HEAT-SENSITIVE. STORE IN COOL DRY PLACE.

ADDITIONAL INFORMATION: AZIDE REACTS WITH MANY HEAVY METALS SUCH AS LEAD, COPPER MERCURY, SILVER, GOLD TO FORM EXPLOSIVE COMPOUNDS. COPPER AND LEAD AZIDES ARE MORE SENSITIVE THAN NITROGLYCERINE. AZIDE REACTS WITH METAL HALIDES TO GIVE A RANGE OF METAL AZIDE HALIDES, MANY OF WHICH ARE EXPLOSIVE. INCOMPATIBLE WITH CHROMYL CHLORIDE, HYDRAZINE, BROMINE, CARBON DISULFIDE, DIMETHYL SULFATE, DIBROMOMALONITRILE. AN EXPLOSION OCCURRED WHEN A MIXTURE OF SODIUM AZIDE, METHYLENE CHLORIDE, DIMETHYL SULFOXIDE, AND SULFURIC ACID WERE BEING CONCENTRATED ON A ROTARY EVAPORATOR.

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 OR GLASSES.

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

9. PHYSICAL DATA:

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

VAPOR PRESSURE (MM HG.): NL MELTING POINT:

VAPOR DENSITY (AIR = 1): NL

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

10. STABILITY AND REACTIVITY:

STABILITY:

UNSTABLE:

STABLE: X

INCOMPATIBILITY (MATERIALS TO AVOID): ACID CHLORIDES; HALOGENATED SOLVENTS; AVOID CONTACT WITH METALS; AVOID CONTACT WITH ACID; EXPLODES WHEN HEATED.

HAZARDOUS DECOMPOSITION OF BY-PRODUCTS: NITROGEN OXIDES

HAZARDOUS POLYMERIZATION:

MAY OCCUR:

WILL NOT OCCUR: X

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11. TOXICOLOGICAL INFORMATION:

RTECS#:VY8050000
SODIUM AZIDE
ORL-RAT LD50:27 MG/KG

TARGET ORGAN DATA

- BRAIN AND COVERINGS (INCREASED INTRACRANIAL PRESSURE)
- PERIPHERAL NERVE AND SENSATION (SPASTIC PARALYSIS WITH/WITHOUT SENSORY SENSE ORGANS AND SPECIAL SENSES (MYDRIASIS)
- BEHAVIORAL (GENERAL ANESTHETIC)
- BEHAVIORAL (SOMNOLENCE)
- BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
- BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
- BEHAVIORAL (COMA)
- BEHAVIORAL (HEADACHE)
- BEHAVIORAL (IRRITABILITY)
- CARDIAC (ARRYTHMIAS)
- CARDIAC (PULSE RATE DECREASED WITH FALL IN BP)
- CARDIAC (CHANGE IN FORCE OF CONTRACTION)
- CARDIAC (OTHER CHANGES)
- VASCULAR (BP LOWERING NOT CHARACTERIZED IN AUTONOMIC SECTION)
- LUNGS, THORAX OR RESPIRATION (ACUTE PULMONARY EDEMA)
- LUNGS, THORAX OR RESPIRATION (DYSRNAE)
- LUNGS, THORAX OR RESPIRATION (RESPIRATORY STIMULATION)
- LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
- GASTROINTESTINAL (HYPERMOTILITY, DIARRHEA)
- KIDNEY, URETER, BLADDER (OTHER CHANGES)

CARCINOGENICITY: NTP? NO EVIDENCE IARC? OSHA?

POTENTIAL HEALTH EFFECTS:

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12. ECOLOGICAL INFORMATION: DATA NOT YET AVAILABLE

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

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14. TRANSPORTATION INFORMATION:

UN#: 1687
PROPER SHIPPING NAME: SODIUM AZIDE
PG: II
CLASS: 6.1

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

ACGIH TLV-NOT CLASSIFIABLE AS A HUMAN CARCINOGEN DTLVS* TLV/BEL, 1996

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16. OTHER INFORMATION:

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