

Product Number: **10222**Product Name: **Silver nitrate**

Valid 05/2003 - 07/2003

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M A T E R I A L S A F E T Y D A T A S H E E T

SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -
 CATALOG #: 10222
 NAME: SILVER NITRATE

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -
 CAS #:NONE
 EC NO: 231-853-9
 SYNONYMS
 LUNAR CAUSTIC * NITRATE D'ARGENT (FRENCH) * NITRIC ACID, SILVER(1+)
 SALT * SILVER(1+) NITRATE * SILBERNITRAT *

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -
 LABEL PRECAUTIONARY STATEMENTS
 OXIDIZING
 CORROSIVE
 CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.
 CAUSES BURNS.
 HARMFUL IF SWALLOWED.
 VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE
 EFFECTS IN THE AQUATIC ENVIRONMENT.
 LIMITED EVIDENCE OF CARCINOGENIC EFFECT.
 TARGET ORGAN(S):
 EYES
 NERVES
 KEEP AWAY FROM COMBUSTIBLE MATERIAL.
 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
 WATER AND SEEK MEDICAL ADVICE.
 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
 IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
 WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
 PROTECTION.
 LIGHT SENSITIVE
 MAY DEVELOP PRESSURE.

SECTION 4. - - - - - FIRST-AID MEASURES- - - - -
 IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
 CALL A PHYSICIAN.
 IF INHALED, REMOVE TO FRESH AIR. IF BREATHING BECOMES DIFFICULT,
 CALL A PHYSICIAN.
 IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER
 FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND
 SHOES. CALL A PHYSICIAN.
 IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER
 FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING
 THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -
 EXTINGUISHING MEDIA
 CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
 SPECIAL FIREFIGHTING PROCEDURES
 WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
 PREVENT CONTACT WITH SKIN AND EYES.
 UNUSUAL FIRE AND EXPLOSIONS HAZARDS
 CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.
 EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
 CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.
 MAY ACCELERATE COMBUSTION.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -
 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.
 EVACUATE AREA.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -

SECTION 7. - - - - - HANDLING AND STORAGE - - - - -
REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -
USE ONLY IN A CHEMICAL FUME HOOD.
SAFETY SHOWER AND EYE BATH.
WASH THOROUGHLY AFTER HANDLING.
REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY.
DISCARD CONTAMINATED SHOES.
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
NIOSH/MSHA-APPROVED RESPIRATOR.
COMPATIBLE CHEMICAL-RESISTANT GLOVES.
CHEMICAL SAFETY GOGGLES.
KEEP AWAY FROM COMBUSTIBLE MATERIALS, HEAT, SPARKS, AND OPEN FLAME.
KEEP TIGHTLY CLOSED.
STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
APPEARANCE AND ODOR
SOLID.
PHYSICAL PROPERTIES
BOILING POINT: 440 C
MELTING POINT: 212 C
SPECIFIC GRAVITY: 4.35
SWISS POISON CLASS: 4

SECTION 10. - - - - - -STABILITY AND REACTIVITY - - - - -
STABILITY
STABLE.
CONDITIONS TO AVOID
MAY DECOMPOSE ON EXPOSURE TO LIGHT.
INCOMPATIBILITIES
PROTECT FROM LIGHT.
ORGANIC MATERIALS
FINELY POWDERED METALS
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
CARBON MONOXIDE, CARBON DIOXIDE
HAZARDOUS POLYMERIZATION
WILL NOT OCCUR.

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -
ACUTE EFFECTS
MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES
AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
INHALATION MAY RESULT IN SPASM, INFLAMMATION AND EDEMA OF THE
LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,
WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND
VOMITING.
MAY CAUSE ARGYRIA (A SLATE-GRAY OR BLUISH DISCOLORATION OF THE SKIN
AND DEEP TISSUES DUE TO THE DEPOSIT OF INSOLUBLE ALBUMINATE OF
SILVER).
ABSORPTION INTO THE BODY LEADS TO THE FORMATION OF METHEMOGLOBIN
WHICH IN SUFFICIENT CONCENTRATION CAUSES CYANOSIS. ONSET MAY BE
DELAYED 2 TO 4 HOURS OR LONGER.
MAY CAUSE SKIN IRRITATION.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
MAY CAUSE EYE IRRITATION.
MAY BE HARMFUL IF INHALED.
MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
MAY BE HARMFUL IF SWALLOWED.

CHRONIC EFFECTS
TARGET ORGAN(S):
EYES
NERVES
BLOOD
LUNGS
LABORATORY EXPERIMENTS HAVE SHOWN MUTAGENIC EFFECTS.

RTECS #: VW4725000
SILVER(I) NITRATE (1:1)

IRRITATION DATA
EYE-RBT 1 MG SEV AROPAW 25,839,1941
EYE-RBT 10 MG MOD TXAPA9 55,501,1980

TOXICITY DATA
UNR-MAN LDLO:29 MG/KG 85DCAI 2,73,1970
ORL-RAT LD50:1173 MG/KG GTPZAB 27(12),33,1983
IPR-RAT LD50:83 MG/KG GTPZAB 27(12),33,1983
ORL-MUS LD50:50 MG/KG JPPMAB 2,20,1950
IPR-MUS LD50:17 MG/KG GTPZAB 27(12),33,1983
ORL-GPG LD50:473 MG/KG GTPZAB 27(12),33,1983

TARGET ORGAN DATA
BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (TETANY)
LUNGS, THORAX OR RESPIRATION (DYSPPNAE)
LUNGS, THORAX OR RESPIRATION (CYANOSIS)

GASTROINTESTINAL (HYPERMOTILITY, DIARRHEA)
 PATERNAL EFFECTS (SPERMATOGENESIS)
 PATERNAL EFFECTS (TESTES, EPIDIDYMIS, SPERM DUCT)
 EFFECTS ON FERTILITY (MALE FERTILITY INDEX)
 ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
 (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
 COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -
 DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -
 CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF
 THIS MATERIAL.
 OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -
 CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -
 EUROPEAN INFORMATION
 OXIDIZING
 CORROSIVE
 R 34
 CAUSES BURNS.
 R 50/53
 VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE
 EFFECTS IN THE AQUATIC ENVIRONMENT.
 S 26
 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
 WATER AND SEEK MEDICAL ADVICE.
 S 45
 IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
 IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
 S 60
 THIS MATERIAL AND ITS CONTAINER MUST BE DISPOSED OF AS
 HAZARDOUS WASTE.
 S 61
 AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/
 SAFETY DATA SHEETS.

REVIEWS, STANDARDS, AND REGULATIONS
 OEL=MAK
 ACGIH TLV-TWA 0.01 MG(AG)/M3 DTLVS* TLV/BEI,1999
 EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
 FEREAC 54,7740,1989
 MSHA STANDARD-AIR:TWA 0.01 MG(AG)/M3
 DTLVS* 3,231,1971
 OEL-ARAB REPUBLIC OF EGYPT: TWA 0.01 MG(AG)/M3, JAN1993
 OEL-AUSTRALIA: TWA 0.01 MG(AG)/M3, JAN1993
 OEL-BELGIUM: TWA 0.01 MG(AG)/M3, JAN1993
 OEL-DENMARK: TWA 0.01 MG(AG)/M3, JAN1999
 OEL-FINLAND: TWA 0.01 MG(AG)/M3, STEL 0.03 MG(AG)/M3, SKIN, JAN1999
 OEL-FRANCE: VME 0.01 MG(AG)/M3, JAN1999
 OEL-JAPAN: OEL 0.01 MG(AG)/M3, JAN1999
 OEL-THE NETHERLANDS: MAC-TGG 0.01 MG(AG)/M3, JAN1999
 OEL-NORWAY: TWA 0.01 MG(AG)/M3, JAN1999
 OEL-THE PHILIPPINES: TWA 0.01 MG(AG)/M3, JAN1993
 OEL-POLAND: MAC(TWA) 0.01 MG(AG)/M3, JAN1999
 OEL-SWEDEN: NGV 0.01 MG(AG)/M3, JAN1999
 OEL-SWITZERLAND: TWA 0.01 MG(AG)/M3, JAN1999
 OEL-UNITED KINGDOM: TWA 0.01 MG(AG)/M3, SEP2000
 OEL IN ARGENTINA, BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV;
 OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
 NOHS 1974: HZD 80142; NIS 76; TNF 3772; NOS 40; TNE 27982
 NOES 1983: HZD 80142; NIS 95; TNF 7884; NOS 69; TNE 176015; TFE 99042
 EPA GENETOX PROGRAM 1988, POSITIVE: CELL TRANSFORM.-SA7/SHE
 EPA GENETOX PROGRAM 1988, NEGATIVE: E COLI POLA WITHOUT S9
 EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

U.S. INFORMATION
 THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS -
 SILVER COMPOUNDS.

SECTION 16. - - - - - OTHER INFORMATION - - - - -
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