Material Safety Data Sheet

SECTION 1. - - - - - - - - - CHEMICAL IDENTIFICATION- - - - - - - - - -

CATALOG #: 10222
NAME: SILVER NITRATE

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - - -

CAS #: NONE
EC NO: 231-853-9
SYNONYM:
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

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, OR 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 LLDO:29 MG/KG 85DCIA 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 (DYSPNAE)

LUNGS, THORAX OR RESPIRATION (CYANOSIS)

CABOTOPHOREST (SUPERSENSITIVITY, ASTHMA)
GASTROINTESTINAL (HYPERMOTILITY, ILLA++URREA)

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
DTLV*S* TLV/BEI, 1999
EPA PIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION
FERAC 54, 7740, 1989

MSHA STANDARD-AIR:TWA 0.01 MG(AG)/M3
DTLV*S* 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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