



chemists helping chemists in research & industry

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DATE: 12/09/88
CUST # 938609 P.O. # 61652

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

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IDENTIFICATION

PRODUCT # 20913-9 NAME: SILVER NITRATE, 99+%, A.C.S. REAGENT
CAS # 7761-88-8
MF: AGNO3

SYNONYMS

LUNAR CAUSTIC * NITRATE D'ARGENT (FRENCH) * NITRIC ACID, SILVER(1+)
SALT * SILVER(1+) NITRATE * SILBERNITRAT * SILVER NITRATE * SILVER
NITRATE (DOT) * UN 1493 (DOT) *

TOXICITY HAZARDS

RTECS # VH4725000

SILVER(I) NITRATE (1:1)

IRRITATION DATA

EYE-RBT 1 MG SEV
EYE-RBT 10 MG MOD

AROPAW 25,839,41
TXAPA9 55,501,80

TOXICITY DATA

UNR-MAN LDLO:29 MG/KG
ORL-MUS LD50:50 MG/KG
IPR-MUS LD50:34500 UG/KG

85DCAI 2,73,70
JPPMAB 2,20,50
COREAF 256,1043,63

REVIEWS, STANDARDS, AND REGULATIONS

ACGIH TLV-TWA 0.01 MG(AG)/M3 85INA8 5,529,86
MSHA STANDARD-AIR:TWA 0.01 MG(AG)/M3 DTLVS* 3,231,71
OSHA STANDARD-AIR:TWA 0.01 MG(AG)/M3 FEREAC 39,23540,74
EPA GENETOX PROGRAM 1988, POSITIVE: CELL TRANSFORM.-SA7/SHE
EPA GENETOX PROGRAM 1988, NEGATIVE: E COLI POLA WITHOUT S9
EPA TSCA CHEMICAL INVENTORY, 1986
MEETS CRITERIA FOR PROPOSED OSHA MEDICAL RECORDS RULE FEREAC 47,30420,
82

TARGET ORGAN DATA

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

HEALTH HAZARD DATA

ACUTE EFFECTS

MAY BE FATAL IF INHALED, SWALLOWED, OR ABSORBED THROUGH SKIN.
MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES
AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
INHALATION MAY BE FATAL AS A RESULT OF 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)

CHRONIC EFFECTS

OVEREXPOSURE MAY CAUSE REPRODUCTIVE DISORDER(S) BASED ON TESTS WITH
LABORATORY ANIMALS.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND

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TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

FIRST AID

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.

ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS.

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

CALL A PHYSICIAN.

WASH CONTAMINATED CLOTHING BEFORE REUSE.

DISCARD CONTAMINATED SHOES.

-----PHYSICAL DATA-----

MELTING POINT: 212 C
SPECIFIC GRAVITY: 4.352
VAPOR DENSITY: 5.8

-----FIRE AND EXPLOSION HAZARD DATA-----

EXTINGUISHING MEDIA

WATER SPRAY.

SPECIAL FIRE FIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

STRONG OXIDIZER.

UNUSUAL FIRE AND EXPLOSION HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.

-----REACTIVITY DATA-----

INCOMPATIBILITIES

STRONG REDUCING AGENTS
MAY DECOMPOSE ON EXPOSURE TO LIGHT.

AMMONIA

STRONG BASES

ALCOHOLS

MAGNESIUM

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

NITROGEN OXIDES

-----SPILL OR LEAK PROCEDURES-----

STEPS TO BE TAKEN IF 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.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

WASTE DISPOSAL METHOD

CATALYSTS AND EXPENSIVE METALS SHOULD BE RECOVERED FOR REUSE OR RECYCLING.

OBSERVE ALL FEDERAL, STATE & LOCAL LAWS.

-----PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE-----

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.

USE ONLY IN A CHEMICAL FUME HOOD.

SAFETY SHOWER AND EYE BATH.

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FACESHIELD (8-INCH MINIMUM).
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
HIGHLY TOXIC.
CORROSIVE.
REPRODUCTIVE HAZARD.
KEEP TIGHTLY CLOSED.
KEEP AWAY FROM COMBUSTIBLE MATERIALS, HEAT, SPARKS, AND OPEN FLAME.
LIGHT-SENSITIVE.
STORE IN A COOL DRY PLACE.

----- ADDITIONAL PRECAUTIONS AND COMMENTS -----

ADDITIONAL INFORMATION

INCOMPATIBLE WITH: CHLORIDES, CARBONATES, THIOCYANATES, FERROUS SALTS, CHLOROSULFONIC ACID, ARSENIC POWDER, CHLORINE TRIFLUORIDE OR PHOSPHONIUM IODIDE. SOLUTIONS OF SILVER NITRATE WITH AMMONIA, AMMONIA/SODIUM CARBONATE, OR AMMONIA/SODIUM HYDROXIDE HAVE HAD SEVERAL INSTANCES OF EXPLOSIONS REPORTED. REACTION WITH ACETALDEHYDE, ACETYLENE OR OTHER TERMINAL ALKYNES MAY PRODUCE EXPLOSIVE COMPOUNDS. A DRY MIXTURE OF POWDERED MAGNESIUM AND SILVER NITRATE HAS BEEN REPORTED TO IGNITE EXPLOSIVELY ON CONTACT WITH A DROP OF WATER. A MIXTURE WITH CHARCOAL IGNITES WHEN STRUCK WITH A HAMMER WHILE MIXTURES WITH PHOSPHOROUS OR SULFUR EXPLODE WHEN STRUCK. PASSAGE OF PHOSPHINE GAS INTO A SOLUTION OF SILVER NITRATE RESULTED IN AN EXPLOSION. AN EXPLOSION OCCURRED ON STIRRING A SLURRY OF SILVER NITRATE CRYSTALS WHICH HAD BEEN RECRYSTALLIZED FROM WATER AND ETHANOL. (CHEM. ENG. NEWS, P.2, JANUARY 12, 1987)

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. ALDRICH SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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