



Material Safety Data Sheet

Section 1. Product and Company Identification

Product Name	Silver Foil	Product Code	SX0165
Manufacturer	EMD Chemicals Inc. P.O. Box 70 480 Democrat Road Gibbstown, NJ 08027 Prior to January 1, 2003 EMD Chemicals Inc. was EM Industries, Inc. or EM Science, Division of EM Industries, Inc.	Effective Date	3/18/2004
		Print Date	5/14/2004

For More Information Call

856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call

800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

Synonym None.

Material Uses Analytical reagent.

Chemical Family Metal.

Section 2. Composition and Information on Ingredients

Component	CAS #	% by Weight
Silver Foil	7440-22-4	100

Section 3. Hazards Identification

Physical State and Appearance Solid.

Emergency Overview CAUTION!
Handling care generally in keeping with safe laboratory practices is recommended.

Routes of Entry Ingestion.

Potential Acute Health Effects

Eyes No known acute effects of this product resulting from eye contact.

Skin May cause slight irritation on prolonged or repeated contact with skin.

Inhalation No known acute effects of this product resulting from inhalation.

Ingestion Ingestion may cause gastrointestinal irritation and diarrhea.

Potential Chronic Health Effects

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Additional information See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure: Repeated or prolonged exposure is not known to aggravate medical condition.

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 5. Fire Fighting Measures

Flammability of the Product	Non-flammable.
Auto-ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of static discharge: No. Risks of explosion of the product in presence of mechanical impact: No.
Fire Fighting Media and Instructions	Not applicable.
Protective Clothing (Fire)	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill and Leak	Use appropriate tools to put the spilled solid in a convenient waste disposal container.
Large Spill and Leak	Use a shovel to put the material into a convenient waste disposal container. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.
Spill Kit Information	No specific spill kit required for this product.

Section 7. Handling and Storage

Handling Do not ingest. Avoid contact with skin and eyes.

Storage Keep container closed.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection

Eyes Safety glasses.

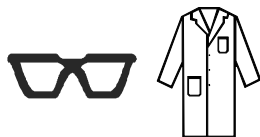
Body Lab coat.

Respiratory Not applicable.

Hands Not applicable.

Feet Not applicable.

Protective Clothing (Pictograms)



Personal Protection in Case of a Large Spill Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Product Name

Silver Foil

Exposure Limits

INRS (France, 1996).

VME: 0.1 mg/m³ 8 hour(s).

EH40-OES (United Kingdom (UK), 1997).

TWA: 0.1 mg/m³ 8 hour(s).

NIOSH REL (United States, 1994).

TWA: 0.01 mg/m³ 10 hour(s).

BMWA_MAK (Austria, 2001).

STEL: 0.1 mg/m³ 1 times per shift, 30 minute(s).

TWA: 0.01 mg/m³ 8 hour(s).

NOHSC (Australia, 2002). Notes: Documentation for the substances with this footnote can be found in the 5th Edition of the ACGIH documentation of the threshold limit values and biological exposure indices.¹ For all other substances with 'H' in Column 7 the documentation can be found in the 6th Edition of the ACGIH documentation of the threshold limit values and biological exposure indices.²

TWA: 0.1 mg/m³ 8 hour(s).

TWA: 0.01 mg/m³ 8 hour(s). Form: Soluble

Lijst Grenswaarden (Belgium, 2002).

VL: 0.1 mg/m³ 8 hour(s).

SUVA (Switzerland, 2001).

MAK: 0.1 mg/m³ 8 hour(s). Form: Dust

178/2001 (CZ, 2001).

STEL: 0.3 mg/m³ 10 minute(s).

TWA: 0.1 mg/m³ 8 hour(s).

MAK-Werte Liste (Germany, 2000).

Spitzenbegrenzung: 1 mg/m³ 1 times per shift, 30 minute(s). Form:

Inhalable fraction

TWA: 0.1 mg/m³ 8 hour(s). Form: Inhalable fraction

TRGS900 MAK (Germany, 2002).Spitzenbegrenzung: 0.4 mg/m³TWA: 0.1 mg/m³ 8 hour(s).**Arbejdstilsynet (Denmark, 2000).**GV: 0.01 mg/m³ 8 hour(s).**INSHT (Spain, 2001).**TWA: 0.1 mg/m³ 8 hour(s).**EU OEL (Europe, 2000). Notes: Indicative**TWA: 0.1 mg/m³ 8 hour(s).**Työterveyslaitos (Finland, 2002).**STEL: 0.03 mg/m³ 15 minute(s).TWA: 0.1 mg/m³ 8 hour(s).**NAOSH (Ireland, 2002).**OEL: 0.1 mg/m³ 8 hour(s).**JSOH (Japan, 1996).**TWA: 0.01 mg/m³ 8 hour(s).**Ministry of Labor (KR, 1997).**TWA: 0.01 mg/m³ 8 hour(s).**Secretary of Work and Social Security (MX, 1994).**CPT: 0.01 mg/m³ 8 hour(s).**Nationale MAC-lijst (Netherlands, 2003). Notes: Administrative**TGG 8 uur: 0.1 mg/m³ 8 hour(s).**Arbejdstilsynet (Norway, 2001).**AN: 0.01 mg/m³ 8 hour(s).AN: 0.1 mg/m³ 8 hour(s). Form: Dust and fumes**NZ OSH (NZ, 1994).**TWA: 0.01 mg/m³ 8 hour(s).**AFS (Sweden, 2000).**NGV: 0.1 mg/m³ 8 hour(s). Form: Dust**ACGIH TLV (United States, 2002). Notes: Substances for which the TLV is higher than the OSHA Permissible Exposure Limit (PEL) and/or the NIOSH Recommended Exposure Limit (REL). See CFR 58(124):36338-33351, June 30, 1993, for revised OSHA PEL.**TWA: 0.1 mg/m³ 8 hour(s). Form: Metallic formTWA: 0.01 mg/m³ 8 hour(s). Form: Soluble**OSHA PEL (United States, 1974).**TWA: 0.01 mg/m³ 8 hour(s).**OSHA PEL 1989 (United States, 1989).**TWA: 0.01 mg/m³ 8 hour(s).**Section 9. Physical and Chemical Properties**

Odor	Not available.
Color	Silvery.
Physical State and Appearance	Solid.
Molecular Weight	107.87 g/mole
Molecular Formula	Ag
pH	Not applicable.
Boiling/Condensation Point	2000.05°C (3632.1°F)
Melting/Freezing Point	961.8°C (1763.2°F)
Specific Gravity	10.49 (Water = 1)

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Vapor Pressure Not available.

Vapor Density Not available.

Odor Threshold Not available.

Evaporation Rate Not available.

LogK_{ow} Not available.

Solubility Insoluble in water.

Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Conditions of Instability Not available.

Incompatibility with
Various Substances
Rem/Incompatibility Not available.

Hazardous Decomposition
Products Not available.

Hazardous Polymerization Will not occur.

Section 11. Toxicological Information

RTECS Number: Silver Foil VW3500000

Toxicity LD₅₀: Not available.
LC₅₀: Not available.

Chronic Effects on
Humans Not available.

Acute Effects on Humans Not available.

Synergetic Products
(Toxicologically) Not available.

Irritancy Draize Test: Not available.

Sensitization Not available.

Carcinogenic Effects This material is not known to cause cancer in animals or humans.

Toxicity to Reproductive
System Not available.

Teratogenic Effects Not available.

Mutagenic Effects Not available.

Section 12. Ecological Information

Ecotoxicity	Ecotoxicity in water (LC50): 0.0092 mg/l [EC50, Intoxication], 48 hours [Daphnia (Daphnia magna)]. 0.0021 ppm [LC50, Mortality], 96 hours [Fish (Pimephales promelas)]. 0.0024 ppm [LC50, Mortality], 96 hours [Fish (Pimephales promelas)]. 0.0028 ppm [LC50, Mortality], any hours [Fish (Pimephales promelas)]. 0.0031 ppm [LC50, Mortality], any hours [Fish (Pimephales promelas)]. 0.0034 ppm [LC50, Mortality], any hours [Fish (Pimephales promelas)].
BOD5 and COD	Not available.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.

Section 13. Disposal Considerations

EPA Waste Number	D011
Treatment	Specified Technology - Contact your local permitted waste disposal site (TSD) for permissible treatment sites. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations..

Section 14. Transport Information

DOT Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.
TDG Classification	Not available.
IMO/IMDG Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.
ICAO/IATA Classification	Proper Shipping Name: CHEMICALS, N.O.S. RQ: Not applicable.

Section 15. Regulatory Information

U.S. Federal Regulations	TSCA 8(b) inventory: Silver Foil SARA 302/304/311/312 extremely hazardous substances: No products were found. SARA 302/304 emergency planning and notification: No products were found. SARA 302/304/311/312 hazardous chemicals: Silver Foil SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Silver Foil: Immediate (Acute) Health Hazard SARA 313 toxic chemical notification and release reporting: Silver Foil Clean Water Act (CWA) 307: Silver Foil Clean Water Act (CWA) 311: No products were found. Clean air act (CAA) 112 accidental release prevention: No products were found. Clean air act (CAA) 112 regulated flammable substances: No products were found. Clean air act (CAA) 112 regulated toxic substances: No products were found.	
WHMIS (Canada)	Not controlled under WHMIS (Canada). CEPA DSL: Silver Foil This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.	
International Regulations		
EINECS	Silver Foil	231-131-3
DSCL (EEC)	R50- Very toxic to aquatic organisms.	

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International Lists Australia (NICNAS): Silver Foil

China: Silver Foil

Germany water class: Silver Foil

Korea (TCCL): Silver Foil

Philippines (RA6969): Silver Foil

China: Silver Foil

State Regulations

Pennsylvania RTK: Silver Foil: (environmental hazard, generic environmental hazard)

Massachusetts RTK: Silver Foil

New Jersey: Silver Foil

California prop. 65: No products were found.

Section 16. Other Information

**National Fire
Protection
Association
(U.S.A.)**



**Changed Since Last
Revision**



Notice to Reader

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