

MATERIAL SAFETY DATA SHEET

MSDS NO. 108

SECTION I - IDENTIFICATION

Helwig Carbon Products, Inc.

Telephone: (414) 354-2411

Fax: (414) 354-2421

8900 West Tower Ave
Milwaukee WI 53224

Product Name:
Carbon/Graphite with Silver

Chemical Name:

Hazard Rating		Health	2
Least	Slight		
0	1		
Moderate	High	☹	1
2	3		
Extreme		☹☹	1
4			

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	C.A.S. NO.
Silver (metal)*	15-95	7440-22-4

*Silver is the critical component of this mixture for hazard assessment.

SECTION III - OCCUPATIONAL EXPOSURE LIMITS

	<u>Natural Graphite</u>	<u>Silver (metal)*</u>
OSHA PEL:	2.5 mg/m ³ Respirable Dust	0.01 mg/m ³
ACGIH TLV:	2.5 mg/m ³ Respirable Dust	0.10 mg/m ³
NIOSH:	N/A	
CARCINOGEN:	NTP <u>No</u>	IARC <u>No</u>
		OSHA <u>No</u>

SECTION IV - HEALTH HAZARDS

Effects of exposure:

Primary Route(s) of Entry: Inhalation of dust

Eyes: At high dust level, mechanical irritation.

Skin or Swallowing: None

Breathing: Long-term over-exposure may lead to pneumoconiosis. Although rare, long-term over-exposure can cause argyria, a local or general grayish-blue permanent decoloration of the skin, eyes, septum and throat.

SECTION V - EMPLOYEE PROTECTION

Respiratory Protection:	Use approved dust respirator if exposure exceeds PEL limits.
Eye Protection:	If airborne particles are produced.
Protective Gloves:	None required
Other Protective Equipment:	None required
Ventilation:	Local ventilation recommended if dust level exceeds PEL.

SECTION VI - FIRST AID

Skin Contact:	Wash for normal cleanliness.
Eye Contact:	Flush with water.
Inhalation:	No first aid indicated.
Ingestion:	Give water to drink and induce vomiting with syrup of ipecac.

SECTION VII - FIRE AND EXPLOSION DATA

Flash Point	None		
Flammable Limits:	None	LEL _____	UEL _____
Extinguishing Media:	Water, CO ₂ , Sand.		
Special Fire Fighting Procedures:	Self-contained breathing apparatus, as normal.		
Unusual Fire and Explosion Hazards:	Dust from this mixture is normally not explosive, but it may weakly contribute if the event is initiated by another explosive dust or gas. Graphite/metal dust is electrically conductive; dust accumulations may cause electrical short circuits or other electrical malfunctions.		

SECTION VIII - SPECIAL PRECAUTIONS

Precautions for Handling and Storing:
None

Other Precautions:

Medical conditions recognized as possibly aggravated by exposure:
Individuals with pre-existing chronic respiratory impairments or with serum antitrypsin deficiency may be at increased risk of disabling pneumoconiosis. Evaluate exposures by industrial hygiene air sampling. Guard ingestion of silver.

SECTION IX - ENVIRONMENTAL PROTECTION

Spill or Leak Procedures:

For silver containing dust: ventilate the area, vacuum or wet sweep and deposit in a sealed container.

Waste Disposal Method:

Recover silver or bury in an approved landfill. Dispose of according to local, state, and federal regulations.

SECTION X - PHYSICAL DATA

<p>Boiling Point: Silver 2200°C</p> <p>Melting Point: Silver 960°C</p>	<p>Vapor Pressure: Negligible at room temperature</p>	<p>Spec. Gravity: 10.5, Silver</p>
<p>Vapor Density: Negligible at room temperature</p>	<p>Evaporation Rate: (_____ = 1) 0</p>	<p>Solubility in Water: Insoluble</p>
<p>Percent Volatile by Weight: <0.1, mixture</p>	<p>Appearance: Silvery gray solid</p>	<p>Odor: None</p>

SECTION XI - REACTIVITY DATA

<input type="checkbox"/> Unstable	<input checked="" type="checkbox"/> Stable	Hazardous Polymerization
		<input type="checkbox"/> May Occur <input checked="" type="checkbox"/> Will not occur

Conditions and Materials to Avoid:

Contact with acetylene may form shock sensitive silver acetylide. Contact with ammonia may form compounds that are explosive when dry. Contact with strong hydrogen peroxide will give violent oxygen evolution.

Hazardous Decomposition Products:

Silver Oxides, Silver Fume, Copper Oxides, Copper Fume, CO and CO₂ can be formed in combustion.

SECTION XII - REFERENCES

OSHA:	29 CFR 1910.1000
ACGIH:	Threshold Limit Values for Chemical Substances, current edition
ACGIH:	Documentation of Threshold Limit Values
MSDS:	SGL MSDS 108

DATE: 1/4/05
Replaces (6/1/89)