



**MATERIAL SAFETY DATA SHEET**  
COMPLIES WITH 29 CFR 1910.1200.  
OSHA HAZARD COMMUNICATION RULE

**DATE OF LAST PRINT: 06-28-96**

---

## CHEMICAL IDENTITY

---

LABEL IDENTITY		<b>Samarium Cobalt Magnet</b>	
CHEMICAL NAME/SYNONYMS		<b>Samarium Cobalt Magnet</b>	
FORMULA		<b>SmCo</b>	
HAZARDOUS INGREDIENTS	%:	TLV:	OSHA/PEL:
<b>Samarium</b>	<b>30-40</b>	<b>not yet determined</b>	<b>not yet determined</b>
<b>Cobalt</b>	<b>60-80</b>	<b>0.1mg/m3</b>	<b>0.1mg/m3</b>
<b>Other rare earth's</b>	<b>0-5</b>	<b>not yet determined</b>	<b>not yet determined</b>

---

## PHYSICAL AND CHEMICAL PROPERTIES

---

COLOR, FORM AND ODOR	<b>Light gray metal powder, no odor</b>
BOILING POINT	<b>Above 1900°C</b>
SPECIFIC GRAVITY (H2O=1)	<b>8.3/8.5</b>
VAPOR PRESSURE @ 20°	<b>No vapors</b>
% VOLATILE BY VOLUME (%)	<b>ND</b>
REACTIVITY IN WATER	<b>Unknown</b>
EVAPORATION RATE (H2O=1)	<b>ND</b>
SOLUBILITY IN WATER	<b>Negligible</b>
MELTING POINT	<b>Above 1050°C</b>

---

## FIRE AND EXPLOSION HAZARD DATA

---

FLASH POINT	<b>NA</b>
AUTOIGNITION TEMPERATURE (°C)	<b>150-180°C</b>
FLAMMABLE LIMITS	<b>Unknown</b>
EXTINGUISHING MEDIA	<b>Low pressure Argon or Nitrogen/dry chemical</b>
SPECIAL FIRE FIGHTING PROCEDURES	<b>DO NOT USE WATER or HALON AGENTS. Isolate and contain burning material. Blanket with dry Argon or Nitrogen, or smother with dry chemical</b>
UNUSUAL FIRE & EXPLOSION HAZARDS	<b>When exposed to atmosphere or oxygen, powder will oxidize and burn/smolder. Rare earth metals burn vigorously in Halogen vapors above 392°F</b>



## SAMARIUM COBALT MAGNETS MATERIAL SAFETY DATA SHEET

---

### HEALTH HAZARD INFORMATION

---

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: **Unknown**

SIGNS AND SYMPTOMS OF OVEREXPOSURE (acute and chronic): **Unknown**

Chemicals Listed as Carcinogen or Potential Carcinogen	National Toxicity Program	Yes _____ No <u>  x  </u>	NIOSH _____ RTECA <u>  x  </u>
I.A.R.C. Monographs	Yes _____ No <u>  x  </u>	OSHA Yes _____ No <u>  x  </u>	

### EMERGENCY FIRST AID PROCEDURES:

INGESTION: **NA**

INHALATION: **NA**

SKIN CONTACT: **Brush off powder. Wash well with soap and water.**

EYE CONTACT: **Flush with running water for at least 15 minutes, including under eyelids.**

---

### REACTIVITY DATA

---

STABILITY

**Unstable**

INCOMPATIBILITY (MATERIALS TO AVOID)

**Acids, oxygen, water, halogenated hydrocarbons, phosphorus, nitrogen, or strong oxidizing agents**

HAZARDOUS DECOMPOSITION PRODUCTS

**Unknown**

HAZARDOUS POLYMERIZATION

**Will Not Polymerize**

CONDITIONS TO AVOID

**Exposure of powder to atmosphere or oxygen**

---

### SAFE HANDLING AND USE

---

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

**Collect material from area and dispose of.**

WASTE DISPOSAL METHOD:

**Dispose of in accordance with federal, state and local regulations.**



## SAMARIUM COBALT MAGNET MATERIAL SAFETY DATA SHEET

---

### SPECIAL PROTECTIVE INFORMATION

---

RESPIRATORY PROTECTION	<b>NIOSH approved (dust, fume, mist)</b>
VENTILATION	<b>General area</b>
LOCAL EXHAUST	<b>TLV requirements</b>
MECHANICAL (general)	<b>Unknown</b>
SPECIAL	<b>No data</b>
OTHER	<b>No data</b>
PROTECTIVE GLOVES	<b>Cloth</b>
EYE PROTECTION	<b>Safety glasses</b>
OTHER PROTECTIVE EQUIPMENT	<b>Eyewash station should be readily available</b>
WORK/HYGENIC PRACTICES	<b>Follow good industrial hygiene and house-keeping practices</b>

---

### SPECIAL PRECAUTIONS

---

#### PRECAUTIONS TO BE TAKEN IN HANDLING/STORAGE:

**Treat as Flammable Solid. Keep away from ignition sources and strong oxidizers.**  
**Store**  
**under inert atmosphere in non-combustible containers.**

TRANSPORTATION REQUIREMENTS	DOT CLASS:	<b>ND</b>
	UN NUMBER:	<b>ND</b>
	IMCO CLASS:	<b>ND</b>
	OTHER:	<b>ND</b>

PRECAUTIONARY LABELING **NONE**

THE ABOVE INFORMATION IS ACCURATE TO THE BEST OF OUR KNOWLEDGE. HOWEVER, SINCE DATA, SAFETY STANDARDS AND GOVERNMENT REGULATIONS ARE SUBJECT TO CHANGE THE CONDITIONS OF HANDLING AND USE, OR MISUSE ARE BEYOND OUR CONTROL, **ANGSTROM SCIENCES** MAKE NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR THE RELIANCE THEREON. USER SHOULD SATISFY HIMSELF THAT HE HAS ALL CURRENT DATA RELEVANT TO HIS PARTICULAR USE.

**NA= NOT APPLICABLE**

**ND= NO DATA FOUND**

**NR=NOT RECORDED**