

PRODUCT NAME: "217-440" OSTALLOY (CERRO CAST)  
NON-SHRINK DUPLICATING WHITE METAL

02-28-98  
CSS-14087

MATERIAL SAFETY DATA SHEET 00040  
ARCONIUM/OSTER ALLOYS

SECTION 1 - MANUFACTURER INFORMATION  
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MANUF/DIST : ARCONIUM/OSTER ALLOYS 401-456-0800  
50 SIMS AVENUE EMERGENCY PHONE.....: 401-421-3840  
PROVIDENCE RI 02909 PREPARATION/REVISION DATE: 02/13/98  
PREPARER/CONTACT: ARCONIUM/OSTER ALLOYS

LOCATION : SAME

Distributed By -  
**FREEMAN** Mfg. & Supply Co.  
1101 MOORE ROAD  
AVON, OHIO 44011-1011 (800) 321-8511

TRADE NAME/SYNONYMS...: GROUP #40  
CHEMICAL NAME/SYNONYMS: OSTALLOY 217-440  
CHEMICAL FAMILY.....: INORGANIC METALS  
FORMULA.....: CONDITION SOLID  
PRODUCT CODE.....: ALLOY

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM  
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\* HEALTH..... 2 \*  
\* FLAMMABILITY.. 1 \*  
\* REACTIVITY.... 0 \*  
\* PROTECTION.... 2 \*  
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SECTION 2 - HAZARDOUS INGREDIENTS  
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THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS : YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	PEL-OSHA	TLV-ACGIH
BISMUTH	7440-69-9		N/A	N/A
LEAD	7439-92-1		0.2mg/m3	0.2mg/m3
TIN	7440-31-5		2.0mg/m3	2.0mg/m3
ANTIMONY	7440-36-0		0.5mg/m3	0.5mg/m3

THIS PRODUCT CONTAINS ONE OR MORE  
CHEMICALS SUBJECT TO TOXIC CHEMICAL  
RELEASE REPORTING REQUIREMENTS OF  
SECTION 313 OF TITLE III OF SUPERFUND  
AMENDMENTS AND REAUTHORIZATION ACT  
(SARA) OF 1986 AND 40 CFR PART 372.

THIS PRODUCT CONTAINS CARCINOGENS (NTP, IARC, or OSHA): YES

CHEMICAL/COMMON NAME	CAS-NUMBER	%	NTP	IARC	OSHA
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SECTION 3 - HEALTH HAZARD DATA  
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HEALTH EFFECTS (Acute And Chronic)-

BISMUTH: BISMUTH AND BISMUTH COMPOUNDS HAVE LITTLE OR NO EFFECT ON INTACT SKIN AND MUCOUS MEMBRANE. CHRONIC INTOXICATION FROM REPEATED ORAL OR PARENTERAL DOSES CAUSES "BISMUTH LINE". THIS IS A GUM CONDITION WITH BLACK SPOTS OF BUCCAL AND COLONIC MUCOSA, SUPERFICIAL STOMATITIS, FOUL BREATH AND SALIVATION.  
LEAD: DEPENDING UPON INDIVIDUAL SUSCEPTIBILITY AND DEGREE OF OVEREXPOSURE, EFFECTS ARE GENERALLY ONLY SEEN AFTER LONG-TERM EXPOSURE. EARLY SYMPTOMS OF LEAD INTOXICATION INCLUDE CONSTIPATION, INSOMNIA, GASTROINTESTINAL DISORDERS, ANEMIA, WEAKNESS AND JOINT PAIN. OVEREXPOSURE TO LEAD MAY HAVE SERIOUS EFFECTS ON THE REPRODUCTIVE SYSTEM OF BOTH MEN AND WOMEN. PERSONS WHO INTEND TO HAVE CHILDREN AND PREGNANT WOMEN IN PARTICULAR SHOULD MAINTAIN A BLOOD LEVEL OF LESS THAN 30mg/100g OF BLOOD.  
TIN: OVEREXPOSURE TO FUMES OF TIN (OXIDE) RESULTS IN STANNOSIS, A BENIGN PNEUMOCONIOSIS.  
ANTIMONY: PROLONGED EXCESSIVE OVEREXPOSURE TO ANTIMONY MAY PRODUCE GASTROINTESTINAL DISORDERS, NERVOUS COMPLAINTS (IRRITABILITY, INSOMNIA, FATIGUE, MUSCLE  
(CONTINUED UNDER ADDITIONAL COMMENTS ON PAGE 4)

PRIMARY ROUTES OF ENTRY-  
NOSE, MOUTH, EYES AND SKIN

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE-  
SEE HEALTH EFFECTS - ACUTE AND CHRONIC  
CADMIUM: CAN CAUSE LUNG AND KIDNEY DISEASE. CANCER HAZARD.

EMERGENCY FIRST AID PROCEDURES-  
FOR HOT METAL BURNS TO SKIN OR EYES, IRRIGATE IMMEDIATELY WITH COOLED WATER, SEEK MEDICAL ASSISTANCE.

SECTION 4 - CHEMICAL DATA  
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BOILING POINT (F).....	>2000	SPECIFIC GRAVITY (WATER=1).....	9.3
VAPOR PRESSURE (mmHg):	N/A	PERCENT VOLATILE BY VOLUME (%):	N/A
VAPOR DENSITY (AIR=1):	N/A	EVAPORATION RATE (BUTYL ACETATE =1):	N/A

SOLUBILITY IN WATER-  
NEGLECTIBLE

APPEARANCE AND ODOR INFORMATION-  
METALLIC COLOR, ODORLESS

SECTION 5 - PHYSICAL HAZARD DATA  
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FLASH POINT (Method Used): N/A  
FLAMMABLE LIMITS : Lel=N/A UEL=N/A

EXTINGUISHING MEDIA-  
ALLOY IS NON-FLAMMABLE

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SPECIAL FIRE FIGHTING PROCEDURES-  
DO NOT USE WATER NEAR MOLTEN METAL-DANGER OF EXPLOSION.

UNUSUAL FIRE AND EXPLOSION HAZARDS-  
AT VERY HIGH TEMPERATURES TOXIC METAL OXIDE FUMES MAY BE EVOLVED.

INCOMPATIBILITY (Materials To Avoid) -  
KEEP WATER AND OTHER VOLATILE LIQUIDS AWAY FROM MOLTEN METALS.

HAZARDOUS DECOMPOSITION PRODUCTS-  
METAL OXIDES.

WILL HAZARDOUS POLYMERIZATION OCCUR-  
WILL NOT OCCUR

CONDITIONS TO AVOID FOR POLYMERIZATION-  
N/A

IS THE PRODUCT STABLE-  
STABLE

CONDITIONS TO AVOID FOR STABILITY-  
N/A

SECTION 6 - SPILL OR LEAK PROCEDURES  
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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED-  
NORMAL SOLID CLEAN UP PROCEDURES. AVOID MAKING DUST. (SOLID AT AMBIENT TEMPERATURES).

WASTE DISPOSAL METHODS-  
DISPOSE OF ACCORDING TO LOCAL, STATE OR FEDERAL HAZARDOUS WASTE REGULATIONS OR RETURN TO MANUFACTURER FOR DISPOSAL.

SECTION 7 - EXPOSURE CONTROL INFORMATION  
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VENTILATION-  
LOCAL EXHAUST: RECOMMENDED  
SPECIAL.....: AVOID INGESTION  
MECHANICAL (General): RECOMMENDED  
OTHER.....: N/I

RESPIRATORY PROTECTION-  
WHERE AIRBORNE EXPOSURES MAY EXCEED PELs, USE NIOSH/MSHA APPROVED RESPIRATOR WITH A TWA<0.05 mg/cum.

PROTECTIVE GLOVES-  
HEAT RESISTANT GLOVES SHOULD BE WORN, LONG SLEEVED SHIRT OR COAT. CLOTHES SHOULD BE LAUNDERED IN ACCORDANCE WITH CURRENT OSHA LEAD STANDARDS.

OTHER PROTECTIVE EQUIPMENT-  
EYE PROTECTION - RECOMMENDED, LOCAL EXHAUST VENTILATION RECOMMENDED.

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OTHER ENGINEERING CONTROLS-  
N/I

WORK PRACTICES-

DO NOT SMOKE, EAT, DRINK OR APPLY COSMETICS IN WORK AREA. DO NOT USE NEAR  
OR EATING AREAS. AVOID MAKING DUST.

HYGIENIC PRACTICES-

WASH HANDS BEFORE EATING OR DRINKING DO NOT SMOKE, EAT OR APPLY COSMETICS  
WORK AREA. DO NOT USE NEAR FOOD OR EATING AREA. AVOID MAKING DUST.

SECTION 8 - SPECIAL PRECAUTIONS  
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PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE-

DO NOT SMOKE, EAT, DRINK OR APPLY COSMETICS IN WORK AREA. DO NOT USE NEAR  
OR EATING AREAS. AVOID MAKING DUST.

MAINTENANCE PRECAUTIONS-

/I

OTHER PRECAUTIONS-

WHEN OSHA PERMISSIBLE EXPOSURE LIMIT (PEL) IS EXCEEDED, THEN SPECIAL CLOTH  
VENTILATION, RESPIRATORS, SAMPLING, ETC., MAY BE REQUIRED.

ADDITIONAL COMMENTS-

(CONTINUED FROM PAGE 2)

PAIN), METALLIC TASTE, INFLAMMATION OF MUCOUS MEMBRANE OF NOSE AND THROAT  
ECZEMA.

WHILE THE INFORMATION AND RECOMMENDATIONS SET FORTH ABOVE ARE BELIEVED TO  
ACCURATE AS OF THE DATE HEREOF, ARCONIUM/OSTER ALLOYS MAKES NO WARRANTY WITH  
RESPECT THERETO AND DISCLAIMS ALL LIABILITY OR ACTION BASED THEREON.