



MATERIAL SAFETY DATA SHEET

SECTION 1 – MANUFACTURER INFORMATION

MANUFACTURER: ARCONIUM ALLOYS 401-456-0800
 50 SIMS AVENUE
 PROVIDENCE, R.I. 02909

PREPARER/CONTACT: ARCONIUM ALLOYS

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PREPARATION/REVISION DATE: 04-22-2013

MSDS GROUP NUMBER: GROUP #4
 PRODUCT NAME(S): OSTALLOY 117
 CHEMICAL FAMILY: INORGANIC METALS
 CONDITION: SOLID

HAZARDOUS MATERIAL IDENTIFICATION SYSTEM

HEALTH.....2
 FLAMMABILITY....1
 REACTIVITY.....0
 PROTECTION.....2

SECTION 2 – HAZARDOUS INGREDIENTS

THIS PRODUCT CONTAINS HAZARDOUS INGREDIENTS: YES

CHEMICAL/COMMON NAME	CAS-NUMBER	PEL-OSHA	TLV-ACGIH
TIN	7440-31-5	2mg/m ³	2mg/m ³
LEAD	7439-92-1	0.2mg/m ³	0.2mg/m ³
CADMIUM	7440-43-9	0.2mg/m ³	0.1mg/m ³
INDIUM	7440-74-6	0.1mg/m ³	0.1mg/m ³
BISMUTH	7440-69-9	N/A	N/A

THIS PRODUCT MAY CONTAIN 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 CFR PART 372.

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

CHEMICAL/COMMON NAME	CAS-NUMBER	NTP	IARC	OSHA
CADMIUM	7440-43-9		XXX	
LEAD	7439-92-1		XXX	

SECTION 3 – HEALTH HAZARD DATA

HEALTH EFFECTS (ACUTE AND CHRONIC) –

TIN: OVEREXPOSURE TO FUMES OF TIN (OXIDE) RESULTS IN STANNOSIS, A BENIGN PNEUMOCONIOSIS.

LEAD: DEPENDING UPON INDIVIDUAL SUSCEPTIBILITY AND DEGREE OF OVEREXPOSURE, EFFECTS ARE GENERALLY ONLY SEEN AFTER LONG-TURM EXPOSURE. EARLY SYMPTONS OF LEAD INTOXICATION INCLUDE CONSTIPATION, INSOMNIA, GASTOINTESTINAL DISORDERS, ANEMIA, WEAKNESS AND JOINT PAIN. OVEREXPOSURE TO LEAD MAY HAVE EFFECTS ON THE REPRODUCTIVE SYSTEM OF BOTH MEN AND WOMEN. PERSONS THAT INTEND TO HAVE CHILDREN AND PREGNANT WOMEN IN PARTICULAR SHOULD MAINTAIN A BLOOD LEVEL OF LESS THAN 30mg/100g OF BLOOD.

CADMIUM: INHALATION OF DUST OR FUMES MAY CAUSE DRYNESS OF THE THROAT, COUGH, HEADACHE, A SENSE OF CONSTRICTION IN THE CHEST, SHORTNESS OF BREATH AND PERSISTENT COUGH AND CHEST PAIN. CADMIUM DUST IS LISTED AS A CARCINOGEN IN THE RHODE ISLAND LIST OF DESIGNATED SUBSTANCES.

INDIUM: NO TOXIC EFFECTS HAVE BEEN REPORTED.

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.

PRIMARY ROUTES OF ENTRY –
NOSE, MOUTH, EYES AND SKIN.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE –
SEE HEALTH EFFECTS – ACUTE AND CHRONIC

EMERGENCY FIRST AID PROCEDURES –
IF MOLTEN METAL CONTACTS SKIN OR EYE, IRRIGATE IMMEDIATELY WITH COLD WATER, SEEK MEDICAL ASSISTANCE.

SECTION 4 – CHEMICAL DATA

BOILING POINT (F)	>2000	SPECIFIC GRAVITY (WATER=1)	9.2
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 – NEGLIGIBLE

APPEARANCE AND ODOR INFORMATION - METALLIC COLOR, ODORLESS

SECTION 5 – PHYSICAL HAZARD DATA

FLASH POINT (METHOD USED): NON-FLAMMAB FLAMMABLE LIMITS: Lel=N/A
UEL=N/A

EXTINGUISHER MEDIA – N/A

SPECIAL FIRE FIGHTING PROCEDURES –
DO NOT USE WATER ON MOLTEN ALLOY – DANGER OF EXPLOSION

UNUSUAL FIRE OR 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

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SIPLLED – NORMAL SOLID
CLEAN UP PROCEDURES. AVOID MAKING DUST.

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

VENTILATION –

LOCAL EXHAUST: RECOMMENDED MECHANICAL (GENERAL): RECOMMENDED
SPECIAL: AVOID INGESTION OTHER: N/A

RESPIRATORY PROTECTION – WHERE AIRBORNE EXPOSURES MAY EXCEED PELs,
USE NIOSH/MSHA APPROVED RESPIRATOR WITH A TWA<0.05mg/m³.

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, SAFETY SHOES – WHILE GRINDING,
POLISHING, OR MELTING STATES, LOCAL EXHAUST VENTILATION RECOMMENDED.

OTHER ENGINEERING CONTROLS – N/A

WORK PRACTICES –

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

HYGIENIC PRACTICES –

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

SECTION 8 – SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE –

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

MAINTENANCE PRECAUTIONS – N/A

OTHER PRECAUTIONS –

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

ADDITIONAL COMMENTS –

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