

MATERIAL SAFETY DATA SHEET
LOW LEAD ALLOY
LEE FREE

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SECTION I: CHEMICAL NAME

CHEMICAL NAME AND FORMULA: LOW LEAD ALLOY	OTHER NAME: ASTM SPEC B584
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SECTION II: ALLOYING ELEMENTS

ELEMENT	CAS #	COMMON NAME	PERCENT	OSHA PEL mg/m ³	ACGIH TLV mg/m ³
*COPPER	7440-50-8	DUST	87.0 – 91.0	1.00	1.00
*COPPER	7440-50-8	FUME	87.0 – 91.0	0.20	0.20
*LEAD	7439-92-1	ELEMENTAL	0.25 MAX	0.05	0.05
*ZINC	7440-66-6	FUME	2.0 – 4.0	5.00	5.00
*ZINC	7440-66-6	DUST	2.0 – 4.0	10.00	10.00
IRON	1309-37-1	FUME/DUST	0.35 MAX	10.00	10.00
TIN	7440-31-5		4.0 – 6.0	2.00	2.00
*ALUMINUM	7429-90-5	FUME/DUST	0.005 MAX	10.00	10.00
BISMUTH	1304-82-1		1.75 – 2.75	10.00	10.00

*TOXIC CHEMICAL(S) SUBJECT TO REPORTING REQUIREMENTS OF SECTION 313 OF SARA TITLE III AND 40 CFR 372

SECTION III: PHYSICAL DATA

PHYSICAL FORM: SOLID	COLOR: YELLOW	FREEZE/MELT TEMPERATURE:
BOILING POINT: NA	SPECIFIC GRAVITY: 8.65	LIQUIDUS 1850° F
DENSITY: 0.31 LBS./IN ³	ODOR: NONE	SOLIDUS 1570° F

SECTION IV: FIRE AND EXPLOSION DATA

AUTO-IGNITION TEMP: NA	FLASH POINT: NA	FLAMMABILITY LIMITS IN AIR: NA
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SECTION V: REACTIVITY DATA

STABLE UNDER NORMAL CONDITIONS OF TRANSPORT, USE AND STORAGE.

SECTION VI: HEALTH HAZARD DATA

THE EXPOSURE LEVELS ARE RELEVANT TO FUMES AND DUST. PRIMARY ROUTES OF ENTRY ARE INHALATION OF DUST AND FUMES. EXPOSURE TO DUST MAY OCCUR DURING MACHINING AND GRINDING. EXPOSURE TO FUMES MAY OCCUR DURING MELTING.
COPPER: INHALATION OF DUST OR FUMES CAN CAUSE NAUSEA, DIARRHEA AND IRRITATION TO THE UPPER RESPIRATORY TRACT. MAY CAUSE METAL FUME FEVER. EMERGENCY AND FIRST AID: REMOVE FROM EXPOSURE.
LEAD: SHORT-TERM EXPOSURE TO INHALATION OF DUST OR FUMES MAY INCLUDE DECREASED PHYSICAL FITNESS, FATIGUE, SLEEP DISTURBANCE AND HEADACHES. LONG-TERM EXPOSURE TO LOWER LEVELS CAN RESULT IN A BUILDUP OF LEAD IN THE BODY AND MAY CAUSE SEVERE SYMPTOMS IN REPRODUCTION, KIDNEY AND BLOOD. EMERGENCY AND FIRST AID: NO IMMEDIATE FIRST AID IS GENERALLY NECESSARY. BIOLOGICAL MONITORING UNDER THE DIRECTION OF A PHYSICIAN IS REQUIRED IN ACCORDANCE WITH OSHA REGULATIONS.
IRON: INHALATION OF OXIDE OR DUST CAN RESULT IN PNEUMOCONIOSIS AND SIDEROSIS WHICH CAUSES A SHORTNESS OF BREATH AND COUGHING TENDENCIES. EMERGENCY AND FIRST AID: REMOVE FROM EXPOSURE AND OBTAIN MEDICAL TREATMENT.
ZINC: EXPOSURE TO ZINC OXIDE FUMES MAY CAUSE METAL-FUME FEVER, SYMPTOMS RESEMBLE INFLUENZA WITH CHILLS AND NAUSEA. EMERGENCY AND FIRST AID: USUALLY LASTS LESS THAN 24 HOURS. NO KNOWN TREATMENT OR LASTING ILL EFFECTS.
ALUMINUM: INHALATION OF FUMES ARE A LOW HEALTH RISK. EMERGENCY AND FIRST AID: NONE NECESSARY.
BISMUTH: IRRITATE. REMOVE AND SEEK MEDICAL TREATMENT.
TIN: TIN POWDER IS A MODERATE IRRITANT TO THE EYES AND AIRWAYS. MAY CAUSE STANNOSIS. EMERGENCY AND FIRST AID: REMOVE FROM EXPOSURE.

SECTION VII: SPILL OR LEAK PROCEDURES

NO SPECIAL PRECAUTIONS ARE NECESSARY FOR SPILLS OF BULK MATERIAL. IF LARGE QUANTITIES OF DUST ARE SPILLED. REMOVE BY VACUUMING OR WET SWEEPING TO PREVENT HEAVY CONCENTRATIONS OF AIRBORNE DUST. CLEANUP PERSONNEL SHOULD WEAR RESPIRATORS AND PROTECTIVE CLOTHING. FOLLOW FEDERAL, STATE AND LOCAL REGULATIONS REGARDING DISPOSAL AND RECYCLING.

SECTION VIII: SPILL PROTECTION INFORMATION

USE GENERAL AND LOCAL EXHAUST VENTILATION TO KEEP AIRBORNE CONCENTRATIONS OF DUST AND FUMES BELOW THE TLV. WHEN REQUIRED, ASSOCIATES SHOULD WEAR OSHA OR NIOSH APPROVED RESPIRATORS FOR PROTECTION AGAINST AIRBORNE DUST OR FUMES. FOOD OR DRINKS SHOULD NOT BE CONSUMED IN THE WORK AREA(S).

SECTION IX: SPECIAL PRECAUTION

USE GOOD HOUSEKEEPING PRACTICES TO PREVENT ACCUMULATIONS OF DUST AND TO KEEP AIRBORNE DUST CONCENTRATIONS AT A MINIMUM. AVOID BREATHING DUST OR FUMES. STORE DUST AWAY FROM SOURCE OF IGNITION.
