



MATERIAL SAFETY DATA SHEET

METAL SOLDER ALLOYS
Date: February 8, 2005

N57 W13366 Carmen Avenue
Menomonee Falls WI 53051-6101
Phone (262)781-8940/Fax (262)781- 8964

SECTION 1 – CHEMICAL PRODUCT IDENTIFICATION

PRODUCT NAME: **METAL SOLDER ALLOYS**

MANUFACTURER'S NAME: ACRO SALES & ENGINEERING, INC.
ADDRESS: N57 W13366 CARMEN AVENUE
MENOMONEE FALLS, WI 53051
TRANSPORT EMERGENCY #: INFOTRAC 800-535-5053
BUSINESS PHONE: 262-781-8940

SECTION 2 - INGREDIENTS AND EXPOSURE LIMIT INFORMATION

CHEMICAL NAME	C.A.S. Number	WT. %	OSHA PEL Mg/m3
Lead	7439-92-1	0 – 99.5	0.05
Tin	7440-31-5	0 – 99.5	2.0
Antimony	7440-36-0	0 – 40	0.50
Silver	7440-22-4	0 – 25	0.01
Bismuth	7440-69-9	0 – 60	N/E
Copper	7440-50-8	0 – 20	0.1 (Fume)
			1.0 (Dust)

PRODUCT CONTAINS ONE OR MORE OF THESE METALLIC ELEMENTS IN VARYING PERCENTAGES. SEE PRODUCT LABEL FOR EXACT COMPOSITION.

SECTION 3 – HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: MODERATE EYE IRRITANT. WILL NOT BURN. TOXIC BY INHALATION. MODERATE GASTROINTESTINAL TRACT IRRITANT. MODERATE RESPIRATORY TRACT IRRITANT. CAUSES SKIN IRRITATION.

NFPA Rating:

Health: 2

Flammability: 0

Reactivity: 0

HMIS Rating:

Health: 2

Flammability: 0

Reactivity: 0

Personal Protection: B

SECTION 3 – HAZARD IDENTIFICATION (continued)

ROUTES OF ENTRY: INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT, ABSORPTION

TARGET ORGANS: BLOOD, DIGESTIVE TRACT, KIDNEYS, NERVOUS SYSTEM.

MEDICAL CONDITIONS AGGRAVATED: DIGESTIVE TRACT DISEASE, KIDNEY DISEASE,

IMMEDIATE (ACUTE); SYSTEMS OVER – EXPOSURE BY ROUTE OF EXPOSURE:

INHALATION: CAN CAUSE MODERATE RESPIRATORY IRRITATION, DIZZINESS, WEAKNESS, FATIGUE, NAUSEA AND HEADACHE.

EYES: CAN CAUSE MODERATE IRRITATION, TEARING AND REDDENING, BUT NOT LIKELY TO PERMANENTLY INJURE EYE TISSUE.

SKIN CONTACT: CAN CAUSE SLIGHT IRRITATION.

INGESTION: IRRITATING TO MOUTH, THROAT, AND STOMACH. CAN CAUSE ABDOMINAL DISCOMFORT, NAUSEA, VOMITING AND DIARRHEA.

LONG TERM (CHRONIC) HEALTH EFFECTS:

CARCINOGENICITY: IARC CLASSIFIES LEAD AND SOME LEAD COMPOUNDS AS 2B CARCINOGENS TO HUMANS.

AGCIH LISTS LEAD AS A "A3" (ANIMAL CARCINOGEN WITH UNKNOWN RELEVANCE TO HUMANS) SEE SECTION 11 OF THIS MSDS FOR ADDITIONAL INFORMATION

REPRODUCTION: SEE SECTION 11 OF THIS MSDS.

MUTAGENICITY: SEE SECTION 11 OF THIS MSDS.

SECTION 4 – FIRST AID MEASURES

SKIN CONTACT: WASH WITH SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND LAUNDRY. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS.

EYE EXPOSURE: FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES RETRACTING EYELIDS OFTEN. TILT THE HEAD TO PREVENT CHEMICAL FROM TRANSFERRING TO THE UNCONTAMINATED EYE. GET IMMEDIATE MEDICAL ATTENTION.

INHALATION: REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, HAVE A PERSON ADMINISTER ARTIFICIAL RESPIRATION AND HAVE A TRAINED INDIVIDUAL ADMINISTER OXYGEN. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: SEEK MEDICAL ATTENTION IMMEDIATELY.

NOTES TO DOCTOR: NO ADDITIONAL FIRST AID INFORMATION AVAILABLE.

SECTION 5 – FIRE FIGHTING MEASURES

FLAMMABILITY SUMMARY: NOT COMBUSTIBLE

FLASH POINT: N/A

AUTOIGNITION TEMPERATURE: N/E

EXPLOSIVE LIMITS % IN AIR; N/E

FIRE FIGHTING METHODS: WILL NOT BURN, NO SPECIAL INSTRUCTIONS AVAILABLE. USE METHODS APPROPRIATE FOR SURROUNDING MATERIALS.

HAZARDOUS COMBUSTION PRODUCTS; METAL FUMES; TOXIC FUMES.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

PRECAUTIONS AND EQUIPMENT: EXPOSURE TO THE SPILLED MATERIAL MAY BE IRRITATING OR HARMFUL. FOLLOW PERSONAL PROTECTIVE EQUIPMENT RECOMMENDATIONSS FOUN IN SECTION VIII OF THIS MSDS.

METHODS FOR CLEAN-UP: WEAR COMPLETE AND PROPER PERSONAL PROTECTIVE EQUIPMENT FOLLOWING THE RECOMMENDATION OF SECTION VIII GATHER AND STORE IN A SEALED CONTAINER PENDING A WASTE DISPOSAL EVALUATION. DO NOT USE BROOM OR AIR CLEANING ETC.

SECTION 7 – HANDLING AND STORAGE

HANDLING MEASURES: HARMFUL OR IRRITATING MATERIAL. AVOID CONTACTING AND AVOID BREATHING THE MATERIAL. USE ONLY IN A WELL VENTILATED AREA. AS WITH ALL CHEMICALS, GOOD INDUSTRIAL HYGIENE PRACTICSE SHOULD BE FOLLOWED WHEN HANDLING THIS MATERIAL. AVOID CONTACT WITH MATERIAL. AVOID BREATHING DUSTS OR FUMES, USE ONLY IN A WELL VENTILATED AREA. WASH THOROUGHLY AFTER HANDLING. WASH HANDS BEFORE EATING. DO NOT GET IN EYES, ON SKIN AND CLOTHING. MINIMIZE DUST GENERATION AND ACCUMULATION. REMOVE CONTAMINATED CLOTHING AND WAHS BEFORE REUSE.

STORAGE MEASURES: NO SPECIAL REQUIREMENTS. STORE IN A TIGHTLY CLOSED CONTAINER. KEEP AWAY FROM FOOD AND DRINKING WATER. STORE IN A COOL DRY PLACE. KEEP AWAY FROM HEAT, SPARKS, AND FLAME. KEEP UNDER A NITROGEN BLANKEY.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

ENGINEERING MEASURES: USE LOCAL EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO MINIMIZE EXPOSRES AND MAINTAIN OPERATOR COMFORT. ENGINEERING CONTROLS MUST BE DISIGNED TO MEET THE OSHA CHEMICAL SPECIFIC STANDARD IN 29 CFR 1910. VENTILATION IS REQUIRED TO MAINTAIN OPERATOR EXPOSURE BELOW PUBLISHED EXPOSURE LIMITS. USE PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION, ORE OTHER ENGINEERING CONTROLS TO CONTROL AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS. EXPLOSION PROOF EXHAUST VENTILATION SHOUD BE USED. FACILITIES STORING OR USING THIS MATERIAL SHOULD BE EQUIPPED WITH AN EYEWASH AND SAFETY SHOWER.
RESPIRATORY PROTECTION:RESPIRATORY PROTECTION MAY BE REQUIRED TO AVOID VEREXPOSURE WHEN HANDLING THIS PRODUCT. GENERAL OR LOCAL EXHAUST VENTILATION IS THE PREFERRED MEANS OF PROTECTION. USE A RESPIRATOR IF GENERAL ROOM VENTILATION IS NOT AVAILABLE OR SUFFICIENT TO ELIMINATE SYMPTOMS. APPROPRIATE RESPIRATORS MUST BE USED, AND A PROGRAM THAT FOLLOWS 29 CFR 1910.134 MUST BE FOLLOWED. WHEN WORKPLACE HAZARDS WARRANT THE USE OF A RESPIRATOR. NIOSH-APPROVED RESPIRATORS MUST BE USED WHEN RESPIRATORY PROTECTION IS NECESSARY.

EYE PROTECTION: WEAR CHEMICALLY RESISTANT SAFETY GLASSES WITH SIDE SHIELDS WHEN HANDLING THIS PRODUCT. DO NOT WEAR CONTACT LENSES.
WEAR GOGGLES AND A FACE SHIELD

SKIN PROTECTION: WEAR PROTECTIVE GLOVES. INSPECT GOVES FOR CHEMICAL BREAK-THROUGH AND REPLACE AT REGULAR INTERVALS. CLEAN PROTECTIVE EQUIPMENT REGULARAY.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION (continued)

WASH HANDS AND OTHER EXPOSED AREAS WITH MILD SOAP AND WATER BEFORE EATING, DRINKING, AND WHEN LEAVING WORK. WHERE CONTACT IS LIKELY, WEAR CHEMICAL RESISTANT GLOVES, A CHEMICAL SUIT, RUBBER BOOTS, AND CHEMICAL SAFETY GOGGLES PLUS A FACE SHIELD.

CONTROL PARAMETERS:	-----	ACGIH EXPOSURE LIMITS	-----
CHEMICAL NAME:	TLA-TWA	STEL	CEILING
LEAD	0.05 mg/m ³ TWA		
TIN	2 mg/m ³ TWA		
SILVER	0.1mg/m ³		
ANTIMONY	0.5mg/m ³ TWA		
BISMUTH	N/E		
COPPER	1 mg/m ³		
	0.1mg/m ³ (as copper fume)		

SECTION 9 –PHYSICAL AND CHEMICAL PROPERTIES

COLOR:	GREY
ODOR:	NONE
PH:	N/A
SOLUBILITY IN WATER:	NEGLIGIBLE, 0 – 1%

OTHER PHYSICAL AND CHEMICAL PROPERTIES DEPEND ON ALLOY COMPOSITION.

SECTION 10 –STABILITY AND REACTIVITY

DECOMPOSITION PRODUCTS:	METAL FUMES, TOXIC FUMES.
INCOMPATIBLE MATERIALS:	PEROXIDES, METALS, STRONG ACIDS, STRONG OXIDIZING AGENTS, STRONG REDUCING AGENTS, ACIDS, CHLORINE, MOISTURE, STRONG ALKALIES.
CONDITIONS TO AVOID;	NONE KNOWN CONTAMINATION, CONTACT WITH AIR. CONTACT WITH WATER.

SECTION 11 –TOXICOLOGICAL INFORMATION

INHALATION AND INGESTION:	INGESTION OF DUST OR FUME MUST BE AVOIDED
LEAD:	LEAD IS TOXIC AND CUMULATIVE, AFFECTING THE KIDNEYS AND NERVOUS SYSTEM. SYMPTOMS INCLUDE ANEMIA, INSOMNIA, WEAKNESS, IRRITABILITY, CONSTIPATION AND STOMACH PAINS. CONSULT OSHA LEAD STANDARD 1910.1025
ANTIMONY:	ANTIMONY IS TOXIC AND DUST OR FUME CAN CAUSE NASAL SEPTAL ULCERATION AND STOMACH LINING IRRITATION.
TIN:	TIN IS NOT REGARDED AS TOXIC BUT EXCESSIVE EXPOSURE CAN CAUSE FEVER, NAUSEA, STOMACH CRAMPS OR DIARRHEA.
COPPER:	COPPER DUST AND FUME AFFECT THE RESPIRATORY SYSTEM, LUNGS, SKIN, LIVER AND EYES.
BISMUTH:	BISMUTH IS NOT CONSIDERED HAZARDOUS.
SILVER:	SILVER MAY CAUSE DISCOLORATION OF EYES AND SKIN (ARGYRIA)

SECTION 12 – ECOLOGICAL INFORMATION

OVERVIEW: ECOLOGICAL HAZARD IN HIGH CONCENTRATIONS. THIS PRODUCT MAY BE DANGEROUS TO PLANTS AND/OR WILDLIFE

SECTION 13 – DISPOSAL CONSIDERATIONS

WASTE DESCRIPTION: RETURN TO SUPPLIER TO BE RECYCLED FOR METAL UNIT VALUE. SPENT OR DISCARDED MATERIAL IS PROBABLY A HAZARDOUS WASTE.
DISPOSAL METHODS: DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, LOCAL OR PROVINCIAL LAWS AND REGULATIONS.

SECTION 14 – TRANSPORT INFORMATION

SHIPPING BASIC DESCRIPTION: DOT & IATA; NOT RESTRICTED UNLESS IN FINE PARTICLE SIZE LESS THAN 0.004 INCHES IN DIAMETER. DEPENDS ON ALLOYH. CONSULT LABEL OR MANUFACTURER FOR ADDITIONAL INFORMATION.

SECTION 15 – REGULATORY INFORMATION

TSCA STATUS: ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY OF EXISTING CHEMICAL SUBSTANCES

REGULATED CHEMICALS:

CHEMICAL NAME		REGULATOIN
LEAD	7439-92-1	SARA 313
LEAD	7439-92-1	CA PROP 65
SILVER	7440-22-4	SARA 313
ANTIMONY	7440-36-0	SARA 313
COPPER	7440-50-8	SARA 313

SECTION 16 – OTHER INFORMATION

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEROF. ADDITIONALLY, ACRO SALES & ENGINEERING, INC. ASSUMES NO RESPONSIBILITY FOR INJURY TO THE VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY THE MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLWED. FUTHERMORE, VENDEE ASSUMES THE RISK IN HIS USE OF THE MATERIAL.