MATERIAL SAFETY DATA SHEET

OSHA MEETS 29 CFR 1910.1200 STANDARDS

PSI

HMIS HAZARD RATINGS

HEALTH	1	0 = INSIGNIFICANT	3 = HIGH
FLAMMABILITY	0	1 = SLIGHT	4 = EXTREME
REACTIVITY	0	2 = MODERATE	

TRANSPORTATION INFORMATION

PROPER SHIPPING NAME : Not regulated
HAZARD CLASS / PKG GRP : None REF: Not applicable
IDENTIFICATION NUMBER : None LABEL: NONE REQUIRED

SECTION 1 – PRODUCT / COMPANY IDENTIFICATION

IDENTITY (AS USED ON LABEL AND LIST)
SO – LO ALLOY 136 °

MANUFACTURER'S NAME
Practical Systems, Inc.

ADDRESS (NUMBER, STREET, P.O. BOX)
11617 Prospect Road

(CITY, STATE AND ZIP CODE)
Odessa, Florida 33556

EMERGENCY TELEPHONE NUMBER
(727) 376 – 7900

TELEPHONE NUMBER FOR INFORMATION
(727) 376 – 7900

DATE PREPARED: May 11, 1997
SUPERCEDES: February 8, 1994

SECTION 2 – HAZARDOUS INGREDIENTS / IDENTITY INFORMATION

HAZARDOUS COMPONENTS (SPECIFIC CHEMICAL IDENTITY; COMMON NAME(S))	CAS#	% (OPTIONAL)	ACGIH TWA PPM	ACGIH TWA MG/M³	ACGIH STEL PPM	ACGIH STEL MG/M³	SARA TITLE III	RQ LBS
Bismuth	7440-69-9							
Indium (e)	7440-74-6			0.1				
Lead (a,b,c,d,f)	7439-92-1	not specified		50 µg			YES	10
Tin oxide	7440-31-5					2		

(a) A "YES" in the SARA TITLE III column indicates a toxic chemical subject to annual reporting requirements of Section 313 of the Emergency Planning and Community Right – To – Know Act of 1986 and of 40 CFR 372.

(b) Indicates that the Resource Conservation and Recovery Act (RCRA) has determined the waste for this chemical is listed as hazardous and must be handled according to regulations in 40 CFR 260 – 281.

(c) Indicates the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) has notification requirements for releases or spills to the environment of the Reportable Quantity (RQ) or greater amounts, according to 40 CFR 302.

(d) Indicates this substance is one of 25 chemicals with substance – specific requirements; refer to 29 CFR 1910.1000 for specific standards and requirements.

(e) The Workplace Hazardous Materials Information System (WHMIS), Canada's version of the Hazard Communication, has determined this product must be disclosed as a hazardous ingredient to the extent described in the regulations.

(f) Indicates substance appears on National Toxicology Program (NTP) list of carcinogens, International Agency for Research on Cancer (IARC) list of carcinogens or is regulated by the Occupational Safety and Health Administration (OSHA) as a possible carcinogen.

SECTION 3 – HEALTH HAZARD DATA

ROUTES OF ENTRY – SIGNS AND SYMPTOMS OF EXPOSURE	EMERGENCY AND FIRST AID PROCEDURES
INHALATION: Inhalation of dusts or mists may cause irritation to the upper respiratory tract. Prolonged or repeated exposure from poor hygiene, housekeeping or handling practices causes LEAD poisoning. Early symptoms are fatigue, disturbance of sleep, and constipation, with more severe exposures followed by colic, anemia and neuritis. Prolonged overexposure can severely damage red blood cell formation, kidneys, and nervous system. Other symptoms include loss of appetite, metallic taste in mouth, anxiety, nausea, pallor, headache, dizziness and hypertension. The OSHA LEAD Standard reports that LEAD may impair the reproductive system of both men and women. Damage may also be carried to the unborn fetus.	Remove victim to fresh air; provide oxygen if breathing is difficult; administer CPR if victim is not breathing; seek medical attention.
SKIN: Brief contact may cause slight irritation; prolonged contact may cause moderate irritation, dermatitis or allergic reaction.	Remove contaminated clothing; wash affected area with soap and water; launder contaminated clothing before reuse; if irritation persists, seek medical attention.
EYES: High vapor concentration or contact with dusts or mists may cause irritation and discomfort.	Flush eyes with water for 15 minutes while holding eyelids open; if irritation persists, seek medical attention.
INGESTION: Ingestion is harmful. May cause irritation and / or systemic toxic poisoning may occur. Aspiration of vomitus into the lungs must be avoided. Vomiting must be induced under the direction of trained medical personnel.	If swallowed, induce vomiting immediately as directed by medical personnel, and if possible, vomiting must be supervised by a trained medical technician. Keep the head below hips to prevent aspiration of liquid into the lungs. Seek immediate medical attention.

HEALTH HAZARDS (ACUTE AND CHRONIC): Acute effects are possible irritation, discomfort and LEAD poisoning; LEAD is a cumulative poison and exposure even to small amounts can raise the body's content to toxic levels. The symptoms of chronic exposure are like those of ingestion and inhalation poisoning; restlessness and irritability may also be noted.

CARCINOGENICITY: NTP? Yes IARC MONOGRAPHS? Yes OSHA REGULATED? Yes
Lead and lead compounds are suspected to cause lung cancer and are listed by NTP and IARC.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Preexisting skin, eye, or respiratory conditions such as gasrointestinal, hemotological, renal, hapatic, genito-urinary, neurological and psychological disorders may be aggravated through prolonged exposure.

SECTION 4 – FIRE FIGHTING MEASURES

FLASH POINT (METHOD USED)	FLAMMABLE LIMITS LEL:	UEL:
Non – flammable	Not applicable	Not applicable

EXTINGUISHING MEDIA
CO_2; water; water fog; dry chemical; chemical foam

SPECIAL FIRE FIGHTING PROCEDURES
Use NIOSH / MSHA approved self – contained breathing apparatus and full protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Moderate in the form of dust when exposed to heat or flame or in contact with powerful oxidizers.

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SECTION 5 – ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Recover and segregate product for reuse; place material into approved containers for disposal; for spills in excess of allowable limits (RQ) notify the National Response Center (800) 424–8802; refer to CERCLA 40 CFR 302 for detailed instructions; refer to SARA Title III, Section 313, 40 CFR 372 for reporting requirements.

SECTION 6 – HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep container closed when not in use; protect containers from abuse; protect from extreme temperatures. Keep this and other chemicals out of reach of children; minimize body contact with this product as well as all chemicals in general. Avoid creating dust.

SECTION 7 – EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATORY PROTECTION: A NIOSH / MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure, air–supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

RESPIRATOR TYPE: Proper respirator selection should be determined by adequately trained personnel and based on the contaminant(s), the degree of potential exposure and published respirator protection factors.

VENTILATION LOCAL EXHAUST: Required MECHANICAL (GENERAL): Yes	SPECIAL: To maintain minimum TWA and STEL levels. OTHER: Engineering and work controls as required.
PROTECTIVE GLOVES: Chemical resistant to minimize skin contact when the potential exists for prolonged or repeated exposure.	EYE PROTECTION: Safety goggles with side shields.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: You must wear appropriate protective clothing (such as boots, gloves, sleeves, aprons, etc.) over any part of your body that could be exposed to lead.

WORK / HYGIENIC PRACTICES: Safety eyebath nearby; practice safe workplace habits to minimize skin contact by this, or any chemicals.

SECTION 8 – PHYSICAL / CHEMICAL PROPERTIES

BOILING POINT 1560 ° C = Bi	SPECIFIC GRAVITY (WATER = 1) Not specified
VAPOR PRESSURE (MM HG) Not specified	VOLATILE ORGANIC COMPOUNDS (VOC'S) Not applicable
VAPOR DENSITY (AIR = 1) Not applicable	EVAPORATION RATE (n–BUTYL ACETATE = 1) Not applicable
SOLUBILITY IN WATER Insoluble	% VOLATILE (BY WT) None
APPEARANCE AND ODOR Silver / gray, no odor	MELTING POINT Varies with alloy specification

SECTION 9 – STABILITY AND REACTIVITY

STABILITY UNSTABLE: STABLE: XXX	CONDITIONS TO AVOID: Corrosive environment

INCOMPATIBILITY (MATERIALS TO AVOID):

Strong oxidizers, strong acids, acetonitrite, dinitrogen tetraoxide, S, Al BrF_3, NH_4NO_3, $HClO_3$, Cl_2, HNO_3, mercury (II) bromide, H_2O_2, NaN_3, disodium acetylide

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

Thermal decomposition may yield CO; CO_2; metal oxides of constituents

HAZARDOUS POLYMERIZATION MAY OCCUR: WILL NOT OCCUR: XXX	CONDITIONS TO AVOID: None

SECTION 10 – DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with Local, State, and Federal Regulations. *Do not* flush to sanitary sewer or or waterway. Refer to "40 CFR Protection of Environment Parts 260–299" for complete waste disposal regulations. Consult your local, state, or Federal Environmental Protection Agency before disposing of *any* chemicals.

Form revised 01 / 94

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