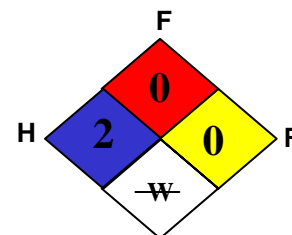




INTERSPACE BATTERY LEAD PASTED PLATES & BATTERY PARTS

Hazard Rating



MATERIAL SAFETY DATA SHEET

SECTION 1 - GENERAL INFORMATION

MANUFACTURER'S NAME: INTERSPACE BATTERY CORPORATION	EMERGENCY TELEPHONE NO.: CHEMTEL 800-255-3924
ADDRESS: 2009 San Bernardino Rd., West Covina, CA 91790	OTHER INFORMATION CALLS: 626-813-1234
PERSON RESPONSIBLE FOR PREPARATION: Gonzalo Ramos, Safety, Health & Environmental Affairs Manager	Revised Date: JUNE 30, 2006

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

C.A.S.	PRINCIPAL HAZARDOUS COMPONENT(S) (chemical & common name(s))	Hazard Category	% Weight	ACGIH TLV - mg/m ³	OSHA PEL/TWA - mg/m ³
7439-92-1	Grid/Parts (40-50%) Containing Lead	Acute-Chronic	92-99	0.05 mg/m ³	0.05 mg/m ³
7440-36-0	Antimony	Chronic	1-5	0.5	0.5
7440-31-5	Tin	Chronic	0-3.0	2	2
7440-70-2	Calcium (lead calcium alloy)	Reactive	<0.15	Not Established	Not Established
7440-38-2	Arsenic (inorganic)	Acute-Chronic	<1	0.01	0.05
None assigned	Paste (50-60%) Containing Lead Oxide (Litharge)	Acute-Chronic	50-80	0.05 (lead)	0.05 (lead)
7446-14-2	Lead Sulfate	Acute-Chronic	5-20	Not Established	Not Established
1333-86-4	Carbon Black	Chronic	<0.2	3.5	3.5

Note: PEL's for Individual states may differ from OSHA's PEL's. Check with local authorities for the applicable state PEL's.
OSHA – Occupational Safety and Health Administration; ACGIH – American Conference of Governmental Industrial Hygienists; NIOSH – National Institute for Occupational Safety and Health.

COMMON NAME: (Used on label) Battery plates and cast lead parts

(Trade Name & Synonyms)

Chemical Family: Lead and lead compounds

Chemical

Formula: Toxic mixture

Name: Lead pasted plates and battery parts

SECTION 3 - HAZARD IDENTIFICATION

Signs and Symptoms of Exposure	1. Acute Hazards	Direct skin or eye contact may cause local irritation. Inhalation or ingestion of lead dust or fumes may result in headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia and leg, arm and joint pain.			
	2. Sub-Chronic and Chronic Health Effects	Prolonged exposure may cause central nervous system damage, gastrointestinal disturbances, anemia, wrist-drop and kidney dysfunction and reproductive problems. Pregnant women should be protected from excessive exposure to prevent lead from crossing the placental barrier and causing infant neurological disorders. California Proposition 65 Warning: This product contains lead and lead compounds, which are chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.			
Medical Conditions Generally Aggravated by Exposure	Pulmonary edema, bronchitis, emphysema, dental erosion and tracheobronchitis.				
Routes of Entry	Inhalation- YES Ingestion – YES	Eye Contact- YES	Skin Absorption- NO		
Chemical(s) Listed as Carcinogen or potential Carcinogen	Proposition 65 - YES	National Toxicology Program - YES	I.A.R.C. Monographs - YES	O.S.H.A. - NO	

SECTION 4 - FIRST AID MEASURES

Emergency and First Aid Procedures	Contact with Lead/Pasted Plates
1. Inhalation	Move to ventilated area. Obtain medical attention if experiencing effects of overexposure.
2. Eyes	Flush the eyes with copious quantities of cool running water for 15 minutes. Obtain immediate medical attention.
3. Skin	Wash area thoroughly with soap and water.
4. Ingestion	Do not induce vomiting. If conscious drink large amounts of water/milk. Obtain medical attention. Never give anything by mouth to an unconscious person.
5. Lead Exposure	May cause lassitude, constipation, anemia, nausea, vomiting, paralysis, and central nervous system depression. Greatest exposure comes from dust in the air and on hands when packing/unpacking, and during lead acid battery manufacturing.

SECTION 5 - FIREFIGHTING MEASURES

Flash Point – Not Applicable	Flammable Limits in Air % by Volume	Lower N/A	Upper N/A	Extinguishing Media – Dry Chemical or CO ₂	Auto-Ignition - Not Applicable Temperature
Special Fire Fighting Procedures	Do not use water on fires where molten metal is present. Use NIOSH/MSHA approved SCBA and full body protective equipment operated in positive pressure mode.				
Unusual Fire and Explosion Hazards	Molten metals produce fumes and/or vapors that may be toxic or respiratory irritants. Product can react vigorously with strong oxidizing agents.				

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Procedures for Cleanup: Avoid contact with any spilled material. Contain spill, isolate hazard area, and deny entry. Limit site access to emergency responders. Material should be vacuumed with HEPA filter or wet swept and stored in dry containers for later disposal. Do not use compressed air or dry sweeping as a means of cleaning.

Personal Precautions: Wear protective clothing and appropriate NIOSH/MSHA approved respirator. ANSI approved safety glasses with side shields recommended.

Environmental Precautions: Lead and its compounds are a severe threat to the environment. Contamination of water, soil and air should be prevented.

SECTION 7 - HANDLING AND STORAGE

Precautions to be Taken in Handling and Storage	Store away from reactive materials, open flames and sources of ignition as defined in Section 10 – Stability and Reactivity.
Other Precautions	GOOD PERSONAL HYGIENE AND WORK PRACTICES ARE MANDATORY. Refrain from eating, drinking or smoking in work areas. Thoroughly wash hands, face, neck and arms before eating, drinking and smoking. Work clothes and equipment should remain in designated lead contaminated areas, and never taken home or laundered with personal clothing. Wash soiled clothing, work clothes, and equipment before reuse.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Respiratory Protection	NIOSH approved respirator with HEPA filter is required when the PEL is exceeded or employee experiences respiratory irritation. When exposure levels are unknown or when fire-fighting, wear a self-contained breathing apparatus with a full face-piece operated in positive pressure mode.		
Ventilation	Use adequate general or local exhaust ventilation to keep airborne concentration below the PEL.		
Protective Gloves	Rubber Gloves	Eye Protection	ANSI approved safety glasses with side shields recommended.
Other Protective Clothing or Equipment	Aprons, boots and protective clothing appropriate for an industrial environment. Ventilation, as described in the <u>Industrial Ventilation Manual</u> produced by the American Conference of Governmental Industrial Hygienists, shall be provided in areas where exposures are above the PEL or TLV specified by OSHA or other local, state and federal regulations. Safety shower and eyewash.		

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Applicable	Vapor Pressure: Not Applicable	Specific Gravity: 7.4 g/ml	Melting Point: 550°F
Percent Volatile By Volume: Not Applicable	Vapor Density: Not Applicable	Evaporation Rate: Not applicable	
Solubility In water: 33 mg/l	Reactivity in Water: None		
Appearance and Odor:	Lead: Gray metallic, solid Lead Oxide: Orange or gray paste No apparent odor	Product manufactured by pasting lead oxide over lead frame (grid).	

SECTION 10 - STABILITY AND REACTIVITY

Stability: Stable	Conditions to Avoid: Intense Heat; avoid high concentrations of corrosives/acids.
Incompatibility (Materials to Avoid)	Strong oxidizers and this product may liberate hydrogen gas.
Hazardous Decomposition Products	Molten metals produce fumes and/or vapors that may be toxic or respiratory irritants.
Hazardous Polymerization	Hazardous Polymerization has not been reported.

SECTION 11 - TOXICOLOGICAL INFORMATION

GENERAL: The primary routes of exposure are ingestion or inhalation of dust.

ACUTE:

INHALATION/INGESTION: Exposure to lead and its compounds may cause headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia, and pain in the legs, arms and joints. Kidney damage, as well as anemia, can occur from acute exposure.

CHRONIC:

INHALATION/INGESTION: Prolonged exposure to lead and its compounds may produce many of the symptoms of short-term exposure and may also cause central nervous system damage, gastrointestinal disturbances, anemia, and wrist drop. Symptoms of central nervous system damage include fatigue, headaches, tremors, hypertension, hallucination, convulsions and delirium. Kidney dysfunction and possible injury has also been associated with chronic lead poisoning. Chronic overexposure to lead has been implicated as a causative agent for the impairment of male and female reproductive capacity, but there is at present, no substantiation of the implication. Pregnant women should be protected from excessive exposure. Lead can cross the placental barrier and unborn children may suffer neurological damage or developmental problems due to excessive lead exposure in pregnant women.

SECTION 12 - ECOLOGICAL INFORMATION

In most surface water and groundwater, lead forms compounds with anions such as hydroxides, carbonates, sulfates, and phosphates, and precipitates out of the water column. Lead may occur as sorbed ions or surface coatings on sediment mineral particles or may be carried in colloidal particles in surface water. Most lead is strongly retained in soil, resulting in little mobility. Lead may be immobilized by ion exchange with hydrous oxides or clays or by chelation with humic or fulvic acids in the soil. Lead (dissolved phase) is bioaccumulated by plants and animals, both aquatic and terrestrial.

SECTION 13 - DISPOSAL CONSIDERATIONS

DISPOSE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS FOR LEAD AND LEAD COMPOUNDS. Battery parts may be recycled by EPA permitted secondary lead smelting facility or disposed of as hazardous waste pursuant to RCRA requirements.

SECTION 14 - TRANSPORT INFORMATION

U.S. DOT PROPER SHIPPING NAME: RQ, Environmentally Hazardous Substances, solid, n.o.s.

U.S. DOT HAZARD CLASS: 9

U.S. DOT ID NUMBER: UN3077

U.S. DOT PACKING GROUP: III

U.S. DOT LABEL: Class 9

SECTION 15 - REGULATORY INFORMATION

U.S. HAZARDOUS UNDER HAZARD COMMUNICATION STANDARD:

LEAD – YES

ANTIMONY – YES

ARSENIC – YES

LEAD SULFATE - YES

INGREDIENTS LISTED ON TSCA INVENTORY: YES
CERCLA SECTION 304 HAZARDOUS SUBSTANCES:

LEAD – YES

RQ: REPORTING NOT REQUIRED WHEN DIAMETER
OF THE PIECES OF SOLID METAL RELEASED
IS EQUAL TO OR EXCEEDS 100 µm (micrometer).

ANTIMONY – YES

RQ: 5000 POUNDS

ARSENIC – YES

RQ: 1 POUND

LEAD SULFATE –YES

RQ: 10 POUNDS

EPCRA SECTION 313 TOXIC RELEASE INVENTORY:

LEAD – CAS NO: 7439-92-1

ANTIMONY – CAS NO: 7440-36-0

ARSENIC – CAS NO: 7440-38-2

LEAD SULFATE – CAS NO: 7446-14-2

SECTION 16 - OTHER INFORMATION

THE INFORMATION ABOVE IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, INTERSPACE BATTERY MAKES NO WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM ITS USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION FOR THEIR PARTICULAR PURPOSES. ALTHOUGH REASONABLE PRECAUTIONS HAVE BEEN TAKEN IN THE PREPARATION OF THE DATA CONTAINED HEREIN, IT IS OFFERED SOLELY FOR YOUR INFORMATION, CONSIDERATION AND INVESTIGATION. THIS MATERIAL SAFETY DATA SHEET PROVIDES GUIDELINES FOR THE SAFE HANDLING AND USE OF THIS PRODUCT; IT DOES NOT AND CANNOT ADVISE ON ALL POSSIBLE SITUATIONS, THEREFORE, YOUR SPECIFIC USE OF THIS PRODUCT SHOULD BE EVALUATED TO DETERMINE IF ADDITIONAL PRECAUTIONS ARE REQUIRED.

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