MATERIAL SAFETY DATA SHEET

ISSUE DATE: 10/30/92
REVISED DATE: 5/26/09
Supercedes: Any Previous M.S.D.S. On This Product
EMERGENCY PHONE NUMBER: CHEM-TEL INC. 1-800-255-3924

I. IDENTIFICATION

PRODUCT NAME: **Aluminum Products**
PRODUCT CLASS: Metal

DUCTMATE INDUSTRIES, INC.
210 Fifth Street
Charleroi, PA 15022

II. HAZARDOUS INGREDIENTS

Material	CAS-Number	OSHA/PEL	ACGIH/TLV
Aluminum	7429-90-5	15 mg/M3 – Total dust 5 mg/M3 – Respirable fraction	10 mg/M3 – Metal Dust 5 mg/M3 – Welding fume
Chromium*	7440-47-3	1.0 mg/M3 (Chromium metal)	0.5 mg/M3 - Chromium metal & Cr III compounds
Copper	7440-50-8	0.1 mg/M3 – Fume (as Cu) 1 mg/M3 – Dusts & mists (as Cu)	0.1 mg/M3 – Fume 1 mg/M3 – Dusts & mists (as Cu)
Iron	7439-89-6	10 mg/M3 (as Fe_2O_3 fume)	5 mg/M3 (Iron oxide dust & fume)
Magnesium	7439-95-4	15mg/M3	10mg/M3 (fume)
Manganese	7439-96-5	5 mg/M3 (C) - Fume & Mn compounds	0.2 mg/M3
Silicon	7440-21-3	15 mg/M3 -Total dust 5 mg/M3 – Respirable fraction	10 mg/M3
Zinc*	7440-66-6	5mg/M3 (as ZnO fume)	5mg/M3 (as ZnO fume)

Notes:
Chromium VI compounds have been listed by IARC and/or NTP as carcinogenic or potentially carcinogenic to humans. Zinc oxide exposure limits are referenced above.
* Denotes a toxic chemical subject to reporting requirements for section 313 of Title III of S.A.R.A.

III. SPECIAL PRECAUTIONS

APPEARANCE: Silvery ductile metal
SPECIFIC GRAVITY: 2.5+
MELTING POINT: 480-649°C

IV. HEALTH AND HAZARD DATA

ROUTE OF EXPOSURE: Inhalation of fumes or dust, skin contact or ingestion.
EFFECTS OF OVEREXPOSURE:
Chromium: Chromium dust can cause irritation of the eyes, skin, and respiratory tract. Additional chromium compounds can be formed during processing and cause dermatitis, allergic reactions, and skin ulcers. Chronic overexposure can cause perforation of the nasal septum, respiratory sensitization, asthma, lung damage kidney damage, and cancer. Chromium VI compounds are listed as a Group I carcinogen by IARC and NTP.
Cooper: Acute overexposure to fumes of cooper may cause metal fume fever with flu-like symptoms. Copper dust and fume can cause irritation of the upper respiratory tract, metallic taste in the mouth, and nausea. Chronic overexposures can cause reduction in red blood cells, skin abnormalities, and hair discoloration.
Iron: The inhalation of iron oxide fumes or dust may cause an apparent bening pneumoconiosis which is called siderosis. Can cause irritation of gastrointestinal tract, bleeding, changes in the pH of body fluids, and liver damage.
Magnesium: Exposure to magnesium may cause metal fume fever with flu-like symptoms. Particles imbedded in the skin may cause severe lesions.
Manganese: Excessive and prolonged inhalation of manganese (generally over two years exposure) can cause damage to the central nervous system. The pathology resembles Parkinson Disease. Also, workers routinely exposed to high concentrations of manganese display an unusually high incidence of respiratory disease.
Silicon: Chronic overexposures can cause chronic bronchitis and narrowing of the airways. Studies with experimental animals by injection have found lesions of the lungs.
Zinc: Zinc is low in toxicity, but inhalation of fumes/oxides may cause metal fume fever. Onset of symptoms may be delayed 4-12 hours and include irritation of the mouth and throat, coughing stomach pain, headache, nausea, vomiting,

metallic taste, chills, fever, pains in the muscles and joints, thirst, bronchitis or pneumonia and a blush tint to the skin. These symptoms go away in 24 to 48 hours and leave no effect.
Under normal handling conditions the solid alloy presents no significant health hazards. Processing of the alloy by dust or fume producing operation (grinding, buffing, heating, welding, etc.) may result in the potential for exposure to airborne metal particulates or fume.

V. HEALTH AND FIRST AID

INHALATION: If acute overexposure to dust or fumes occurs, remove victim from the adverse environmental and seek medical attention.
SKIN CONTACT: Wash area of contact thoroughly with soap and water. If irritation persists, seek medical attention.
EYE CONTACT: Flush immediately with running water for fifteen minutes. If irritation persists, seek medical attention.
INGESTION: Seek medical attention if large quantities of materials have been ingested.

VI. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A
EXTINGUISHING MEDIA: Use class D extinguishing agents.
SPECIAL PROCEDURES: Firefighters should wear equipment to protect against noxious fumes and protective clothing.
EXPLOSION HAZARD: Fire and explosion hazard is high for aluminum when the material is in the form of dust and exposed to heat, flames, chemical reaction or in contact with powerful oxidizers.

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 elevated concentration of airborne dust. Vacuum systems must be designed for explosive dust. Avoid all ignition sources. If airborne dust is generated during the clean up, use an appropriate NIOSH-approved respirator.
Waste Disposal Method: Dispose of in accordance with appropriate federal, state and local regulations. Clean up personnel should wear respirators and protective clothing. Local ventilation is recommended to maintain dust levels below the applicable PEL's and TLV's. Ventilation systems must be designed for explosive dusts.

VIII. SPECIAL PROTECTION

VENTILATION: Local exhaust ventilation should be provided to keep worker exposures within allowable limits. Ventilation systems must be designed for explosive dusts.
RESPIRATORY PROTECTION: Use NIOSH/MSHA approved organic vapor respirators when vapor concentrations exceed to TLV.
EYE PROTECTION: Personal protective equipment should be worn when there is a reasonable probability of injury.
PROTECTIVE GLOVES: As needed

IX. CARCINOGENIC ASSESSMENT

Aluminum has NOT been identified as a suspect carcinogen by NTP, IARC, or OSHA.

X. REACTIVITY DATA

STABILITY: Stable under normal conditions of handling and use.
CONDITIONS TO AVOID: Strong acids and bases can produce flammable/explosive gas. Molten metal may react violently with water.
INCOMPATIBILITY: Acids, bases and oxidizers.
HAZARDOUS DECOMPOSITION PRODUCT: Metal fume. Welding/cutting operations may generate ozone and oxides of nitrogen.
HAZARDOUS POLYMERIZATION: Will not occur.

XI. SPECIAL PRECAUTIONS

HANDLING AND STORAGE: Use good housekeeping practices to avoid excessive dust accumulation.

This information is taken from sources or based upon data believed to be reliable; however, DUCTMATE INDUSTRIES, INC. makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.