

MATERIAL SAFETY DATA SHEET

Elgen Manufacturing Company INC.

300 Murray Hill Road. East Rutherford, NJ 07073

(800)503-9805

ISSUE DATE: 6/10/2009

EMERGENCY PHONE NUMBER: INFOTRAC: (800) 535-5053

I. Product

PRODUCT NAME: Stainless Steel, All Grades

CLASS: Steel

II. Physical Data

APPEARANCE: Metallic Solid

SPECIFIC GRAVITY: 7.65 – 7.94

MELTING POINT: 2550 - 2650°F

III. Hazardous Ingredients

<u>MATERIAL:</u>	<u>% WEIGHT</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Iron	45 - 90	10 mg/M3 (TWA as Fume)	5 mg/M3 (TWA as Fume)
Manganese	0 - 15	1 mg/M3 (TWA as Fume)	1 mg/M3 (TWA as Fume)
Silicon	0 - 3	10 mg/M3 (TWA)	10 mg/M3 (TWA)
Chromium*	10.5 - 30	1 mg/M3 (TWA)	0.5 mg/M3 (TWA)
Nickel*	0 – 40	1 mg/M3 (TWA)	1 mg/M3 (TWA)
Molybdenum	0 - 5	5 mg/M3 (TWA as soluble)	5 mg/M3 (TWA as soluble)
Copper	0 – 5	0.1 mg/M3 (TWA as fume)	0.2 mg/M3 (TWA as fume)
Aluminum	0 – 1	5 mg/M3 (TWA as fume)	5 mg/M3 (TWA as fume)
Cobalt	0 - 1	0.05 mg/M3 (TWA)	0.05 mg/M3 (TWA)

*Suspect Carcinogen by NTP and IARC

IV. Health Hazard Data

ROUTE OF EXPOSURE: Inhalation of dusts or fumes.

EFFECTS OF OVEREXPOSURE:

Stainless, as a solid, is not toxic and presents no health hazard. Overexposure to dusts or fumes which may result during heating, grinding, cutting, brazing or welding can pose significant health hazards as described below.

Iron: Siderosis, no fibrosis

Nickel: Nickel compounds are suspect carcinogens by inhalation. The most common effect resulting from exposure to nickel compounds is "nickel itch", a form of dermatitis.

Chromium: Suspect carcinogen and tumorigen. Dermatitis may result from exposure to chromium fumes.

Manganese: Can affect central nervous system, including disturbances in gait and speech. Pulmonary system damage may result from inhalation of fume and dust.

Molybdenum: Irritation of nose and throat, weight loss and digestive disturbances in animals. No industrial poisoning have been reported.

Copper: May be responsible for one form of metal fume fever. Metal fume fever's symptoms include cough, headache, fever, nausea, chilling, pain in muscles and joints, and metal taste in mouth. This condition is usually transitory lasting one day or less.

Silicon: May produce X-ray changes in lungs without disability.

Aluminum: No known health effects.

Cobalt: an experimental carcinogen.

Medical conditions known to be aggravated by exposure to this material: Persons with lung disorders or diseases or skin disorders may be at added risk as a result of overexposure to this material.

V. Fire and Explosion Hazard Data

LASH POINT: N/A

EXTINGUISHING MEDIA: Use dry powder for metal fires.

SPECIAL PROCEDURES: Firefighters should wear equipment to protect against noxious fumes.

VI. Spill or Leak Procedures

Minimal problems with spills of this product would occur because of its solid form. However, if there is a spill of dust, clean up using methods which avoid dust generation and the use of water, such as vacuum. 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.

VII. Special Protection

VENTILATION: Local exhaust ventilation should be provided to keep worker exposures within allowable limits.

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved organic vapor respirators when vapor concentrations exceed the TLV.

EYE PROTECTION: Personal protective equipment should be worn when there is a reasonable probability of injury.

PROTECTIVE GLOVES: As needed.

VIII. Emergency and First Aid Procedures

INHALATION: If acute overexposure to dust or fumes occurs, remove victim from the adverse environment 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: N/A

IX. Carcinogenic Assessment

Nickel and Chromium have been identified as suspect carcinogens by NTP, IARC or OSHA.

X. Special Precautions

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

XI. Reactivity Data

STABILITY: Stable under normal conditions of handling and use.

CONDITIONS TO AVOID: Poor ventilation.

INCOMPATIBILITY: Strong acids (produce hydrogen gas).

HAZARDOUS DECOMPOSITION PRODUCT: During certain operations such as welding, burning, melting or hot rolling, metal fumes may be generated. Hexavalent chromium which is suspect carcinogen may result from pickling of stainless.

HAZARDOUS POLYMERIZATION: Will not occur.

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I. Product

PRODUCT NAME: ELGEN Galvanized Steel Product

CLASS: Steel

II. Physical Data

APPEARANCE: Metallic Color

BOILING POINT: N/A

SPECIFIC GRAVITY: 7.5-8.5 g/cm³

SOLUBILITY IN WATER: Not Soluble

SOFTENING POINT: 2400 F

MELTING POINT: 2750°F

III. Hazardous Ingredients

<u>MATERIAL:</u>	<u>CAS</u>	<u>% WEIGHT</u>	<u>OSHA PEL (mg/m3)</u>	<u>ACGIH TLV (mg/m3)</u>
Iron	7439-89-6	94.00 – 99.66	10 (oxide fume)	5 (oxide fume)
Zinc Arsenic	7440-66-6	1.00-4.50.	15 (oxide dust)	15 (oxide dust)
Aluminum	7429-90-5	00-.4	15 (dust)	10 (dust)
Antimony	7440-36-0	<.9	0.5	0.5
Arsenic	7440-38-2	<.09	0.01	0.01
Beryllium	7440-41-7	<.09	0.002	0.002
Boron	7440-42-8	<.9	15	10
Cadmium	7440-43-9	<.09	0.005	0.01
Calcium	1305-78-8	<.9	5	2
Carbon	7440-44-0	.04-1.0	15	10
Chromium*	7440-47-3	0.01-1.5	0.5	0.06
Cobalt	7440-48-4	<.09	0.1	0.02
Manganese	7439-96-5	0.05-2.0	5 (dust) 5 (fume)	5 (dust) 1 (fume)
Phosphorous	8049-19-2	.001-.020	15	10
Molybdenum	7439-98-7	0.00-.010	15	10
Nickel	7440-02-0	0.01-.30	1	1
Silicon	7440-21-3	.015-.220	15	10
Sulfur	7704-34-9	.001-.020	15	10

This product contains the following ingredient at levels subject to reporting requirements of:

SARA 313 (40CFR372): Manganese, Chromium Nickel

OSHA HAZARADOUS COMMUNICATIONS STANDARD, (29CFR1910.1200): Manganese, Chromium, Nickel, Silicon, Aluminum metallic powder

CALIFORNIA PROPOSITION 65: This product contains the following trace amounts of chemicals known to the state of California to be a cancer hazard: Nickel

IV. Health Hazard Data

ROUTE OF EXPOSURE: Inhalation of dusts or fumes.

EFFECTS OF OVEREXPOSURE:

Acute Effect: Excessive inhalation of metal fumes can produce an acute reaction known as “metal fume fever”. Symptoms consist of chills and fever (very similar to and easily confused with flu symptoms) which come on a few hours after large exposures.

Chronic Effects: Only after six to ten years of exposure to iron dust or fume does one present any signs of pneumoconiosis (i.e. siderosis). Physical examinations of those exposed to iron dust have not indicated any disability. Excessive and repeated inhalation of chromium fume or dust may cause severe irritation, ulceration or cancer in the respiratory system. It is generally believed that the hexavalent form of chromium (Cr+6) are responsible for these effects.

It is uncertain whether metallic chromium in dust form can cause the same effects noted above. Excessive and prolonged inhalation of manganese (generally over two years exposure) can cause damage to the central nervous system. The pathology resembles Parkinson’s Disease. Also, workers routinely exposed to high concentrations of manganese display an unusually high incidence of respiratory disease. Molybdenum has caused toxicity (anemia and poor growth) in farm animals, but there are no data documenting toxicity to humans due to industrial exposure.

Excessive inhalation of nickel fumes has been associated with respiratory cancer. Nickel is a potential sensitizer and may cause allergic reactions.

Chronic exposure to tungsten dust has caused respiratory disorders characterized by cough, dyspnea and wheezing. There is no correlation between the onset of symptoms, the length of exposure and the development of interstitial fibrosis.

Dermatitis, primarily on the side of the neck, flexor parts of the forearm and the back of the hand were also detected.

Vanadium dusts cause a persistent cough which can develop after five hours of exposure and may last up to ten days

Pulmonary irritation also results from vanadium, but there are no deviations in pulmonary function or other laboratory tests.

Zinc dust is a skin and respiratory tract irritant. It is relatively nontoxic. However, if oxidation occurs prior to inhalation, one must deal with toxicities associated with zinc oxide such as metal fume fever, gastrointestinal disorders and hepatic dysfunction.

V. Fire and Explosion Hazard Data

FLAMMABILITY CLASS:

FLASH POINT: N/A

EXTINGUISHING MEDIA: As for the surrounding fire, use dry powder for metal fires.

UNUSUAL FIRE HAZARD: Contact of molten product with water can cause an explosion hazard.

FIRE FIGHTING PROCEDURES: Wear full protective clothing including helmet, self-contained positive pressure-demand breathing apparatus, protective clothing, and a face mask.

SPECIAL PROCEDURES: Firefighters should wear equipment to protect against noxious fumes.

PRODUCT OF COMBUSTION: Material will begin softening at approximately 2

400 F, will proceed to a liquid and form irritating and toxic gaseous metallic oxides at extremely high temperatures

VI. Spill or Leak Procedures

LARGE/SMALL SPILL: Avoid creating dusts when cleaning spill. Small pieces may be collected using a broom and shovel.

Particulates and dust may be collected by using a vacuum with a HEPA filter. Place collected material in a closed container.

Minimal problems with spills of this product would occur because of its solid form. However, if there is a spill of dust, clean up using methods which avoid dust generation and the use of water, such as vacuum. 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.

VII. Special Protection

VENTILATION: Local exhaust ventilation should be provided to keep workers exposures within allowable limits. Whenever dusts, particulates, or fumes are generated, use appropriate local exhaust ventilation to keep exposures below the regulated limits.

RESPIRATORY PROTECTION: Use NIOSH/NSHA approved organic vapor respirators when vapor concentrations exceed the TLV.

EYE PROTECTION: Personal protective equipment should be worn when there is a reasonable probability of injury. Wear safety glasses with side shields.

HAND PROTECTION: Wear leather or other appropriate work gloves, if necessary for type of operation.

OTHER: Protective clothing coveralls.

VIII. Emergency and First Aid Procedures

INHALATION: If acute overexposure to dust or fumes occurs, remove victim from the adverse environment 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: N/A

IX. Carcinogenic Assessment

Nickel and Chromium have been identified as suspect carcinogens by NTP and IARC

X. Special Precautions

HANDLING AND STORAGE: Use good housekeeping practices to avoid excessive dust accumulation. As supplied, this product does not present a health hazard. Processing of the product for final uses can include formation of dusts, particulates, or fumes, some of which may present health hazards.

XI. Reactivity Data

STABILITY: Stable under normal conditions of handling and use.

CONDITIONS TO AVOID: Poor ventilation.

INCOMPATIBILITY: Strong acids (produce hydrogen gas)

HAZARDOUS DECOMPOSITION PRODUCT: Metallic oxide.

HAZARDOUS POLYMERIZATION: Will not occur

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ISSUE DATE: 6/10/2009

EMERGENCY PHONE NUMBER: INFOTRAC: (800) 535-5053

I. Product

PRODUCT NAME: ELGEN Aluminum Products

CLASS: Metal

II. Physical Data

APPEARANCE: Silvery ductile metal

SPECIFIC GRAVITY: 2.5+

MELTING POINT: 480-649°C

III. Hazardous Ingredients

<u>Material</u>	<u>CAS- Numbe</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
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/Ml & Cr III compounds
Cooper	7440-50-8	0.1 mg/M3 . Fume (as Cu) 1.0g/M3 . sts (Dusts & mists)	0.1 mg/M3 . Fume 1.0g/M3 . sts (Dusts & mists)
Iron	7439-89-6	10 mg/M3 (as Fe2O3 fume)	5 mg/M3 Iron oxide dust & fume
Magnesium	7439-95-4	15mg/M3 Total Dust	10mg/M3 (fume)
Magnese	7439-96-5	5 mg/M3 . Respirable fraction	0.2 mg/M3
Silicon	7440-2-]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)

IV. Health 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 benign 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. 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.

VI. 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..

VII. 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

VIII. Emergency and First Aid Procedures

IN EYES: For contact with dust or particulates, flush eyes with large amounts of water. Eye injuries from solid particles should be treated by a physician immediately.

ON SKIN: Remove contaminated clothing. Wash area of contact thoroughly with soap and water. If irritation persists, seek medical attention

INGESTE INHALATION: If acute overexposure to dusts or fumes occurs, remove victim from the adverse environment and seek medical attention.

IX. Special Precautions

As supplied, this product does not present a health hazard. Processing of the product for final uses can include formation of dusts, particulates, or fumes, some of which may present health hazards.

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.

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.

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EMERGENCY PHONE NUMBER: INFOTRAC: (800) 535-5053

I. Product

PRODUCT NAME: Aluminized Steel Products

CLASS: Steel

II. Physical Data

APPEARANCE: Odorless solid with metallic luster

SPECIFIC GRAVITY: 8

MELTING POINT: 480° - 1500°C

III. Hazardous Ingredients

<u>Material</u>	<u>% WEIGHT</u>	<u>CAS Number</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Iron	80-99	7439-89-6	10mg/M3 (as Fe ₂ O ₃ fume)	5 mg/M3 (Iron oxide dust fume)
Aluminum	1-20	7429-90-5	15 mg/M3 . Total dust 5 mg/M3 . Respirable fraction	10 mg/M3 . Metal Dust 5 mg/M3 . Welding fume
Silicon	0-2	7440-21-3	15 mg/M3 -Total dust 5 mg/M3 – Respirable fraction	10 mg/M3

IV. Health Hazard Data

ROUTE OF EXPOSURE: Inhalation of fumes or dust and skin contact.

EFFECTS OF OVEREXPOSURE:

No toxic effects would be expected from its inert solid form. Prolonged, repeated exposures above the permissible limits to fumes or dusts generated during heating, cutting, brazing or welding may cause adverse health effects associated with the following constituents:

Inhalation: Aluminum: No known health effects. Generally considered to be in the nuisance dust category. TDLO = 506 gm/Kg an Iron: The inhalation of iron oxide fumes or dust may cause an apparent benign pneumoconiosis which is called siderosis. Ccause irritation of gastrointestinal tract, bleeding, changes in the pH of body fluids, and liver damage.

Silicon: Chronic overexposures can cause chronic bronchitis and narrowing of the airways. Studies with experimental animals by injection have found lesions of the lungs. Oil Mist: Pulmonary effects including irritation and pneumonitis at high concentrations, TDLO = 14 gm/Kg (intrapleural, rat).

Note: Some constituents pose more potential hazards than others, depending upon their inherent toxicity and concentration. Of special concern are iron and perhaps aluminum silicon, dH# oil mist.

Skin Contact: May cause irritation. Oil mist may cause dermatitis.

Eye Contact: May cause irritation.

Ingestion: May cause irritation of the mouth and throat.

V. Fire and Explosion Hazard Data

FLASH POINT: N/A

EXTINGUISHING MEDIA: Use dry powder for metal fires.

SPECIAL PROCEDURES: Firefighters should wear equipment to protect against noxious fumes.

VI. Spill or Leak Procedures

Minimal problems with spills of this product would occur because of its solid form. However, if there is a spill of dust, clean up using methods which avoid dust generation and the use of water, such as vacuum. 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.

VII. Special Protection

VENTILATION: Ventilation, as described in the Industrial Ventilation Manual produced by the American Conference of Governmental Industrial Hygienists, shall be provided in areas where exposures are above the permissible exposure limits or threshold limit values specified by OSHA or other local, state, and federal regulations.

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved organic vapor respirators when vapor concentrations exceed TLV or other recommended limits, in accordance with the OSHA Respiratory Protection Standard (29 CFR 1910.134).

EYE PROTECTION: Personal protective equipment should be worn when there is a reasonable probability of injury.

PROTECTIVE GLOVES: As needed

VIII. Emergency and First Aid Procedures

INHALATION: If acute overexposure to dust or fumes occurs, remove victim from the adverse environment and seek medical attention.

SKIN CONTACT: Remove contaminated clothing and 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 occasionally lifting the lower and upper lids. If irritation persists, seek medical attention.

INGESTION: Seek medical attention, if necessary.

IX. Carcinogenic Assessment

The listed ingredients have NOT been identified as a suspect carcinogen by NTP, IARC, or OSHA.

X. Special Precautions

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

XI. Reactivity Data

STABILITY: Stable under normal conditions of handling and use.

CONDITIONS TO AVOID: Poor ventilation.

INCOMPATIBILITY: Acids, bases and oxidizers.

HAZARDOUS DECOMPOSITION PRODUCT: Metal fumes and certain noxious gases, such as CO, may be produced during welding or burning operations.

HAZARDOUS POLYMERIZATION: Will not occur.

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PRODUCT NAME: ELGEN Aluminum Products

CLASS: Metal

II. Physical Data

APPEARANCE: Silvery ductile metal

SPECIFIC GRAVITY: 2.5+

MELTING POINT: 480-649°C

III. Hazardous Ingredients

<u>Material</u>	<u>CAS- Numbe</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
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/Ml & Cr III compounds
Cooper	7440-50-8	0.1 mg/M3 . Fume (as Cu) 1.0g/M3 . sts (Dusts & mists)	0.1 mg/M3 . Fume 1.0g/M3 . sts (Dusts & mists)
Iron	7439-89-6	10 mg/M3 (as Fe2O3 fume)	5 mg/M3 Iron oxide dust & fume
Magnesium	7439-95-4	15mg/M3 Total Dust	10mg/M3 (fume)
Magnese	7439-96-5	5 mg/M3 . Respirable fraction	0.2 mg/M3
Silicon	7440-2-]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)

IV. Health 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 copper 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 benign 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. 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.

VI. 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..

VII. 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

SKIN CONTACT: Wash area of contact thoroughly with soap and water. If irritation persists, seek medical attention.

VIII. Emergency and First Aid Procedures

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.

IX. Carcinogenic Assessment

Aluminum has NOT been identified as a suspect carcinogen by NTP, IARC, or OSHA. Nickel and Chromium have been identified as suspect carcinogens by NTP and IARC

X. Special Precautions

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

XI. 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.

This information is taken from sources or based upon data believed to be reliable; however, Elgen Manufacturing Company, 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.

MATERIAL SAFETY DATA SHEET

Elgen Manufacturing Company INC.

300 Murray Hill Road. East Rutherford, NJ 07073

(800)503-9805

ISSUE DATE: 6/10/2009

EMERGENCY PHONE NUMBER: INFOTRAC, INC 1-800-255-3924

I. Product

PRODUCT NAME: ELGEN 440 Butyl Gasket

CLASS: Gasket

CHEMICAL NAME: Isobutylene

II. Physical Data

APPEARANCE: Soft, sticky mastic/gum

SOLUBILITY IN WATER: Insoluble

SPECIFIC GRAVITY: 1.45-1.75 gm/cc

EVAPORATION RATE: N/A

PERCENT VOLATILE BY WEIGHT: N/A

VOC CONTENT: 0

III. Hazardous Ingredients

<u>MATERIAL:</u>	<u>CAS NUMBER</u>	<u>%</u>	<u>PEL</u>	<u>TLV</u>
Quartz Silica	14808-60-7	<1%	1 mg/m	1 mg/m
Calcium Carbonate	1317-65-3	30-40%	10 mg/m	
Hydrous Magnesium Silicates	14807-96-6	10-20%	2 mg/m	

IV. Health Hazard Data

ROUTE OF EXPOSURE: The product is physically handled, but under normal use, presents no serious hazard.

EFFECTS OF OVEREXPOSURE:

Acute Effect: This compound presents no significant health hazard Eye, Skin and Respiratory tract irritation may occur, if thermal decomposition of the product occurs.

Chronic Effects: This compound presents no significant health hazards. If thermal decomposition occurs, the acute irritation prevent one from experiencing prolonged exposure.

The listed ingredients have NOT been identified as suspect carcinogens by NTC, IARC, OSHA or ACGIH.

V. Fire and Explosion Hazard Data

FLASH POINT: >400°F COC

EXTINGUISHING MEDIA: Dry chemical, Carbon Dioxide, Foam, Water

SPECIAL PROCEDURES: Large quantities of water will extinguish. Do not enter confined space without proper protective equipment.

HAZARDOUS COMBUSTION PRODUCTS: Incomplete combustion can yield Carbon Monoxide, Carbon Dioxide and Hydrocarbons.

VI. Spill or Leak Procedures

If product is not contaminated, put into clean container for use. If product is contaminated, transfer to a suitable container for deposit.

Waste disposal Method: Dispose of in accordance with appropriate federal, state and local regulations for non-hazardous wastes.

VII. Special Protection

VENTILATION: Maintain local or dilution ventilation to keep air concentration below 300 PPM.

RESPIRATORY PROTECTION: Use OSHA approved vapor respirator.

EYE PROTECTION: Safety glasses, chemical goggles or face shield.

PROTECTIVE GLOVES: Use plastic gloves.

VIII. Emergency and First Aid Procedures

INHALATION: Remove to fresh air. Get medical help promptly.

SKIN CONTACT: Wash area of contact thoroughly with soap and water. If irritation persists, consult a physician.

EYE CONTACT: Flush immediately with running water for fifteen minutes. If irritation persists, seek medical attention.

INGESTION: Consult a physician if vomiting occurs..

IX. Regulatory Information

TSCA Status: All components of this product are listed on the TSCA Inventory

Section 313 Supplier Notification: This product contains no known toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40CFR372.

State Right-to-Know Laws: No substances on the state hazardous substance list for the states indicated below are used in the manufacture of products on this material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyze these products, or the raw materials used in their manufacture, for substances on various state hazardous substances lists, to the best of our knowledge the products on this Material Safety Data Sheet contain no such substances except for those specifically listed below:

- 1) Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.1% for hazardous substances): None Known
- 2) WARNING: Substances known to the State of California to cause cancer, birth defects, or other reproductive harm: None Known
- 3) Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens, or tetregens): None Known

CANADIAN WHIMS: To the best of our knowledge, this material is classified as a NONCONTROLLED PRODUCT.

X. Special Precautions

HANDLING AND STORAGE: Store in closed containers away from strong oxidizers or open flames. Prevent excessive inhalation of vapors. Change soiled work clothes frequently. Wash hands with soap and water before eating, smoking, or using washrooms. Adhere to the sanitation requirements of 29VCFR1910.141 and 29CFR1910.142.

XI. Reactivity Data

STABILITY: Stable under normal conditions of handling and use.

CONDITIONS TO AVOID: Do not store near strong oxidizers or open flames.

INCOMPATIBILITY: Do not store with strong oxidizers. Store as OSHA Class 1B Flammable Liquid.

HAZARDOUS DECOMPOSITION PRODUCT: Toxic gases or vapors, such as Carbon Monoxide and Carbon Dioxide, and Nitrogen Oxides.

HAZARDOUS POLYMERIZATION: Will not occur.

This information is taken from sources or based upon data believed to be reliable; however, Elgen Manufacturing Company, 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.