

## Safety Data Sheet (SDS)

### Section 1 – Identification

**1(a) Product Identifier used on Label:** EA 6000 Alloy Grades (excludes EA6026LF)

**1(b) Other means of identification:** EA 6005 Alloy, EA 6005A Alloy, EA 6013 Alloy, EA 6262A Alloy, EA 6020 Alloy, EA 6060 Alloy, EA 6061 Alloy, EA 6063 Alloy, EA 6082 Alloy, EA 6099 Alloy, EA 6101 Alloy, excludes EA 6026LF Alloy

**1(c) Recommended use of the chemical and restrictions on use:** Metal alloy for multiple production uses.

**1(d) Name, address, and telephone number:**  
 ELLWOOD Aluminum Phone number: 330-534-8668  
 7158 Hubbard Masury Road  
 Hubbard, OH 44425

**1(e) Emergency phone number:** 1-800-424-9300 or CHEMTREC (Day or Night): 1-800-424-9300

### Section 2 – Hazard(s) Identification

**2(a) Classification of the chemical:** EA 6000 Alloy Grades is considered an article under Reach regulation (REACH REGULATION (EC) No 1907/2006) and is not subject to classification under CLP regulation (REGULATION (EC) No 1272/2008). However, EA 6000 Alloy Grades is not exempt as an article under OSHA's Hazard Communication Standard (29 CFR 1910.1200) due to its downstream use, thus this product is considered a mixture and a hazardous material. Therefore, the categories of Health Hazards as defined in “GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Third revised edition ST/SG/AC.10/30/Rev. 3” United Nations, New York and Geneva, 2009 have been evaluated. Refer to Section 3, 8 and 11 for additional information.

**2(b) Signal word, hazard statement(s), symbols and precautionary statement(s):**

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Single Target Organ Toxicity (STOT) Repeat Exposure - 2	<b>Warning</b>	May causes damage to respiratory system through prolonged or repeated exposure.

**Precautionary Statement(s):**

Prevention	Response	Storage/Disposal
Do not breathe dusts or fumes.	Get medical advice/attention if you feel unwell.	Dispose of contents/container in accordance with local/regional/national regulations.

**2(c) Hazards not otherwise classified:** None Known

**2(d) Unknown acute toxicity statement (mixture):** None Known

### Section 3 – Composition/Information on Ingredients

**3(a-c) Chemical name, common name (synonyms), CAS number and other identifiers, and concentration:**

Chemical Name	Alloy	CAS Number	EC Number	% weight
Aluminum	EA 6005A Alloy, EA 6013 Alloy, EA 6262A Alloy, EA 6020 Alloy, EA 6060 Alloy, EA 6061 Alloy, EA 6063 Alloy, EA 6082 Alloy, EA 6099 Alloy, EA 6101 Alloy	7429-90-5	231-072-3	93.9 - 99.3
Tin	EA 6262A Alloy, EA 6020 Alloy	7440-31-5	231-141-8	0 - 1.5
Silicon	EA 6013 Alloy, EA 6082 Alloy	7440-21-3	231-130-8	0.5 – 1.4
Magnesium	EA 6013 Alloy, EA 6262A Alloy, EA 6020 Alloy, EA 6061 Alloy, EA 6082 Alloy	7439-95-4	231-104-6	0.4 – 1.2
Copper	EA 6013 Alloy	7440-50-8	231-159-6	0.0 - 1.1
Manganese	EA 6082 Alloy	7439-96-5	231-105-1	0 – 1.0

EC - European Community

CAS - Chemical Abstract Service

\* Percentages are expressed as typical ranges or maximum concentrations of trace elements for the purpose of communicating the potential hazards of the finished product.

"Commercial steel/aluminum products contain small amounts of various elements in addition to those specified. These small quantities frequently referred to as "trace" or "residual" elements, generally originate in the raw materials used and/or are alloying metals. Individual trace elements vary in concentration by weight and may include chromium, iron, zinc, titanium, and bismuth.

**Section 4 – First-aid Measures**

**4(a) Description of necessary measures:**

- **Inhalation:** EA 6000 Alloy Grades as sold/shipped is not a likely form of exposure.
- **Eye Contact:** EA 6000 Alloy Grades as sold/shipped is not a likely form of exposure.
- **Skin Contact:** EA 6000 Alloy Grades as sold/shipped is not a likely form of exposure.
- **Ingestion:** EA 6000 Alloy Grades as sold/shipped is not a likely form of exposure.

**4(b) Most important symptoms/effects, acute and delayed (chronic):**

- **Inhalation:** EA 6000 Alloy Grades as sold/shipped is not likely to present an acute or chronic health effect.
- **Eye:** EA 6000 Alloy Grades as sold/shipped is not likely to present an acute or chronic health effect.
- **Skin:** EA 6000 Alloy Grades as sold/shipped is not likely to present an acute or chronic health effect.
- **Ingestion:** EA 6000 Alloy Grades as sold/shipped is not likely to present an acute or chronic health effect.

However, during further processing (welding, grinding, burning, etc.) individual components may illicit an acute or chronic health effect. Refer to Section 11-Toxicological Information.

**4(c) Immediate Medical Attention and Special Treatment:** None Known

**Section 5 – Fire-fighting Measures**

**5(a) Suitable (and unsuitable) Extinguishing Media:** Not Applicable for EA 6000 Alloy Grades as sold/shipped. Use extinguishers appropriate for surrounding materials.

**5(b) Specific Hazards arising from the chemical:** Not Applicable for EA 6000 Alloy Grades as sold/shipped. When burned, toxic smoke, fume and vapor may be emitted.

**5(c) Special protective equipment and precautions for fire-fighters:** Self-contained NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face-piece self-contained breathing apparatus and chemical protective clothing with thermal protection. Direct water stream will scatter and spread flames and, therefore, should not be used.

**Section 6 - Accidental Release Measures**

**6(a) Personal Precautions, Protective Equipment and Emergency Procedures:** Not Applicable for EA 6000 Alloy Grades as sold/shipped. For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust.

**6(b) Methods and materials for containment and clean up:** Not Applicable for EA 6000 Alloy Grades as sold/shipped. Collect material in appropriately labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

**Section 7 - Handling and Storage**

**7(a) Precautions for safe handling:** Not Applicable for EA 6000 Alloy Grades as sold/shipped, however further processing (welding, burning, grinding, etc.) with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Do not breathe metal fumes and/or dust. Cut resistant gloves and sleeves should be worn when working with steel products.

**7(b) Conditions for safe storage, including any incompatibilities:** Store away from acids and incompatible materials.

**Section 8 - Exposure Controls / Personal Protection**

**8(a) Occupational Exposure Limits (OELs):** EA 6000 Alloy Grades as sold/shipped in its physical form does not present an inhalation, ingestion or contact hazard, nor would any of the following exposure data apply. However, operations such as burning, welding (high temperature), sawing, brazing, machining, grinding, etc. may produce fumes and/or particulates. The following exposure limits are offered as reference for an experienced industrial hygienist to review.

Ingredients	OSHA PEL <sup>1</sup>	ACGIH TLV <sup>2</sup>	NIOSH REL <sup>3</sup>	IDLH <sup>4</sup>
Aluminum	15 mg/m <sup>3</sup> (as Al aluminum oxide, metal & insoluble compounds, total dust) 5.0 mg/m <sup>3</sup> (as Al aluminum oxide, metal & insoluble compounds, respirable fraction)	1.0 mg/m <sup>3</sup> (as metal & insoluble compounds, respirable fraction <sup>5</sup> )	10 mg/m <sup>3</sup> (as metal & insoluble compounds, total dust) 5.0 mg/m <sup>3</sup> (as metal & insoluble compounds, respirable fraction) 5.0 mg/m <sup>3</sup> (as Al, welding fumes & pyro powders)	NE
Tin	2.0 mg/m <sup>3</sup> (metal & inorganic compounds, as Sn, except oxides) 0.1 mg/m <sup>3</sup> (organic compounds, as Sn)	2.0 mg/m <sup>3</sup> (metal, oxides & inorganic compounds, as Sn) 0.1 mg/m <sup>3</sup> (organic compounds, as Sn) “STEL” 0.2 mg/m <sup>3</sup> (organic compounds, as Sn)	2.0 mg/m <sup>3</sup> (metal & inorganic compounds, as Sn, except oxides) 0.1 mg/m <sup>3</sup> (organic compounds, as Sn) 2.0 mg/m <sup>3</sup> (tin oxides, as Sn)	100 mg/m <sup>3</sup> (inorganic compounds, as Sn) 25 mg/m <sup>3</sup> (organic compounds, as Sn)

**Section 8 - Exposure Controls / Personal Protection (continued)**

**8(a) Occupational Exposure Limits (OELs) (continued):**

Ingredients	OSHA PEL <sup>1</sup>	ACGIH TLV <sup>2</sup>	NIOSH REL <sup>3</sup>	IDLH <sup>4</sup>
Silicon	15 mg/m <sup>3</sup> (total dust) 5.0 mg/m <sup>3</sup> (as respirable fraction)	NE	10 mg/m <sup>3</sup> (as total dust) 5.0 mg/m <sup>3</sup> (as respirable dust)	NE
Magnesium	15 mg/m <sup>3</sup> (as magnesium oxide fume, total particulate)	10 mg/m <sup>3</sup> (as magnesium oxide, inhalable fraction <sup>6</sup> )	NE	750 mg/m <sup>3</sup> (as magnesium oxide fume)
Copper	0.1 mg/m <sup>3</sup> (as fume, Cu) 1.0 mg/m <sup>3</sup> (as dusts & mists, Cu)	0.2 mg/m <sup>3</sup> (as fume) 1.0 mg/m <sup>3</sup> (as dusts & mists, Cu)	0.1 mg/m <sup>3</sup> (as fume, Cu) 1.0 mg/m <sup>3</sup> (as dusts & mists, Cu)	100 mg Cu/m <sup>3</sup>
Manganese	“C” 5.0 mg/m <sup>3</sup> (as fume & inorganic compounds, as Mn)	0.02 mg/m <sup>3</sup> (as fume & inorganic compounds, as Mn, respirable fraction) 0.1 mg/m <sup>3</sup> (as fume & inorganic compounds, as Mn, inhalable fraction)	1.0 mg/m <sup>3</sup> (as fume & inorganic compounds, as Mn) “STEL” 3.0 mg/m <sup>3</sup> (as fume & inorganic compounds, as Mn)	500 mg/m <sup>3</sup> (as Mn)

NE - None Established

1. OSHA PELs (Permissible Exposure Limits) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A (“C”) designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.
2. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. ACGIH TLVs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes. DSEN – May cause dermal sensitization. This notation is used to indicate the potential for dermal sensitization resulting from the interaction of an absorbed agent and ultraviolet light (i.e. photosensitization). RSEN – May cause respiratory sensitization.
3. The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL)- Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health. As is the case with ACGIH TLVs, NIOSH RELs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.
4. The “immediately dangerous to life or health air concentration values (IDLHs)” are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970s by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994. Ca is designated as carcinogen.
5. Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in ACGIH 2023 TLVs <sup>®</sup> and BEIs <sup>®</sup> Appendix D, paragraph C.
6. Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2023 TLVs <sup>®</sup> and BEIs <sup>®</sup> (Biological Exposure Indices) Appendix D, paragraph A.

**8(b) Appropriate Engineering Controls:** Use controls as appropriate to minimize exposure to metal fumes and dusts during handling operations. Provide general or local exhaust ventilation systems to minimize airborne concentrations. Local exhaust is necessary for use in enclosed or confined spaces. Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits.

**8(c) Individual Protection Measures:**

- **Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (Immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

**Warning!** Air-purifying respirators both negative-pressure and powered-air do not protect workers in oxygen-deficient atmospheres.

- **Eyes:** Wear appropriate eye protection to prevent eye contact. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use safety glasses to prevent eye contact. Contact lenses should not be worn where industrial exposure to this material are likely. Use safety glasses or goggles as required for welding, burning, sawing, brazing, grinding or machining operations.
- **Skin:** Wear appropriate personal protective clothing to prevent skin contact. Cut resistant gloves and sleeves should be worn when working with steel products. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use protective clothing, and gloves to prevent skin contact. Protective gloves should be worn as required for welding, burning or handling operations. Contaminated work clothing must not be allowed out of the workplace.
- **Other protective equipment:** An eyewash fountain and deluge shower should be readily available in the work area.

**Section 9 - Physical and Chemical Properties**

**9(a) Appearance (physical state, color, etc.):** Solid, Gray, Metallic Shape

**9(j) Upper/lower Flammability or Explosive Limits:** NA

**9(b) Odor:** NA

**9(k) Vapor Pressure:** NA

**Section 9 - Physical and Chemical Properties (continued)**

<b>9(c) Odor Threshold:</b> NA	<b>9(l) Vapor Density (Air = 1):</b> NA
<b>9(d) pH:</b> NA	<b>9(m) Relative Density:</b> 2.7 – 2.71 g/cm <sup>3</sup>
<b>9(e) Melting Point/Freezing Point:</b> 555-655°C / 1,031-1,211°F	<b>9(n) Solubility(ies):</b> Insoluble
<b>9(f) Initial Boiling Point and Boiling Range:</b> ND	<b>9(o) Coefficient (water/oil distribution):</b> NA
<b>9(g) Flash Point:</b> NA	<b>9(p) Auto-ignition Temperature:</b> NA
<b>9(h) Evaporation Rate:</b> NA	<b>9(q) Decomposition Temperature:</b> ND
<b>9(i) Flammability (solid, gas):</b> Non-flammable, non-combustible	<b>9(r) Viscosity:</b> NA

NA - Not Applicable  
ND - Not Determined for product as a whole

**Section 10 - Stability and Reactivity**

**10(a) Reactivity:** Not Determined (ND) for product in a solid form. Do not use water on molten metal.

**10(b) Chemical Stability:** Steel/Aluminum products are stable under normal storage and handling conditions.

**10(c) Possibility of hazardous reaction:** None Known

**10(d) Conditions to Avoid:** Storage with strong acids or calcium hypochlorite.

**10(e) Incompatible Materials:** Will react with strong acids to form hydrogen. Iron oxide dusts in contact with calcium hypochlorite evolve oxygen and may cause an explosion.

**10(f) Hazardous Decomposition Products:** Thermal oxidative decomposition of steel products can produce fumes containing oxides of iron and manganese as well as other alloying elements.

**Section 11 - Toxicological Information**

**11 Information on toxicological effects:** The following toxicity data has been determined for **EA 6000 Alloy Grades** when further processed using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of OSHA and the EU CPL:

Hazard Classification	Hazard Category		Hazard Symbols	Signal Word	Hazard Statement
	EU	OSHA			
<b>Specific Target Organ Toxicity (STOT) following Repeated Exposure</b> (covers Categories 1 and 2)	NA*	2 <sup>j</sup>		<b>Warning</b>	May cause damage to lungs and central nervous system through prolonged or repeated inhalation exposure.

\* Not Applicable - Semi-formed steel products are considered articles under Reach regulation (REACH REGULATION (EC) No 1907/2006) and are not subject to classification under CLP regulation (REGULATION (EC) No 1272/2008).

Toxicological data listed below are presented regardless to classification criteria. Individual hazard classification categories where the toxicological information has met or exceeded a classification criteria threshold are listed above.

- a. No LC<sub>50</sub> or LD<sub>50</sub> has been established for **EA 6000 Alloy Grades**. The following data has been determined for the components:
  - **Copper:** Rat LD<sub>50</sub> = 481 mg/kg (REACH)  
Rat LD<sub>50</sub> > 2500 mg/kg (REACH)
  - **Silicon:** LD<sub>50</sub> = 3160 mg/kg (Oral/Rat)
  - **Manganese:** Rat LD<sub>50</sub> > 2000 mg/kg (REACH)  
Rat LD<sub>50</sub> > 9000 mg/kg (NLM Toxnet)
- b. No Skin (Dermal) Irritation data available for **EA 6000 Alloy Grades** as a as a mixture.
  - **Magnesium Dioxide:** Severe skin irritant in human (HSDB).
- c. No Eye Irritation data available for **EA 6000 Alloy Grades** as a mixture. The following Eye Irritation information was found for the components:
  - **Magnesium dioxide:** Severe eye irritant in humans (HSDB).
  - **Silicon:** Slight eye irritation in rabbit protocol.
- d. No Skin (Dermal) Sensitization data available for **EA 6000 Alloy Grades** as a mixture or its components.
- e. No Respiratory Sensitization data available for **EA 6000 Alloy Grades** as a mixture or its components.
- f. No Germ Cell Mutagenicity data available for **EA 6000 Alloy Grades** as a mixture or its components.

**Section 11 - Toxicological Information (continued)****11 Information on toxicological effects (continued):**

g. Carcinogenicity: IARC, NTP, and OSHA do not list EA 2014 Alloy as carcinogens. The following Carcinogenicity information was found for the components:

- **Aluminum (metal and insoluble compounds):** IARC-1 (production), carcinogen to humans; ACGIH TLV-A4, not classifiable as a human carcinogen
- **Copper (dust, mist, fume, inorganic compounds, as Cu):** EPA-D, not classifiable as to human carcinogenicity (CBD, cannot be determined)
- **Magnesium (oxide):** ACGIH TLV-A4, not classifiable as a human carcinogen
- **Manganese (inorganic compounds, as Mn):** ACGIH TLV-A4, not classifiable as a human carcinogen; EPA-D, not classifiable as to human carcinogenicity
- **Manganese (fume, as Mn):** ACGIH TLV-A4, not classifiable as a human carcinogen; EPA-D, not classifiable as to human carcinogenicity
- **Welding Fumes (not otherwise specified):** IARC-1, carcinogen to humans; NIOSH-Ca, potential occupational carcinogen

h. No Toxic Reproduction data available for **EA 6000 Alloy Grades** as a mixture or its components.

i. No Specific Target Organ Toxicity (STOT) following a Single Exposure data available for **EA 6000 Alloy Grades** as a mixture or its components.

j. No Specific Target Organ Toxicity (STOT) following Repeated Exposure data was available for **EA 6000 Alloy Grades** as a mixture. The following STOT following Repeated Exposure data was found for the components:

- **Aluminum:** Repeated exposure associated with Asthma, fibrosis in lungs and encephalopathy in humans. Reviews have found chronic exposure to aluminum flake has been reported to cause pneumoconiosis in workers. Repeat oral exposure to aluminum results in decrements in neurobehavioral function and development
- **Copper:** Target organs affected - Skin, eyes liver, kidneys and respiratory tract.
- **Manganese:** Inhalation of metal fumes - Degenerative changes in human Brain; Behavioral: Changes in motor activity and muscle weakness (Whitlock *et al.*, 1966).

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) with Other Worldwide Occupational Exposure Values 2023, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS), European Union Classification, Labeling and Packaging (EU CPL), Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), International Uniform Chemical Information Database (IUCLID), TOXicology Data NETwork (TOXNET), European Risk Assessment Reports (EU RAR).

The following health hazard information is provided regardless to classification criteria and is based on the individual component(s) and potential resultant components from further processing:

**Acute Effects:**

- **Inhalation:** Excessive exposure to high concentrations of metal dust may cause irritation to the eyes, skin and mucous membranes of the upper respiratory tract. Excessive inhalation of fumes of freshly formed metal oxide particles sized below 1.5 micrometer and usually between 0.02-0.05 micrometers from many metals 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), metallic taste in the mouth, dryness and irritation of the throat followed by weakness and muscle pain. The symptoms come on in a few hours after excessive exposure and usually last from 12 to 48 hours. Long-term effects from metal fume fever have not been noted. Freshly formed oxide fumes of manganese and copper have been associated with causing metal fume fever.
- **Eye:** Excessive exposure to high concentrations of metal dust may cause irritation to the eyes.
- **Skin:** Skin contact with metal dusts may cause irritation or sensitization, possibly leading to dermatitis. Skin contact with metallic fumes and dusts may cause physical abrasion.
- **Ingestion:** Ingestion of harmful amounts of this product as distributed is unlikely due to its solid insoluble form. Ingestion of metal dust may cause nausea or vomiting.

**Acute Effects by component:**

- **Aluminum and Aluminum oxide:** Inhalation may cause cough.
- **Tin:** Not Reported/ Not Classified
- **Silicon and silicon oxides:** May be harmful if swallowed.
- **Magnesium and Magnesium Oxide:** Headache, cough, sweating, nausea and fever may be caused by exposure to freshly formed fumes. The symptoms of metal fume fever do not become manifest until 4-12 hours after exposure.
- **Copper and Copper Oxides:** Copper may cause allergic skin reactions. Copper oxide is harmful if swallowed, causes skin and eye irritation, and may cause an allergic skin reaction.
- **Manganese and Manganese Oxides:** Manganese and Manganese oxide are harmful if swallowed.

**Delayed (chronic) Effects by component:**

- **Aluminum and Aluminum Oxide:** Considered to be an inert or nuisance dust.
- **Tin:** No systemic effects have been reported from industrial exposure to tin. Occupational exposures to tin can cause a benign pneumoconiosis termed 'stannosis'. No cases of massive fibrosis from over-exposure to tin have been reported.
- **Silicon and Silicon Oxides:** Silicon dusts are a low health risk by inhalation and should be treated as a nuisance dust. Eye contact with pure material can cause particulate irritation. Skin contact with silicon dusts may cause physical abrasion.

**Section 11 - Toxicological Information (continued)**

**Delayed (chronic) Effects by component (continued):**

- **Magnesium and Magnesium Oxide:** Irritation of eyes, nose, and throat. Symptoms may include dryness of nose and mouth, cough, feeling of weakness, tightness of chest, muscular pain, chills, fever, headache, nausea, and vomiting.
- **Copper and copper oxides:** Inhalation of high concentrations of freshly formed oxide fumes and dusts of copper can cause metal fume fever. Chronic inhalation of copper dust has caused, in animals, hemolysis of the red blood cells, deposition of hemofuscin in the liver and pancreas, injury to lung cells and gastrointestinal symptoms.
- **Manganese and manganese oxides:** Chronic exposure to high concentrations of manganese fumes and dusts may adversely affect the central nervous system with symptoms including languor, sleepiness, weakness, emotional disturbances, spastic gait, mask-like facial expression and paralysis. Animal studies indicate that manganese exposure may increase susceptibility to bacterial and viral infections. Occupational overexposure (Manganese) is a progressive, disabling neurological syndrome that typically begins with relatively mild symptoms and evolves to include altered gait, fine tremor, and sometimes, psychiatric disturbances. May cause damage to lungs with repeated or prolonged exposure. Neurobehavioral alterations in worker populations exposed to manganese oxides include: speed and coordination of motor function are especially impaired.

**Section 12 - Ecological Information**

**12(a) Ecotoxicity (aquatic & terrestrial):** No Data Available for EA 6000 Alloy Grades as sold/shipped or individual components.  
**12(b) Persistence & Degradability:** No Data Available for EA 6000 Alloy Grades as sold/shipped or individual components.  
**12(c) Bioaccumulative Potential:** No Data Available for EA 6000 Alloy Grades as sold/shipped or individual components.  
**12(d) Mobility (in soil):** No data available for EA 6000 Alloy Grades as sold/shipped. However, individual components of the product have been found to be absorbed by plants from soil.  
**12(e) Other adverse effects:** None Known  
**Additional Information:**  
**Hazard Category:** Not Reported **Signal Word:** No Signal Word  
**Hazard Symbol:** No Symbol  
**Hazard Statement:** No Statement

**Section 13 - Disposal Considerations**

**Disposal:** Dispose of in accordance with Local, State, Federal and International regulations. Observe safe handling precautions.  
**Container Cleaning and Disposal:** Follow Local, State, Federal and International regulations. Observe safe handling precautions  
**Please note this information is for EA 6000 Alloy Grades in its original form. Any alterations can void this information.**

**Section 14 - Transport Information**

**14 (a-g) Transportation Information:**  
**US Department of Transportation (DOT)** under 49 CFR 172.101 does not regulate EA 6000 Alloy Grades as a hazardous material. All federal, state, and local laws and regulations that apply to the transport of this type of material must be adhered to.

**Section 15 - Regulatory Information**

**Regulatory Information:** *The following listing of regulations relating to an Ellwood Aluminum product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.* This product and/or its constituents are subject to the following regulations:

**OSHA Regulations:** Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-2, Z-3): The product, EA 6000 Alloy Grades as a whole is not listed. However, individual components of the product are listed: Refer to Section 8, Exposure Controls and Personal Protection.

**EPA Regulations:** The product, EA 6000 Alloy Grades is not listed as a whole. However, individual components of the product are listed:

Components	Regulations
Aluminum	SARA 313, TSCA, SDWA
Copper	CERCLA, CWA, SARA 313, TSCA, SDWA
Magnesium	TSCA
Manganese	SARA 313, TSCA
Tin	TSCA

**SARA 311/312 Potential Hazard Categories:** Immediate Acute Health Hazard; Delayed Chronic Health Hazard

**Section 15 - Regulatory Information (continued)**

**Section 313 Supplier Notification:** The product, **EA 6000 Alloy Grades** contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act and 40 CFR part 372:

CAS #	Chemical Name	Percent by Weight
7429-90-5	Aluminum	93.9 - 99.3
7440-50-8	Copper	0.0 - 1.1
7439-95-4	Magnesium	0.4 - 1.2
7439-96-5	Manganese	0 - 1.0
7440-31-5	Tin	0 - 1.5

**Regulations Key:**

- CAA Clean Air Act (42 USC Sec. 7412; 40 CFR Part 61 [As of: 8/18/06])
- CERCLA Comprehensive Environmental Response, Compensation and Liability Act (42 USC Secs. 9601(14), 9603(a); 40 CFR Sec. 302.4, Table 302.4, Table 302.4 and App. A)
- CWA Clean Water Act (33 USC Secs. 1311; 1314(b), (c), (e), (g); 136(b), (c); 137(b), (c) [as of 8/2/06])
- RCRA Resource Conservation Recovery Act (42 USC Sec. 6921; 40 CFR Part 261 App VIII)
- SARA Superfund Amendments and Reauthorization Act of 1986 Title III Section 302 Extremely Hazardous Substances (42 USC Secs. 11023, 13106; 40 CFR sec. 372.65) and Section 313 Toxic Chemicals (42 USC Secs. 11023, 13106; 40 CFR Sec. 372.65 [as of 6/30/05])
- TSCA Toxic Substance Control Act (15 U.S.C. s/s 2601 et seq. [1976])
- SDWA Safe Drinking Water Act (42 U.S.C. s/s 300f et seq. [1974])

**State Regulations:** The product, **EA 6000 Alloy Grades** as a whole is not listed in any state regulations. However, individual components of the product are listed in various state regulations:

Pennsylvania Right to Know: Contains regulated material in the following categories:

- Hazardous Substances: Copper, Magnesium, Manganese & Manganese Compounds, Silicon, Tin
- Environmental Hazards: Aluminum & Aluminum (fume or dust), Copper, Manganese & Manganese Compounds
- Special Hazardous Substance: None Listed

California Prop. 65: NA The product, **EA 6000 Alloy Grades** does not contain chemicals which is known to the State of California to cause cancer or reproductive toxicity. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

New Jersey: Contains regulated material in the following categories:

- Hazardous Substance: Aluminum (fume or dust), Copper, Magnesium, Manganese & Manganese Compounds, Silicon, Tin
- Environmental Hazards: Aluminum (dust or fume), Copper, Manganese & Manganese Compounds, Tin
- Special Hazardous Substance: Aluminum (dust & fume), Manganese & Manganese Compounds, Silicon

Minnesota: Manganese & Manganese Compounds

Massachusetts: Aluminum (fume or dust), Copper (compounds), Magnesium, Manganese Compounds, Silicon, Tin

**Other Regulations:**

**WHMIS Classification (Canadian):** The product, **EA 6000 Alloy Grades** is not listed as a whole. However individual components are listed.

Ingredients	WHMIS Classification
Aluminum	Not Applicable
Copper	Acute oral toxicity – oral – Category 4; Combustible dusts*
Magnesium	Flammable Solids – Category 2
Manganese	Reproductive toxicity - Category 2; Specific target organ toxicity - repeated exposure - Category 1; Combustible dusts*
Tin	Not Applicable
Silicon	Flammable solids - Category 2 (The classification "Flammable solids" refers to the amorphous form of silicon powder); Combustible dusts**

\* This product could belong to the hazard class "Combustible dust", based on various factors related to the combustibility and explosiveness of its dust, including composition, shape and size of the particles.

\*\* This product belongs to the hazard class "Combustible dust" if 5% or more by weight of its composition has a particle size < 500 µm.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

**Section 16 - Other Information**

**Prepared By:** Ellwood Aluminum

**Original Issue Date:** 10/23/2023

**Revised Date:** Original

**Section 16 - Other Information (continued)**

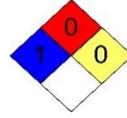
**Additional Information (continued):**

**Hazardous Material Identification System (HMIS) Classification**

Health Hazard	1
Fire Hazard	0
Physical Hazard	0

HEALTH= 1, Denotes possible chronic hazard if airborne dusts or fumes are generated Irritation or minor reversible injury possible.  
 FIRE= 0, Materials that will not burn.  
 PHYSICAL HAZARD= 0, Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

**National Fire Protection Association (NFPA)**



HEALTH = 1, Exposure could cause irritation but only minor residual injury even if no treatment is given.  
 FLAMMABILITY = 0, Materials that will not burn.  
 INSTABILITY = 0, Normally stable, even under fire exposure conditions, and are not reactive with water.

**ABBREVIATIONS/ACRONYMS:**

<b>ACGIH</b>	American Conference of Governmental Industrial Hygienists	<b>NIF</b>	No Information Found
<b>BEIs</b>	Biological Exposure Indices	<b>NIOSH</b>	National Institute for Occupational Safety and Health
<b>CAS</b>	Chemical Abstracts Service	<b>NTP</b>	National Toxicology Program
<b>CERCLA</b>	Comprehensive Environmental Response, Compensation, and Liability Act	<b>ORC</b>	Organization Resources Counselors
<b>CLP</b>	Classification, Labelling and Packaging	<b>OSHA</b>	Occupational Safety and Health Administration
<b>CFR</b>	Code of Federal Regulations	<b>PEL</b>	Permissible Exposure Limit
<b>CNS</b>	Central Nervous System	<b>PNOR</b>	Particulate Not Otherwise Regulated
<b>GI, GIT</b>	Gastro-Intestinal, Gastro-Intestinal Tract	<b>PNOC</b>	Particulate Not Otherwise Classified
<b>HMIS</b>	Hazardous Materials Identification System	<b>PPE</b>	Personal Protective Equipment
<b>IARC</b>	International Agency for Research on Cancer	<b>ppm</b>	parts per million
<b>LC50</b>	Median Lethal Concentration	<b>RCRA</b>	Resource Conservation and Recovery Act
<b>LD50</b>	Median Lethal Dose	<b>REACH</b>	Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals
<b>LD<sub>Lo</sub></b>	Lowest Dose to have killed animals or humans	<b>RTECS</b>	Registry of Toxic Effects of Chemical Substances
<b>LEL</b>	Lower Explosive Limit	<b>SARA</b>	Superfund Amendment and Reauthorization Act
<b>LOEL</b>	Lowest Observed Effect Level	<b>SCBA</b>	Self-contained Breathing Apparatus
<b>LOAEC</b>	Lowest Observable Adverse Effect Concentration	<b>SDS</b>	Safety Data Sheet
<b>µg/m<sup>3</sup></b>	microgram per cubic meter of air	<b>STEL</b>	Short-term Exposure Limit
<b>mg/m<sup>3</sup></b>	milligram per cubic meter of air	<b>TLV</b>	Threshold Limit Value
<b>mppcf</b>	million particles per cubic foot	<b>TWA</b>	Time-weighted Average
<b>MSHA</b>	Mine Safety and Health Administration	<b>UEL</b>	Upper Explosive Limit
<b>NFPA</b>	National Fire Protection Association		

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

# EA 6000 Alloy Grades (excludes 6026LF)

Signal Word: **Warning**

Symbols:



## HAZARD STATEMENTS:

May cause damage to respiratory system through prolonged or repeated exposure.

## PRECAUTIONARY STATEMENTS

Do not breathe dusts or fumes.

Get medical advice/attention if you feel unwell.

Dispose of contents in accordance with federal, state and local regulations.

**SDS ID No.:** EA 6000 Alloy Grades (excludes 6026LF)

ELLWOOD Aluminum  
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Hubbard, OH 44425

**General Information: Phone:** 330-534-8668

**CHEMTREC (Day or Night): 1-800-424-9300**

**Original Issue Date:** 10/23/2023

**Revised:** Original