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SAFETY DATA SHEET (SDS)

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

Product Name: Aluminum Products
Specification: AWS A5.10
Application: Welding and Mechanical Purposes
Product Identifiers: See Section 16 for full list

Supplier Name: HQA Wire Products
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Emergency Telephone: 1-714-739-9473
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SECTION 2 – HAZARDS INDENTIFICATION

These materials are not hazardous as shipped. However, proper bodily protect should be used when handling the material. Gloves and eye protection should be used when welding. Protection includes but is not limited to gloves, face shield, arm protectors, safety glasses, and aprons.

Welding with these materials can create hazards including slash or splatter from molten metal, electric shock, arc flashing, and fumes. Proper protection should be used when welding. See Section 8 for more detailed exposure control and personal protection.

GHS Classification Hazard Statement Codes (1272/2008):

Pyr. Sol. 1 H250
Water-react. 1 H260
Water-react. 2 H261
Skin Irrit. 2 H315
Skin Sens. 1 H317
Acute Tox. 2 H330
STOT SE 3 H335
Acute Tox. 3 H301
Eye Irrit. 2 H319
Carc. 1B H350i
STOT RE 1 H372
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

These alloys can contain nickel. Nickel has been classified as toxic in GHS Classification Regulation No. 1272/2008 through prolonged exposure and inhalation. In addition, nickel has been identified as a skin sensitizer and possible carcinogen by OSHA.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients[1]	Max %[2]	REACH Reg. #	CAS #	EINECS #	GHS Classification[3]
Aluminum (Al)	Bal.	01-2119529243-45	7429-90-5	231-072-3	H250, H261
Beryllium (Be)	0.07	01-2119487146-32	7440-41-7	231-150-7	H301, H315, H317,H319, H330, H335, H350i, H372
Chromium (Cr)	0.35	01-2119485652-31	7440-47-3	231-157-5	Not Hazardous
Copper (Cu)	6.8	01-2119480154-42	7440-50-8	231-159-6	Not Hazardous
Iron (Fe)	0.8	01-2119462838-24	7439-89-6	231-096-4	Not Hazardous

Magnesium (Mg)	0.5	01-2119537203-49	7439-95-4	231-104-6	Not Hazardous
Manganese (Mn)	1.0	01-2119449803-34	7439-96-5	231-105-1	Not Hazardous
Silicon (Si)	13.0	01-2119480401-47	7440-21-3	231-130-8	Not Hazardous
Titanium (Ti)	0.3	01-2119484878-14	7440-32-6	231-142-3	Not Hazardous
Zinc (Zn)	0.25	01-2119467174-37	7440-66-6	231-175-3	H250, H260, H400, H410
Zirconium (Zr)	0.25	01-2119490102-49	7440-67-7	231-176-9	H250, H260

(1) Not all ingredients will be present in every alloy mixture. Please refer to HQA Certifications for specific elements.
(2) Max element levels are stated to the best of HQA's knowledge.
(3) Regulation (EC) No. 1272/2008 replaced 67/548/EEC as of June 1, 2015 per EU-OSHA website. List of applicable GHS Classification codes can be found in Section 16.

SECTION 4 – FIST AID MEASURES

Skin Contact: Rinse or flush burns from arc flash with cold water. Seek medical attention if necessary.
Eye Contact: Eye irritations from dust and fumes can be removed by flushing with water for at least 15 minutes. If irritation persists, seek medical attention.

Ingestion: If material is ingested, seek medical attention immediately.

Inhalation: If breathing becomes difficult, move to an area with fresh air and seek medical attention. If breathing has stopped, give victim artificial respiration and seek medical assistance immediately.

Most Important symptoms and effect, acute and delayed:

Short-Term Symptoms: Metallic taste; nausea; tightness of chest; fever; irritation of eyes, nose, throat and skin; loss of consciousness/ death due to welding gasses or lack of oxygen. Aggravation of pre-existing respiratory or allergic conditions may occur in some users.

Long-Term Symptoms: Adverse effects may result from long-term exposure to welding. Fume, gases, or dusts. These effects may include skin sensitization, neurological damage and respiratory disease such as bronchial asthma, lung fibrosis or pneumoconiosis. Nickel and chromium must be considered possible carcinogens under OSHA (29CFR1910.1200). The International Agency for Research on Cancer (IARC) has indicated that nickel and certain nickel compounds are probably carcinogenic for humans, but that the specific compounds which may be carcinogenic cannot be specified precisely. This conclusion was based on experience in certain nickel refining operations. Chromium has also been listed by IARC because of "sufficient evidence for the carcinogenicity of chromium and certain chromium compounds." the studies forming the basis for the conclusion were from operations different from the production or welding of nickel and chromium alloys. Recent epidemiological studies of workers melting and working alloys containing nickel chromium have found no increased risk of cancer. Nevertheless, exposures must be maintained below the levels specified in Section 8.

SECTION 5 – FIRE FIGHTING MEASURES

(Non-flammable) Welding arc and sparks can ignite combustibles. Refer to American National Standard Z49.1, Safety in Welding and Cutting, published by the American Welding Society, P.O. Box 351040, Miami, FL 33135, for fire prevention and protection information during the use of welding and allied procedures.

National Fire Protection Association (NFPA) Rating: Health-2 Flammability-0 Reactivity-0

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Solid materials can be picked up and placed in original container or, for disposal considerations, please refer to Section 13.

SECTION 7 – HANDLING AND STORAGE

Handling: Handle material with care. Wear gloves and eye protection when handling material.

Storage: Protect material from dust, acid, and other substances that can cause chemical reactions. Store the material in a dry area on a stable surface.

SECTION 8 – EXPOSURE CONTROL/PERSONAL PROTECTION

Use the below as a guideline for limiting fume exposure:

Ingredients[1]	CAS #	EINECS #	ACGIH TLV (mg/m^3)	OSHA PEL (mg/m^3)
Aluminum (Al)	7429-90-5	231-072-3		
Dust			10	15
Respiratory			1	5
Beryllium (Be)	7440-41-7	231-150-7	0.00005 (inhalable)	0.002, 0.005 Ceiling, 0.025 for 30 minutes
Chromium (Cr)	7440-47-3	231-157-5		
Metal			0.5	1
Insoluble			0.01	0.005
Water Soluble			0.05	0.005
Copper (Cu)	7440-50-8	231-159-6		
Dust			1	1
Fume			0.2	0.1
Iron (Fe) (Iron Oxide)	7439-89-6	231-096-4	5 (Resp.)	10 (Fume)
Magnesium (Mg)	7439-95-4	231-104-6	10	15
Manganese (Mn) (Fume)	7439-96-5	231-105-1	Not Hazardous	
Inhalable			0.1	5 Ceiling
Respiratory			0.02	5 Ceiling
Silicon (Si)	7440-21-3	231-130-8		
Dust			Withdrawn	15
Respiratory			Withdrawn	5
Titanium (Ti)	7440-32-6	231-142-3		
Zinc (Zn) and Zinc Oxide	7440-66-6	231-175-3		
Dust				15
Fume			2	5
Zirconium (Zr)	7440-67-7	231-176-9	5	5

Avoid exposure to fumes.

Eye and Face Protection: Wear a helmet or face shield with filter lens of appropriate shade level. More detail can be found in American National Standard Z49.1 “Safety in Welding and Cutting” and other applicable regulations.

Protective Clothing: Wear impervious or approved clothing to prevent injury from sparks, debris, or electric shock. Welding gloves are required to avoid injury. Protection includes but is not limited to gloves, face shield, arm protectors, safety glasses, hats, and aprons.

Respiratory Protection: Use sufficient levels of ventilation. If welding in a confined area, use a respirator or air-supplied respirator to avoid exposure to fumes. Keep fumes at a safe level for everyone. More details can be found in ANSI/AWS F1.1 “Method for Sampling Airborne Particle Generated by Welding and Allied Processes” and AWS F3.2M/F3.2 “Ventilation Guide for Weld Fume.”

Hygiene and Cleanliness: Use sufficient hygiene practices. Wash your hands after handle these products. Keep welding area and clothing clean and dry.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Aluminum mechanical and welding rods appear light to dark gray or silver. The material is odorless.

SECTION 10 – STABILITY AND REACTIVITY

Reactivity: These products are not reactive under normal circumstances.

Chemical Stability: These products are stable when shipped and under normal circumstances.

Conditions to Avoid: Limit exposure to dust, extreme heat, oxidizers, and incompatible materials.

Possibility of Hazardous Reactions: None known.

Incompatible Materials: Strong acids, strong bases, and oxidizers.

Hazardous Decomposition Products: Fumes generated from welding with included products can vary in degree. Please refer to Section 8, Exposure Control, and OSHA's Permissible Exposure Limit (PEL). Decomposition of elements can include any elements listed in Section 3, Composition/Information on Ingredients.

SECTION 11 – TOXICOLOGICAL INFORMATION

These products are not considered hazardous until consumed through the welding process. Fumes and gases from welding cannot be classified simply. The composition and quantity of both depend on the metal being welded, the process, procedures, and electrodes used. The constituents of the fume are generally different from the ingredients listed in section 3 and may include oxides of the metals, chromates, fluorides, and complex metals. The gases may include carbon monoxide, ozone, and oxides of nitrogen. Chlorinated solvents may be decomposed by the arc into toxic gases such as phosgene. Some elements in welding fumes have been suspected as carcinogens.

Short-Term Symptoms: Metallic taste; nausea; tightness of chest; fever; irritation of eyes, nose, throat and skin; loss of consciousness/ death due to welding gasses or lack of oxygen. Aggravation of pre-existing respiratory or allergic conditions may occur in some users.

Long-Term Symptoms: Adverse effects may result from long-term exposure to welding. Fume, gases, or dusts. These effects may include skin sensitization, neurological damage and respiratory disease such as bronchial asthma, lung fibrosis or pneumoconiosis. Nickel and chromium must be considered possible carcinogens under OSHA (29CFR1910.1200). The International Agency for Research on Cancer (IARC) has indicated that nickel and certain nickel compounds are probably carcinogenic for humans, but that the specific compounds which may be carcinogenic cannot be specified precisely. This conclusion was based on experience in certain nickel refining operations. Chromium has also been listed by IARC because of "sufficient evidence for the carcinogenicity of chromium and certain chromium compounds." the studies forming the basis for the conclusion were from operations different from the production or welding of nickel and chromium alloys. Recent epidemiological studies of workers melting and working alloys containing nickel chromium have found no increased risk of cancer. Nevertheless, exposures must be maintained below the levels specified in Section 8.

SECTION 12 – ECOLOGICAL INFORMATION

Avoid contamination of surrounding environment in full compliance to local and national government regulations. Avoid disposal or exposure to groundwater.

SECTION 13 – DISPOSAL CONSIDERATIONS

Dispose of waste materials in the appropriate environmentally acceptable manner and in full compliance to local and national regulations.

SECTION 14 – TRANSPORTATION INFORMATION

These products are not internationally regulated as dangerous goods.

SECTION 15 – REGULATORY INFORMATION

US Regulations:

Section 311 Hazard Class: As shipped – Immediate
In use – Immediate and delayed

EPCRA/SARA Title III 313 Toxic Chemicals: These products contain the following metallic chemicals which are subject to SARA Title III Section 313 Reporting:

Ingredient	Weight Percentage
Aluminum	1.0% de minimis
Chromium	1.0% de minimis
Copper	0.1% de minimis
Manganese	1.0% de minimis
Zinc	1.0% de minimis

These elements are based on the chemical composition of all alloys included in this SDS. Please refer to the specific composition included with the purchased certification.

California Proposition 65: These products may contain or produces chemicals known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (Health and Safety Code section 25249.5 et seq.)

SECTION 16 – OTHER INFORMATION

Alloy Identifiers: 1100, 1350, 2319, 357.0, 4043, 4047, 4145, 4643, 5154, 5183, 5356, 5554, 5556, 5654, A356, and C355.

GHS Classification Codes: H301 – Toxic if swallowed.
H315 – Causes skin irritation.
H317 – May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H330 – Fatale if inhaled.
H335 – May cause respiratory irritation.
H350i – May cause cancer by inhalation.
H372 – Causes damage to organs through prolonged or repeated exposure.
H250 – Catches fire spontaneously if exposed to air.
H261 – In contact with water releases flammable gases.
H260 – In contact with water releases flammable gases which may ignite spontaneously.
H372 – Causes damage to organs through prolonged or repeated exposure.
H400 – Very toxic to aquatic life.
H410 – Very toxic to aquatic life with long lasting effects.

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