Aluminum Electrode

1 PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Aluminum Electrode
Common Name: 11-C
SDS Number: 05
Revision Date: 5/6/2015
Version: 1
Product Use: Welding

Supplier Details:
WELD MOLD COMPANY
750 Rickett Road
Brighton, MI 48116

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2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS):

Physical, Flammable Solids, 1
Physical, Substances and Mixtures which, in contact with water, emit Flammable Gases, 2
Health, Acute toxicity, 4 Oral
Health, Skin corrosion/irritation, 2
Health, Respiratory or skin sensitization, 1 Skin
Health, Serious Eye Damage/Eye Irritation, 2 A
Health, Acute toxicity, 4 Inhalation
Health, Specific target organ toxicity - Single exposure, 3
Health, Specific target organ toxicity - Repeated exposure, 1
Environmental, Hazards to the aquatic environment - Acute, 1
Environmental, Hazards to the aquatic environment - Chronic, 3

GHS Label elements, including precautionary statements

GHS Signal Word: DANGER

GHS Hazard Pictograms:

GHS Hazard Statements:

H228 - Flammable solid
H261 - In contact with water releases flammable gas
H302 - Harmful if swallowed
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H372 - Causes damage to organs through prolonged or repeated exposure
H400 - Very toxic to aquatic life
H412 - Harmful to aquatic life with long lasting effects

GHS Precautionary Statements:

P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.
P264 - Wash _ thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P501 - Dispose of contents/container to _
CGA-PG27 - Read and follow the Safety Data Sheet (SOS) before use.

Hazards not otherwise classified (HNOC) or not covered by GHS

Route of Entry: Eyes; Skin; Inhalation

Target Organs: Throat; Nose, Respiratory system

Inhalation: Short term overexposure to welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of the nose, throat, lungs, and/or eyes.

ACUTE EFFECTS: Irritating to the nose, throat and respiratory tract.

SUBCHRONIC/CHRONIC TOXICITY
CHRONIC: Chronic overexposer to welding fumes can result in: Chronic respiratory problems, iron build-up in the lungs, bone erosion, reduced pulmonary functions and nervous disorders.

Skin Contact: The bright light produced by the arc can burn skin and eyes

Eye Contact: Fumes may be moderately irritating to the eyes

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas#	%	Chemical Name
7447-40-7	10-20%	Potassium chloride (KCl)
7647-14-5	10-20%	Sodium Chloride
7784-18-1	1-11%	Aluminum fluoride (AlF3)
13821-20-0	10-20%	Lithium Cryolite
13775-52-5	1-11%	Potassium Cryolite
7429-90-5	45-55%	Aluminum
7440-21-3	0-10%	Silicon

EXPOSURE LIMITS

CHEMICAL NAME	OSHA PEL	ACGIH TLV
Potassium Chloride	NL	NL
Sodium Chloride	NL	NL
Aluminum Fluoride	NL	NL
Lithium Cryolite	10 mg/m3 TWA	3 mg/m3 TWA
Potassium Cryolite	15 mg/m3 TWA	5 mg/m3 TWA
Aluminum	15 mg/m3	10 mg/m3 NL
Silicon	10 mg/m3* = Total dust, <=Respirable fraction	10 mg/m3 Total Dust

4 FIRST AID MEASURES

Inhalation: Remove to fresh air immediately or administer oxygen. Get medical attention immediately.
Skin Contact: Flush skin with large amounts of water. If irritation develops and persists, get medical attention
Eye Contact: Flush eyes with water for at least 15 minutes. Get medical attention.
Ingestion: Obtain medical attention immediately if ingested.

Electric Shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. Immediately contact a physician.

5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning material and fire situation.

Unsuitable Extinguishing Media: Do not use water on molten metal. Large fires may be flooded with water from a distance.

Specific Hazards Arixing From Chemical: Hydrogen chloride gas, Potassium oxides, Hydrogen fluoride, Aluminum oxide, Silicon oxides.

Protective Equipment: Fire fighters should wear complete protective clothing including self-contained breathing aparatus.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions: Refer to Section 8.

Environmental Precautions: Refer to Section 13.

Cleaning Measures: Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard or refuse.

7 HANDLING AND STORAGE

Handling Precautions:	Handle with care to avoid stings or cuts. Wear gloves when handling welding consumables. Avoid exposure to dust. Do not ingeest. Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.
Storage Requirements:	Store in dry place in closed packages. Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protective Equipment:

Engineering Controrls: Avoid exposure to welding fumes, radiation, spatter, electric shock, heated materials and dust. Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and general area. Keep work place and protective clothing clean and dry. Train welders to avoid contact with live electrical parts and insulate conductive parts. Check condition of protective clothing and equipment on a regular basis.

Respiratory Protection: Use an air purifying dust respirator when welding or brazing in a confined space, or when local exhaust or ventilation is not sufficient to keep exposure values within safe limits.

Hands Protection: Wear appropriate gloves to prevent skin contact.

Skin Protection: Heat-resistant protective clothing. Wear safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry. Clothing should be selected to suit the level, duration and purpose of the welding activity.

Exposure Limits: Use industriall hygiene equipment to ensure that exposure does not exceed applicable national exposure limits. The limits defined under section 3 can be used as a guidance. Unless noted, all values are for 8 hour time weighted average.

Biological Limits: No available data

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid
Odor:	Odourless
Odor Threshold:	Not Available
Solubility:	Insoluble in water
Heat Value:	1220º F, 660º C
Boiling Point:	4566º F, 2519º C
Freezing/Melting Pt.:	Not available
Flash Point:	Not available
Vapor Pressure:	Not available
Vapor Density:	Not available
pH:	Not Available
Evap. Rate:	Not available

10 STABILITY AND REACTIVITY

Conditions to Avoid:	Not applicable.
Materials to Avoid:	Reacts with acid.
Hazardous Decomposition:	When this product is used in a welding process, hazardous decomposition product would include those from volatilization, reaction or oxidation of the material listed in section 3 and those from the base metal and coating. The amount of fumes generated from this product varies with welding parameters and dimensions. Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compounds found in section 3. Reasonable expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area can be affected by the welding process and influence the composition and quality of fumes and gases produced.

11 TOXICOLOGICAL INFORMATION

Signs and Symptoms of Overexposure: Inhalation of welding fumes and gases can be dangerous to your health. Classification of welding fumes is difficult because of varying base materials, coatings, air contaminants and processes. The Internal Agency for Research on Cancer has classified welding fumes as possible carcinogenic to humans.

Acute Effects: Overexposure to welding fumes may result in symptoms like metal fume fever, dizziness, nausea, dryness or irritation of the nose, throat or eyes. Signs and symptoms of Potassium Chloride exposure are hyperkalaemia, nausea, vomiting, abdominal pain, diarrhoea, constipation, paraesthesia, thirst, dizziness, rash, pruritus, weakness, muscle cramps, minor psychiatric changes and minor visual changes. May cause sensitisation by skin contact.

Chronic Effects: Overexposure to welding fumes may affect pulmonary function.

12 ECOLOGICAL INFORMATION

Toxicity: Welding rods contain metals which are considered to be very toxic towards aquatic organisms. Finely divided welding rods are therefore considered harmful to aquatic organisms.

Persistance and Degradability: The welding rods consist of elements that can not degrade any further in the environment.

Bio accumulative Potential: Welding rods contain heavy metals which bio accumulates in the food chain. The following figures are the bio concentration factor (BCF) for the substances on their own.

BCF:
Aluminum, BCF: 18

Mobility in Soil: Welding rods are not soluble in water or soil. Particles formed by working welding rods can be transported in the air.

Other Adverse Effects: In massive form, welding rods present no hazards to the aquatic environment. Welding materials could degrade into components originating from the materials used in the welding process. Avoid exposure to conditions that

could lead to accumulation in soils or groundwater. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13 DISPOSAL CONSIDERATIONS

Product: For product elimination, consult recycling companies or appropriate local authority.
Package: May be disposed in approved landfills provided local regulations are observed.

14 TRANSPORT INFORMATION

Packing group: There are not any special precautions with which a user should or must comply or be aware of in connection with transport or conveyance either within or outside premises.

Environmental hazards: Welding rods are not environmentally hazardous according to the criteria of the UN model Regulations.

Special precautions for users: There are not any special precautions which a user should or must comply or be aware of in connection with transport or conveyance either within or outside premises of the welding rod.

15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

Potassium chloride (KCl) (7447-40-7) [10-20%] TSCA

Sodium Chloride (7647-14-5) [10-20%] TSCA

Aluminum fluoride (AlF3) (7784-18-1) [1-11%] TSCA

Lithium Cryolite (13821-20-0) [10-20%] TSCA

Potassium Cryolite (13775-52-5) [1-11%] TSCA

Aluminum (7429-90-5) [45-55%] EPCRAWPC, MASS, NJHS, OSHAWAC, PA, SARA313, TSCA, TXAIR

Silicon (7440-21-3) [0-10%] MASS, OSHAWAC, PA, TSCA, TXAIR

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Regulatory CODE Descriptions
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TSCA = Toxic Substances Control Act
EPCRAWPC = EPCRA Water Priority Chemicals
MASS = MA Massachusetts Hazardous Substances List
NJHS = NJ Right-to-Know Hazardous Substances
OSHAWAC = OSHA Workplace Air Contaminants
PA = PA Right-To-Know List of Hazardous Substances
SARA313 = SARA 313 Title III Toxic Chemicals
TXAIR = TX Air Contaminants with Health Effects Screening Level
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Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when welding and protect yourself and others.

USA: Under the OSHA Hazard Communcation Standard, this product is considered hazardous. This product contains or produces a chemical known to the state of California to cause cancer and birth defects (or other reproductive harm). (California Health & Safety Code 25249.5 et seq). United States EPA Toxic Substance Control Act: All constituents of this product are on the TSCA Inventory list or are excluded from this listing.

16 OTHER INFORMATION

NFPA: Health = 2, Fire = 0, Reactivity = 0, Specific Hazard = n/a
HMIS III: Health = 2(Chronic), Fire = 0, Physical Hazard = 0
HMIS PPE: D - Face Shield and Eye Protection, Gloves, Apron