

# Safety Data Sheet: ALUM-ARC M

Supersedes Date 07/26/2012

Issuing Date 07/03/2013

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** ALUM-ARC M  
**Recommended use** Welding MIG wire  
**Information on Manufacturer**  
X-ERGON by Partsmaster, Div of NCH Corp.  
P.O. Box 655326  
Dallas, TX 75265-5326

**Product Code** 64110035  
**Chemical nature** Inorganic solid blend  
**Emergency Telephone Number**  
CHEMTREC® 800-424-9300

## 2. HAZARD IDENTIFICATION

**Color** greenish-blue

**Physical State** Solid

**Odor** No information available

### GHS

#### Classification

##### Physical Hazards

None

##### Health Hazard

Skin Corrosion/Irritation

Category 3

##### Other hazards

None

#### Labeling

##### Signal Word

**WARNING**

##### Hazard Statements

H316 - Causes mild skin irritation

##### Precautionary Statements

P332 + P313 - If skin irritation occurs, get medical attention.

P273 - Avoid release to the environment

P501 - Dispose of contents and container to an approved waste disposal plant.

7.85 % of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Aluminum	7429-90-5	90-100
Silicon	7440-21-3	3-13
Iron	7439-89-6	.5-1
Magnesium	7439-95-4	.5-1
Manganese	7439-96-5	.5-1
Chromium	7440-47-3	.1-.5
Copper	7440-50-8	.1-1
Zinc	7440-66-6	.1-1
Titanium dioxide	13463-67-7	.1-1
Beryllium	7440-41-7	.01-.1

## 4. FIRST AID MEASURES

#### General advice

If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

#### Skin Contact

In case of contact, immediately flush skin with soap and plenty of water. If skin irritation persists, call a physician.

#### Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention.

#### Ingestion

Clean mouth with water and afterwards drink plenty of water

#### Notes to physician

Treat symptomatically

## 5. FIRE-FIGHTING MEASURES

**Flash Point** Not flammable  
**Upper** No data available

**Method**

Not applicable

**Lower** No data available

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Specific hazards arising from the chemical**

Arcs and sparks can ignite combustibles and flammable products. See American National Standard Z49.1; Safety in Welding and Cutting published by The American Welding Society .

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

<b>NFPA</b>	<b>Health 2</b>	<b>Flammability 0</b>	<b>Instability 0</b>
<b>HMIS</b>	<b>Health 2</b>	<b>Flammability 0</b>	<b>Instability 0</b>

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal Precautions</b>	Wear appropriate protective clothing. Avoid creating dusty conditions. Transfer solid into a properly labeled container for re-use or disposal. If necessary, wash area with water and pick up wash water for disposal.
<b>Environmental Precautions</b>	Prevent product from contaminating soil or from entering sewage, drainage systems, and bodies of water .
<b>Methods for Containment</b>	Pick up and arrange disposal without creating dust.
<b>Methods for Cleaning Up</b>	Shovel or vacuum any spilled material into a suitable container. Alloy wastes are normally collected to recover metal value .
<b>Neutralizing Agent</b>	Not applicable.

**7. HANDLING AND STORAGE**

<b>Handling</b>	Do not eat, drink or smoke when using this product.
<b>Storage</b>	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.
<b>Storage Temperature</b>	<b>Minimum</b> No information available <b>Maximum</b> No information available
<b>Storage Conditions</b>	<b>Indoor</b> X <b>Outdoor</b> <b>Heated</b> <b>Refrigerated</b>

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Exposure Guidelines**

Component	ACGIH TLV	OSHA PEL	NIOSH
Aluminum	TWA: 1 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Silicon	No data available	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Iron	No data available	No data available	No data available
Magnesium	No data available	No data available	No data available
Manganese	TWA: 0.02 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	Ceiling: 5 mg/m <sup>3</sup>	IDLH: 500 mg/m <sup>3</sup> STEL 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Chromium	TWA: 0.5 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	IDLH: 250 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>
Copper	TWA: 0.2 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	IDLH: 100 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>
Zinc	No data available	No data available	No data available
Titanium dioxide	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup>	IDLH: 5000 mg/m <sup>3</sup>
Beryllium	TWA: 0.00005 mg/m <sup>3</sup> Skin	TWA: 2 µg/m <sup>3</sup> Ceiling: 5 µg/m <sup>3</sup>	IDLH: 4 mg/m <sup>3</sup> Ceiling: 0.0005 mg/m <sup>3</sup>

<b>Engineering Measures</b>	Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases below the TLV's in the worker's breathing zone and in the general area. Train the worker to keep his head out of the fumes .
<b>Personal Protective Equipment</b>	
<b>Eye/Face Protection</b>	Wear a helmet or use face shield with filter lens of appropriate shade number (SEE ANSI/ASCZ49.1) provide protective screen and flash goggles, if necessary, to shield others. As a rule of thumb, start a shade that is too dark to see the weld zone. Then go next lighter shade which gives sufficient view of the weld zone .
<b>Skin Protection</b>	Welder's leather gloves, Wear fire/flame resistant/retardant clothing.
<b>Respiratory Protection</b>	Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gasses below the TLV's in the workers' breathing zone and the general area. Train the worker to keep his head out of the fumes. Use MSHA/NIOSH approved or equivalent fume respirator or air supplied respirator when welding in a confined space or when local exhaust or ventilation does not keep exposure below TLV.
<b>General Hygiene Considerations</b>	Do not eat, drink or smoke when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid	<b>Viscosity</b>	Not applicable
<b>Color</b>	greenish-blue	<b>Odor</b>	No information available
<b>Odor Threshold</b>	Not applicable	<b>Appearance</b>	Textured black paste
<b>pH</b>	Not applicable	<b>Specific Gravity</b>	No data available
<b>Evaporation Rate</b>	Not applicable	<b>Percent Volatile (Volume)</b>	No information available
<b>VOC Content (%)</b>	No information available	<b>Vapor Pressure</b>	Not applicable
<b>Vapor Density</b>	Not applicable	<b>Solubility</b>	Insoluble
<b>n-Octanol/Water Partition</b>	No data available	<b>Melting Point/Range</b>	- °F / 627 - °C
<b>Decomposition Temperature</b>	No data available	<b>Boiling Point/Range</b>	4440 °F / 2449 °C
<b>Flammability (solid, gas)</b>	No data available	<b>Method</b>	Not applicable
<b>Flash Point</b>	Not flammable		
<b>Autoignition Temperature</b>	No information available.		
<b>Upper</b>	No data available		
<b>Lower</b>	No data available		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable.
<b>Conditions to Avoid</b>	None known
<b>Incompatible Products</b>	Incompatible with oxidizing agents, Strong acids.
<b>Hazardous Decomposition Products</b>	Fumes and gasses produced by welding, brazing and similar processes cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, the procedures and the filler metal being used. Other conditions which also influence the composition and quantity of fumes and gases to which the worker may be exposed include: coatings on the metal being welded, the number of welders and the volume of the work space, the quality and amount of ventilation used, the position of the welder's head in relation to the fume plume, as well as the presence of contaminants in the atmosphere when the filler metal is consumed. The fume and gas decomposition products generated are different in percent and form the product ingredients listed in Section III. The products formed in normal operation include those originating from the volatilization, reaction and oxidation of the filler metal, the metal being welded, the coatings, etc. as noted above. One recommended way to determine the composition and quality of fumes and gases to which workers are exposed is to take an air sample inside the welders helmet if worn or in the workers breathing zone. See ANSI/AWS F1.1 "Method For Sampling Airborne Particles Generated By Welding And Allied Processes" available from the American Welding Society, P.O. Box 35140, Miami, FL 33135
<b>Possibility of Hazardous Reactions</b>	None under normal processing

## 11. TOXICOLOGICAL INFORMATION

## Product Information

The following values are calculated based on chapter 3.1 of the GHS document (Rev. 3, 2009):

<b>Oral LD50</b>	No information available
<b>Dermal LD50</b>	No information available
<b>Inhalation LC50</b>	
<b>Gas</b>	No information available
<b>Mist</b>	No information available
<b>Vapor</b>	No information available
<b>Principle Route of Exposure</b>	Inhalation, Ingestion, Skin contact, Eye contact.
<b>Primary Routes of Entry</b>	Inhalation
<b>Acute Effects</b>	
<b>Eyes</b>	Causes eye irritation. Welding arc may damage eyes .
<b>Skin</b>	Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
<b>Inhalation</b>	Welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of nose, throat, or eyes. Fumes can aggravate asthma, bronchial conditions, or allergies. Individuals with allergies or impaired respiratory function may have symptoms worsen by exposure to welding fumes .
<b>Ingestion</b>	May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Chronic Toxicity</b>	Harmful if inhaled and may cause delayed lung injury. May cause sensitization of susceptible persons. Prolonged exposure may cause chronic effects. Decreases lung function which may be permanent . Prolonged exposure to elevated noise levels during operations may affect hearing . Long term overexposure to iron fumes may lead to siderosis (iron deposits in the lung) and is

believed by investigators to affect pulmonary function. Lungs will clear in time when exposure to iron and its components cease. Constant inhalation of chromium (VI) compounds may cause an ulceration and perforation of the nasal septum as well as liver and kidney damage. IARC has concluded that the evidence for carcinogenicity to humans and animals is inadequate for chromium metal and trivalent compounds, but sufficient for hexavalent chromium compounds. Chromium compounds are on the IARC list as posing a carcinogenic risk to humans. OSHA (29 CFR 1910.120) lists chromium as possible carcinogen. Chromium VI compounds are required by OSHA to be considered carcinogenic. Inhalation of manganese fumes may affect the central nervous system, may cause spastic gait, drowsiness, paralysis and other neurological problems with symptoms including weakness and tremors resembling Parkinson's disease. Behavioral changes and changes in handwriting may also appear. Fume may cause Wilson's disease in some individuals with a rare inherited metabolic disorder characterized by retention of copper in the liver, brain, kidney and corneas. Wilson's disease, if untreated can result in liver failure.

**Target Organ Effects**  
**Aggravated Medical Conditions**

Respiratory system  
Respiratory disorders

Component Information

**Acute Toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Aluminum	no data available	no data available	no data available	no data available	no data available
Silicon	no data available	no data available	no data available	no data available	no data available
Iron	= 984 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Magnesium	= 230 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Manganese	no data available	no data available	no data available	no data available	no data available
Chromium	no data available	no data available	no data available	no data available	no data available
Copper	no data available	no data available	no data available	no data available	no data available
Zinc	no data available	no data available	no data available	no data available	no data available
Titanium dioxide	> 10000 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Beryllium	no data available	no data available	no data available	no data available	no data available

**Chronic Toxicity**

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Aluminum	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Silicon	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Iron	no data available	no data available	no data available	no data available	no data available
Magnesium	no data available	no data available	no data available	no data available	no data available
Manganese	no data available	no data available	no data available	no data available	CNS, respiratory system, blood, kidneys
Chromium	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Copper	no data available	no data available	no data available	no data available	eyes, kidneys, liver, respiratory system, skin
Zinc	no data available	no data available	no data available	no data available	no data available
Titanium dioxide	no data available	no data available	no data available	no data available	respiratory system
Beryllium	no data available	no data available	no data available	no data available	eyes, respiratory system, skin (lung cancer)

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA	Other
Aluminum	not applicable	not applicable	not applicable	not applicable	not applicable
Silicon	not applicable	not applicable	not applicable	not applicable	not applicable
Iron	not applicable	not applicable	not applicable	not applicable	not applicable
Magnesium	not applicable	not applicable	not applicable	not applicable	not applicable
Manganese	not applicable	not applicable	not applicable	not applicable	not applicable
Chromium	not applicable	not applicable	not applicable	not applicable	not applicable
Copper	not applicable	not applicable	not applicable	not applicable	not applicable
Zinc	not applicable	not applicable	not applicable	not applicable	not applicable
Titanium dioxide	A4	Group 2B	not applicable	X	not applicable
Beryllium	A1	Group 1	Known	X	not applicable

**12. ECOLOGICAL INFORMATION**

Product Information

No information available.

Component Information

Component	Toxicity to Algae	Toxicity to Fish	Microtox	Water Flea	log Pow
Aluminum	no data available	no data available	no data available	no data available	N/A
Silicon	no data available	no data available	no data available	no data available	N/A

Iron	no data available	LC50 = 13.6 mg/L Morone saxatilis 96 h LC50 = 0.56 mg/L Cyprinus carpio 96 h	no data available	no data available	N/A
Magnesium	no data available	no data available	no data available	no data available	N/A
Manganese	no data available	no data available	no data available	no data available	N/A
Chromium	no data available	no data available	no data available	no data available	N/A
Copper	EC50 0.0426 - 0.0535 mg/L Pseudokirchneriella subcapitata 72 h EC50 0.031 - 0.054 mg/L Pseudokirchneriella subcapitata 96 h	LC50 0.0068 - 0.0156 mg/L Pimephales promelas 96 h LC50 < 0.3 mg/L Pimephales promelas 96 h LC50 = 0.2 mg/L Pimephales promelas 96 h LC50 = 0.052 mg/L Oncorhynchus mykiss 96 h LC50 = 1.25 mg/L Lepomis macrochirus 96 h LC50 = 0.3 mg/L Cyprinus carpio 96 h LC50 = 0.8 mg/L Cyprinus carpio 96 h LC50 = 0.112 mg/L Poecilia reticulata 96 h	no data available	EC50= 0.03 mg/L 48 h	N/A
Zinc	EC50 0.11 - 0.271 mg/L Pseudokirchneriella subcapitata 96 h EC50 0.09 - 0.125 mg/L Pseudokirchneriella subcapitata 72 h	LC50 2.16 - 3.05 mg/L Pimephales promelas 96 h LC50 0.211 - 0.269 mg/L Pimephales promelas 96 h LC50 = 2.66 mg/L Pimephales promelas 96 h LC50 = 30 mg/L Cyprinus carpio 96 h LC50 = 0.45 mg/L Cyprinus carpio 96 h LC50 = 7.8 mg/L Cyprinus carpio 96 h LC50 = 3.5 mg/L Lepomis macrochirus 96 h LC50 = 0.24 mg/L Oncorhynchus mykiss 96 h LC50 = 0.59 mg/L Oncorhynchus mykiss 96 h LC50 = 0.41 mg/L Oncorhynchus mykiss 96 h	no data available	EC50 0.139 - 0.908 mg/L 48 h	N/A
Titanium dioxide	no data available	no data available	no data available	no data available	N/A
Beryllium	no data available	no data available	no data available	no data available	N/A

**Persistence and Degradability**  
**Bioaccumulation**  
**Mobility**

No information available.  
No information available.  
No information available.

### 13. DISPOSAL CONSIDERATIONS

**Product Disposal**  
**Container Disposal**

Dispose of in accordance with local regulations.  
Empty containers should be taken for local recycling, recovery, or waste disposal.

### 14. TRANSPORT INFORMATION

**DOT** Not regulated  
**TDG** Not regulated  
**ICAO** Not regulated  
**IATA** Not regulated  
**IMDG/IMO** Not regulated

### 15. REGULATORY INFORMATION

**Inventories**  
**TSCA**

Complies

DSL  
U.S. Federal Regulations

Complies

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Aluminum	7429-90-5	90-100	1.0
Manganese	7439-96-5	.5-1	1.0
Chromium	7440-47-3	.1-.5	1.0
Copper	7440-50-8	.1-1	1.0
Zinc	7440-66-6	.1-1	1.0
Beryllium	7440-41-7	.01-.1	0.1

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard	Chronic Health Hazard	Fire Hazard	Sudden Release of Pressure Hazard	Reactive Hazard
Yes	Yes	No	No	No

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs
Aluminum	Not applicable	Not applicable
Silicon	Not applicable	Not applicable
Iron	Not applicable	Not applicable
Magnesium	Not applicable	Not applicable
Manganese	Not applicable	Not applicable
Chromium	5000 lb	Not applicable
Copper	5000 lb	Not applicable
Zinc	1000 lb	Not applicable
Titanium dioxide	Not applicable	Not applicable
Beryllium	10 lb	Not applicable

**U.S. State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals

Component	CAS-No	California Prop. 65
Chromium	7440-47-3	carcinogen, initial date 2/27/87, developmental female, male 12/19/08
Beryllium	7440-41-7	carcinogen

**16. OTHER INFORMATION**

Prepared By Christopher Drogin  
 Supersedes Date 07/26/2012  
 Issuing Date 07/03/2013  
 Reason for Revision No information available.  
 Glossary No information available.  
 List of References. No information available.

**X-ERGON by Partsmaster, Div of NCH Corp. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.**