

Safety Data Sheet

1. Identification

Product identifier

Trade Name: *Welding Electrode*

Types: *E7016*

Recommended use of the chemical and restrictions on use: *Arc welding*

Details of manufacturer or importer

Manufacturer/Supplier: *Anchor Weld (Wuhan) Technology Co.,Ltd*

Address: *Room A2-34-03, Guannan Industrial Complex, East Lake High Tech Development Zone, Wuhan 430084, China*

E-Mail: *Jill@akweld.com*

Phone number: *+86-27-8695 2088*

Fax: *+86-27-8695 2088*

Contact Person: *Jill*

Emergency phone number: *+86-27-8695 2088*

2. Hazard(s) Identification

2.1 Classification

Classification according to GHS

Classification according to GHS

Not classified as a dangerous good.

2.2 Labeling Elements:

Pictogram(s): *Not applicable.*

Signal Word: *Not applicable.*

Hazard Statement(s): *Not applicable.*

Precautionary Statement(s): *Not applicable.*

2.3 Other hazards:

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

3. Composition and information on Ingredients

Chemical Characterization

Description: *Alloys: consisting of the following components.*

| Components Name | CAS# | EINECS# | Weight (%) |
|------------------------|------------------|------------------|-------------------|
| <i>Carbon iron(Fe)</i> | <i>7439-89-6</i> | <i>231-096-4</i> | <i>98.16</i> |
| <i>Manganese(Mn)</i> | <i>7439-96-5</i> | <i>231-105-1</i> | <i>1.32</i> |

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| | | | |
|---------------|-----------|-----------|------|
| Silicon(Si) | 7440-21-3 | 231-130-8 | 0.41 |
| Carbon(C) | 7440-44-0 | 231-153-3 | 0.06 |
| Nickel(Ni) | 7440-02-0 | 231-111-4 | 0.02 |
| Phosphorus(P) | 7723-14-0 | 231-768-7 | 0.02 |
| Sulfur(S) | 7704-34-9 | 231-722-6 | 0.01 |

4. First Aid Measures

4.1 Description of necessary first aid measures

Eye Contact: Particulate bodies may be removed carefully. DO NOT attempt to remove particles attached to or embedded in eyes. Lay victim down on stretcher if possible and pad both eyes, make sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye. Consult a physician immediately.

For "arc eye": Place eye pads or light clean dressings over both eyes. Consult a physician.

Skin Contact: Wash exposed area with soap and running water. Cover the irritated skin with an emollient. Get medical advice if irritation develops.

Inhalation: If inhaled welding fume or dust: remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician.

Ingestion: It is unlike entry as its form.

4.2 Most important symptoms and effects, both acute or chronic:

Acute effects: Harmless as its form. Danger when used: The welding flash or UV light irritating to the eye and may cause "arc eye". Excessive inhalation of welding fume or dust may cause "metal fume fever". Symptoms may be delayed for up to 12 hours and begin with the sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise.

Chronic effects: Repeated or prolonged inhalation welding fume may cause damage to lung.

4.3 Indication of immediate medical attention and special treatment needed: Treat symptomatically.

5. Fire Fighting Measures

Suitable Extinguishing Media: Use dry sand, Special powder for metal fires. Do not use water, carbon dioxide, or halogenated extinguishing agents.

Special Hazards Arising from the Chemical:

In a fire may decompose on heating and Produce toxic or irritating fumes. Welding arc and metal sparks can ignite combustibles.

Special Protective Actions for Fire-fighters:

In the event of a fire, a self-contained breathing apparatus, operating in the positive pressure mode, and

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full fire fighting protective clothing should be worn.

Extinguishing the fire from upwind and keep a safe distance.

Enhanced ventilation to accelerate the dissipation of the harmful substances.

Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

6. Accidental Release Measures

Personal Precautions, Protective equipment and Emergency Procedures:

Isolate spill or leak area in all directions. Keep unauthorized personnel away. Suggest emergency people wear anti-dust masks, general protective clothing, impervious gloves and safety glasses. Ensure adequate ventilation. Stay upwind.

Precautions to Protect the Environment:

Collect leaks. Avoid entry into drains or water courses.

Methods and Materials for Containment and Cleaning Up:

For small spillage: Clean up spills immediately. Provide ventilation. Use a non-spark tool. Sweep up or pick up and place into a suitable container and label for recycling.

For large leaks: Recovering and recycling.

7. Handling and Storage

Precautions for safe handling:

Earth all lines and equipment.

The operators must be specialized trained and strict compliance with operating procedures.

Avoid contact with skin and eyes.

Wear protective clothing and special welding protective mask.

Use only with adequate ventilation.

Do not eat, drink or smoke at working place.

Conditions for safe storage, including any incompatibilities:

Store in a cool, dry and well-ventilated place.

Keep container tightly closed.

Keep away from acidic, alkaline and oxidizing materials.

Separate from halogenated compounds.

8. Exposure Controls and Personal Protection

Control parameters:

Exposure limits: *Not established for the finished product.*

| <i>Chemical Name</i> | <i>CAS#</i> | <i>Exposure Limits</i> |
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| | | |
|---|-----------|---|
| Welding Electrode generals welding fumes which on use | N/A | Australia: WEL-TWA =5 mg/m ³ |
| Including | | |
| Iron oxide fume | 1309-37-1 | <p>US: ACGIH: TLV-TWA =10 mg/m³ OSHA: PEL-TWA=5mg/m³; Australia: WEL-TWA=5mg/m³(as Fe) ARAB Republic of Egypt: OEL-TWA=3ppm(5mg/m³) Belgium: OEL-TWA=2ppm(5mg/m³) Denmark: OEL-TWA=3.5mg/m³ Finland: OEL-TWA=5ppm France: OEL-TWA=3.5mg/m³ Germany: OEL-TWA=6mg/m³ The Netherlands: OEL-TWA=5mg/m³ Philippines: OEL-TWA=10mg/m³ Poland: OEL-TWA=5mg/m³ Sweden: OEL-TWA=3.5mg/m³ Switzerland: OEL-TWA=2ppm(5mg/m³) Thailand: OEL-TWA=10mg/m³ Turkey: OEL-TWA=10mg/m³ United Kingdom: OEL-TWA=5mg/m³ OEL-STEL=10mg/m³ IDLH: 2,500 mg/m³</p> |
| Manganese fume | 7439-96-5 | <p>US: ACGIH: TLV-TWA=0.2 mg/m³; OSHA: PEL-TWA=0.2 mg/m³; PEL-STEL=3mg/m³. NIOSH: REL-TWA=1mg/m³; REL-STEL=3mg/m³. Australia: WEL-TWA=1 mg/m³(as Mn); WEL-STEL=3mg/m³ (as Mn). ARAB Republic of Egypt: OEL-TWA=5mg/m³ Belgium: OEL-TWA=1mg/m³ OEL-STEL=3mg/m³ Denmark: OEL-TWA=1mg/m³ Finland: OEL-TWA=1mg/m³ France: OEL-TWA=1mg/m³ Germany: OEL-TWA=5mg/m³ Philippines: OEL-TWA=5mg/m³ Russia: OEL-STEL=0.2mg/m³ Sweden: OEL-TWA=5mg/m³ Switzerland: OEL-TWA=1mg/m³ Thailand: OEL-TWA=5mg/m³ Turkey: OEL-TWA=5mg/m³ United Kingdom: OEL-TWA=1mg/m³ OEL-STEL=3mg/m³ IDLH: 500 mg/m³</p> |

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| | | |
|------------------------------|-------------------|---|
| <p><i>Silica fume</i></p> | <p>69012-64-2</p> | <p>US: ACGIH: TLV-TWA=4mg/m³; TLV- STEL=1.5 mg/m³; OSHA: PEL-TWA=6 mg/m³(total dust); PEL-TWA=3mg/m³ (respirable fraction). Australia: WEL-TWA =2 mg/m³ IDLH: 3,000 mg/m³</p> |
| <p><i>Nickel fume</i></p> | <p>7440-02-0</p> | <p>US: ACGIH, TLV-TWA=1 mg/m³; OSHA, PEL-TWA=1mg/m³; NIOSH, REL-TWA=0.015 mg/m³; Australia: WEL-TWA=1mg/m³ RAB Republic of Egypt: OEL-TWA=0.1mg/m³; Denmark: OEL-TWA=0.05mg/m³ France: OEL-TWA=1mg/m³ Hungary: OEL-STEEL=0.05mg/m³ Janpan: OEL-TWA=1mg/m³ The Netherlands: OEL-TWA=0.1mg/m³ Philippines: OEL-TWA=1mg/m³ Russia: OEL-STEEL=0.05mg/m³ Poland: OEL-TWA=20mg/m³ Switzerland: OEL-TWA=20.5mg/m³ Thailand: OEL-TWA=1mg/m³ United Kingdom: OEL-TWA=1mg/m³ IDLH: 10mg/m³</p> |
| <p><i>Sulfur dioxide</i></p> | <p>7446-09-5</p> | <p>US: ACGIH: TLV-TWA=5.2mg/m³; TLV- TWA=2ppm; OSHA: PEL-TWA=13 mg/m³; PEL-TWA=5ppm; NIOSH: REL-TWA=2ppm; REL-TWA=5ppm. Australia: WEL-TWA=2ppm(5.2mg/m³); WEL-STEEL=3ppm(13mg/m³); ARAB Republic of Egypt: OEL-TWA=5ppm(13mg/m³) Belgium: OEL-TWA=2ppm(5.2mg/m³) OEL-STEEL=5ppm(13mg/m³) Denmark: OEL-TWA=2ppm(5mg/m³) Finland: OEL-TWA=2ppm(5mg/m³) OEL-STEEL=5ppm(13mg/m³) France: OEL-TWA=2ppm(5mg/m³) OEL-STEEL=5ppm(10mg/m³) Germany: OEL-TWA=2ppm(5mg/m³) Hungary: OEL-TWA=3mg/m³ OEL-STEEL=6mg/m³ The Netherlands: OEL-TWA=2ppm(5mg/m³) Philippines: OEL-TWA=5ppm(13mg/m³)</p> |

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| | | |
|--|--|---|
| | | <p>Russia: OEL-STEL=10mg/m³ Poland: OEL-TWA=20mg/m³ Sweden: OEL-TWA=2ppm(5mg/m³) OEL-STEL=5ppm(13mg/m³) Switzerland: OEL-TWA=2ppm(5mg/m³) OEL-STEL=4ppm(10mg/m³) Thailand: OEL-TWA=5ppm(13mg/m³) Turkey: OEL-TWA=5ppm(13mg/m³) United Kingdom: OEL-TWA=2ppm(5mg/m³) OEL-STEL=5ppm(13mg/m³) IDLH: 100ppm (262mg/m³)</p> |
|--|--|---|

Appropriate Engineering Controls: Provide enough natural or local ventilation.

Individual protective measure:

Respiration Protection: No special requirements when normal handling. Use a special welding protective mask when welding.

Hands Protection: Welding gloves.

Skin Protection: General protective clothing and safety footwear.

Eye Protection: No special requirements when normal handling. Use a special welding protective mask when welding.

Hygiene Measures: Prohibit eating, drinking or smoking at working place. After work, remove contaminated clothing and shower. Separate store contaminated clothing, cleaning clothes before wearing. Maintain good health habits.

9. Physical and Chemical Properties

| | |
|--|-----------------------------|
| Appearance: | Metal rod, solid |
| Odor: | Odorless |
| Odor threshold: | Not available |
| Color: | Grey |
| pH: | Not available |
| Melting point/ freezing point: | ~1040 □ |
| Initial boiling point and boiling range: | Not test |
| Flash point: | Not test |
| Evaporation rate: | Not test |
| Flammability: | Non-flammable |
| Upper/lower flammability or explosive limits: | No fire or explosive hazard |
| Vapor Pressure: | Not test |
| Vapor Density(Air=1): | Not test |

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| | |
|---|--|
| Relative Density (20□□): | ~6.8(Water=1) |
| Solubility: | Insoluble in water; Soluble in acids, strong bases |
| Partition coefficient: n-octanol/water | Not test |
| Auto-ignition temperature: | Not test |
| Decomposition temperature: | Not test |
| Viscosity: | Not happen under normal use |

10. Stability and Reactivity

Reactivity: Reacts violently with strong acids or strong oxidizing agents.

Chemical Stability: Stable under normal condition.

Possibility of Hazardous Reactions: Reacts violently with strong acids and release flammable gases.

Conditions to Avoided: Electrical sparks, excess heat, prolonged exposure to moist air or water.

Incompatible Materials: Strong acids, strong oxidizing agents, strong bases, acid chlorides, halogens, substances which are corrosive to metals.

Hazardous Decomposition Products: Metal fumes, metallic oxides and carbon oxides.

11. Toxicological Information

Acute Toxicity: Cause mechanical irritation to skin and eye mucosa. Excessive inhalation of welding fume may cause "metal fume fever".

ATE_{mix} > 5,000mg/kg(Oral, Rat); ATE_{mix} > 5,000mg/kg(Dermal, Rat).

Iron oxide fume (CAS#1309-37-1): LD50 > 10,000mg/kg(Rat, Oral).

Manganese fume (CAS#7439-96-5): LD50=9,000mg/kg (Oral, Rat).

Silica fume (CAS#69012-64-2): LD50=3,160mg/kg

Nickel fume (CAS#7440-02-0): LD50 > 5,000mg/kg(Oral, Rat).

Sulfur dioxide(CAS#7446-09-5): LC50=2520ppm/1h(Oral, Rat).

Skin Corrosion/Irritation: Cause mechanical irritation. The flash particles may cause mechanical hurt when welding.

Manganese (CAS#7439-96-5): Standard Draize test, rabbit, skin, 500mg/24h, Mild.

Serious Eye Damage/Eye Irritation: The product may cause mechanical irritation. The welding flash or UV light may cause serious eye damage, even blindness. The flash particles may cause mechanical hurt.

Manganese (CAS#7439-96-5): Standard Draize test, rabbit, eyes, 500mg/24h, Mild.

Sulfur dioxide (CAS#7446-09-5): Standard Draize test, rabbit, eyes, 6ppm/4h/32D, Mild.

Respiratory or Skin Sensitization: No respiratory or skin sensitization has been reported.

Germ Cell Mutagenicity: Not known to cause mutagenicity.

Carcinogenicity: Not contains any ingredients exceed 0.1% which are listed as carcinogen by IARC, NTP, ACGIH or OSHA.

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Welding fume is listed as carcinogen by IARC as Group 2B: Possibly Carcinogenic to Humans.

Nickel (CAS#7440-02-0) is listed by IARC as Group 2B: Possibly carcinogenic to humans.

Iron oxide fume (CAS#1309-37-1) is listed by ACGIH as A4: Not classifiable as a human carcinogen.

Reproductive Toxicity: *Not known to cause reproductive toxicity.*

Specific Target Organ Toxicity - Single Exposure: *No hazard.*

Specific Target Organ Toxicity - Repeated Exposure: *No hazard.*

Aspiration Hazard: *No aspiration hazard.*

12. Ecological Information

Ecotoxicity: *No ecological toxicity data to aquatic life.*

Persistence and degradability: *No degradation.*

Bioaccumulative potential: *Bioconcentration in aquatic organisms is not a relevant environmental process for this product.*

Mobility in soil: *The mobility in soil of product is expected to be very low.*

Other adverse effects: *No known significant effects or critical hazards.*

13. Disposal Considerations

Waste Disposal Methods:

Small waste: Release to environment is expected to be non-hazardous

Large waste: Suggest recovery and utilization.

Dispose of in a manner consistent with federal, state, and local regulations.

Contaminated Packaging: *Disposal as unused product.*

14. Transport Information

UN number: *Not available.*

Proper shipping name or Technical Name: *Not available.*

Transport Hazard Class: *Not available.*

Packing Group: *Not available.*

Environmental hazards for Transport Purposes: *None.*

Special precautions for user: *Check the container and make sure it is full and sealed before transportation. Ensure the container does not leak, collapse, fall, or damaged in the transportation. Prohibited transport with acids, oxidants, food or food additives. Transport vehicles should be equipped with emergency treatment equipment. Should prevent sunlight, rain, heat.*

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code: *Not applicable.*

15. Regulatory Information

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USA regulatory:

TSCA Section 8(b): All components are listed on the TSCA inventory.

TSCA Section 12(b): The product is not listed under TSCA Section 12(b).

SARA Title III/EPCRA:

SARA 302 EHS (Emergency Planning)(40 CFR 355.30):

Phosphorus(CAS#7723-14-0)is listed. TPQ: 100lb.

SARA 304 EHS (Emergency Release Notification) (40 CFR 355.40):

Phosphorus(CAS#7723-14-0)is listed. RQ: 1lb.

SARA 313 Toxic Chemical (40 CFR 372.65): Manganese (CAS#7439-96-5), Nickel(CAS#7440-02-0) , and Phosphorus(CAS#7723-14-0) are listed.

CERCLA Hazardous Substances and Corresponding RQ:

CERCLA Reportable Quantity (RQ) (40 CFR 302.4):

Phosphorus(CAS#7723-14-0): 1lb.

Nickel(CAS#7440-02-0):100lb.

Clean Air Act:

Not listed under CAA Section 112(r).

Not listed as hazardous air pollutants.

Not listed as Class 1 or Class 2 Ozone Depletors.

Clean Water Act:

Not listed as a Hazardous Substance under the CWA Section 311.

Not listed as Priority Pollutants under the CWA Section 303.

Not listed as Toxic Pollutants under the CWA Section 307.

OSHA: The product is not considered highly hazardous by OSHA.

California Proposition 65: This product is not known to the State of California to cause cancer or reproductive toxicity.

Canadian Regulations

DSL/ NDSL Status: Listed on the Canadian DSL list.

WHMIS: Not controlled.

EU Regulations

Regulation (EC) 2037/2000, about substances that deplete the ozone layer: Not listed.

Article 95, REGULATION (EU) No 528/2012: Not listed.

Regulation (EU) No 649/2012, in relation to the import and export of hazardous chemical product: Not listed.

Limitations to commercialization and the use of certain dangerous substances and mixture (Annex XVII REACH, etc): Not listed.

16. Other Information

Abbreviations:

pH - Relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline

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CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds

ACGIH - American Conference of Governmental Industrial Hygienists

IARC - International Agency for Research on Cancer

TWA - Time Weighted Average

STEL - Short-term Exposure Limit

WEL - Australia workplace exposure standards for airborne contaminants

IDLH - Immediately Dangerous to Life or Health concentration

Further Information:

·This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

·This safety data sheet was prepared in accordance with Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Rev.6.

Department Issuing SDS: Anchor Weld (Wuhan) Technology Co.,Ltd

Issue Date: March 29, 2017

This SDS Service is provided by ZHEJIANG LANDER STANDARD TECHNOLOGY CO., LTD.

Signed for and on behalf of

Lander Testing Lab

Xuanhong Yu

Xuanhong Yu

Chemistry Lab Engineer

Date: March 29, 2017



*****End*****

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