

**Safety Data Sheet: AWS A5.1 E6013**

Supersedes Date 03/02/2009

Issuing Date 06/13/2013

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Name** AWS A5.1 E6013  
**Recommended use** Welding  
**Information on Manufacturer**  
 TOKO GROUP LTD  
 (WUXI, CHINA)  
 JP@TOKOC.COM

**Product Code** TOKO E6013  
**Chemical nature** Inorganic solid blend  
**Emergency Telephone Number**  
 TEL: (86)510-83595138

**2. HAZARD IDENTIFICATION**

**Color** Light brown

**Physical State** Solid

**Odor** Odorless

**GHS**

**Classification**

Physical Hazards

None

Health Hazard

Acute Oral Toxicity

Category 4

Other hazards

None

**Labeling**

Signal Word

**WARNING**



Hazard Statements

H302 - Harmful if swallowed

Precautionary Statements

P264 - Wash face, hands and any exposed skin thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product

P301+ P312 - IF SWALLOWED: Call a physician if unwell

P330 - Rinse mouth

P273 - Avoid release to the environment

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

29 % of the mixture consists of ingredient(s) of unknown toxicity

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

| Component          | CAS-No     | Weight % |
|--------------------|------------|----------|
| Iron               | 7439-89-6  | 60-100   |
| Titanium dioxide   | 13463-67-7 | 7-13     |
| Quartz             | 14808-60-7 | 1-5      |
| Calcium carbonate  | 1317-65-3  | 1-5      |
| Manganese          | 7439-96-5  | 1-5      |
| Potassium silicate | 1312-76-1  | 1-5      |

**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**

If swallowed, do not induce vomiting - seek medical advice. Rinse mouth.

**Notes to physician**

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Flash Point** The product is not flammable **Method** Not applicable  
**Upper** No data available **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.

**NFPA** **Health** 2 **Flammability** 0 **Instability** 0  
**HMIS** **Health** 2 **Flammability** 0 **Instability** 0

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions** 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.

**Environmental Precautions** Prevent product from contaminating soil or from entering sewage, drainage systems, and bodies of water .

**Methods for Containment** Pick up and arrange disposal without creating dust.

**Methods for Cleaning Up** Shovel or vacuum any spilled material into a suitable container. Alloy wastes are normally collected to recover metal value .

**Neutralizing Agent** Not applicable.

## 7. HANDLING AND STORAGE

**Handling** Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes and clothing. Avoid breathing dust.

**Storage** Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**Storage Temperature** **Minimum** No information available **Maximum** No information available

**Storage Conditions** **Indoor** X **Outdoor** **Heated** **Refrigerated**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines**

| Component          | ACGIH TLV                    | OSHA PEL   | NIOSH   |
|--------------------|------------------------------|--|---|
| Iron               | 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>  |
| Quartz             | TWA: 0.025 mg/m <sup>3</sup> | No data available                                  | IDLH: 50 mg/m <sup>3</sup><br>TWA: 0.05 mg/m <sup>3</sup>                           |
| Calcium carbonate  | 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>                                  |
| Manganese          | TWA: 0.2 mg/m <sup>3</sup>   | Ceiling: 5 mg/m <sup>3</sup>                       | IDLH: 500 mg/m <sup>3</sup><br>STEL 3 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> |
| Potassium silicate | No data available            | No data available                                  | No data available   |

**Engineering Measures** 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 .

**Personal Protective Equipment**

**Eye/Face Protection** 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 .

**Skin Protection** Welder's leather gloves, Wear fire/flame resistant/retardant clothing.

**Respiratory Protection** 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.

**General Hygiene Considerations** Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes and clothing. Wear head and body protection which help to prevent injury from radiation, sparks, and electrical shock. See ANSI Z49.1. At minimum, this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hat, shoulder protection as well as dark nonsynthetic clothing. Train

the welder not to touch live electrical parts and to insulate himself from work and ground .

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                  |                              |                                  |                                 |
|----------------------------------|------------------------------|----------------------------------|---------------------------------|
| <b>Physical State</b>            | Solid                        | <b>Viscosity</b>                 | Not applicable                  |
| <b>Color</b>                     | Light brown                  | <b>Odor</b>                      | Odorless                        |
| <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>       | 2800 - 3200 °F / 1538 - 1093 °C |
| <b>Decomposition Temperature</b> | No data available            | <b>Boiling Point/Range</b>       | 4950 °F / 2732 °C               |
| <b>Flammability (solid, gas)</b> | No data available            | <b>Method</b>                    | Not applicable                  |
| <b>Flash Point</b>               | The product is 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>                 | Hazardous polymerization does not occur.   |
| <b>Conditions to Avoid</b>                | Exposure to air or moisture over prolonged periods   |
| <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 |
| <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  |
| <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>                        | Causes skin irritation. 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 . Excessive inhalation of iron oxides fumes or dust can lead to irritation of the respiratory tract . |
| <b>Ingestion</b>                   | May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and  |

|                                      |  |
|--------------------------------------|--|
| <b>Chronic Toxicity</b>              | diarrhea.<br>Prolonged exposure may cause chronic effects. 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. 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. |
| <b>Target Organ Effects</b>          | Respiratory system, Central nervous system, Kidney, Blood, Liver.  |
| <b>Aggravated Medical Conditions</b> | Pre-existing respiratory and skin conditions such as asthma, emphysema, and dermatitis, Pre-existing liver and kidney diseases, Central nervous system, Allergies.   |

## Component Information

**Acute Toxicity**

| Component          | LD50 Oral             | LD50 Dermal       | LC50 Inhalation   | Draize Test       | Other             |
|--------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|
| Iron               | = 984 mg/kg ( Rat )   | 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 |
| Quartz             | = 500 mg/kg ( Rat )   | no data available | no data available | no data available | no data available |
| Calcium carbonate  | = 6450 mg/kg ( Rat )  | no data available | no data available | no data available | no data available |
| Manganese          | = 9 g/kg ( Rat )      | no data available | no data available | no data available | no data available |
| Potassium silicate | = 1300 mg/kg ( Rat )  | no data available | no data available | no data available | no data available |

**Chronic Toxicity**

| Component          | Mutagenicity      | Sensitization     | Developmental Toxicity | Reproductive Toxicity | Target Organ Effects                    |
|--------------------|-------------------|-------------------|------------------------|-----------------------|---|
| Iron               | 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                      |
| Quartz             | no data available | no data available | no data available      | no data available     | eyes, respiratory system                |
| Calcium carbonate  | no data available | no data available | no data available      | no data available     | eyes, respiratory system, skin          |
| Manganese          | no data available | no data available | no data available      | no data available     | CNS, respiratory system, blood, kidneys |
| Potassium silicate | no data available | no data available | no data available      | no data available     | no data available                       |

**Carcinogenicity**

| Component          | ACGIH          | IARC           | NTP            | OSHA           | Other          |
|--------------------|----------------|----------------|----------------|----------------|----------------|
| Iron               | not applicable | not applicable | not applicable | not applicable | not applicable |
| Titanium dioxide   | A4             | Group 2B       | not applicable | X              | not applicable |
| Quartz             | A2             | Group 1        | Known          | X              | not applicable |
| Calcium carbonate  | not applicable | not applicable | not applicable | not applicable | not applicable |
| Manganese          | not applicable | not applicable | not applicable | not applicable | not applicable |
| Potassium silicate | not applicable | not applicable | not applicable | not applicable | not applicable |

**12. ECOLOGICAL INFORMATION**

Product Information No information available.

## Component Information

| Component          | Toxicity to Algae | Toxicity to Fish  | Microtox          | Water Flea          | log Pow |
|--------------------|-------------------|---|-------------------|---------------------|---------|
| Iron               | no data available | LC50 = 13.6 mg/L Morone saxatilis<br>96 h<br>LC50 = 0.56 mg/L Cyprinus carpio<br>96 h         | no data available | no data available   | N/A     |
| Titanium dioxide   | no data available | no data available   | no data available | no data available   | N/A     |
| Quartz             | no data available | no data available   | no data available | no data available   | N/A     |
| Calcium carbonate  | 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     |
| Potassium silicate | no data available | LC50 301 - 478 mg/L Lepomis<br>macrochirus 96 h<br>LC50 = 3185 mg/L Brachydanio rerio<br>96 h | no data available | EC50= 216 mg/L 96 h | N/A     |

|                                      |                           |
|--------------------------------------|---------------------------|
| <b>Persistence and Degradability</b> | No information available. |
| <b>Bioaccumulation</b>               | No information available. |
| <b>Mobility</b>                      | No information available. |

**13. DISPOSAL CONSIDERATIONS**

|                           |  |
|---------------------------|--|
| <b>Product Disposal</b>   | Dispose of in accordance with local regulations.                                   |
| <b>Container Disposal</b> | Empty containers should be taken for local recycling, recovery, or waste disposal. |

## 14. TRANSPORT INFORMATION

DOT

TDG

ICAO

IATA

IMDG/IMO

## 15. REGULATORY INFORMATION

## Inventories

TSCA

Complies

DSL

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 |
|-----------|-----------|----------|-----------------------------|
| Manganese | 7439-96-5 | 1-5      | 1.0                         |

## SARA 311/312 Hazardous Categorization

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

## CERCLA

| Component          | Hazardous Substances RQs | CERCLA EHS RQs |
|--------------------|--------------------------|----------------|
| Iron               | Not applicable           | Not applicable |
| Titanium dioxide   | Not applicable           | Not applicable |
| Quartz             | Not applicable           | Not applicable |
| Calcium carbonate  | Not applicable           | Not applicable |
| Manganese          | Not applicable           | Not applicable |
| Potassium silicate | Not applicable           | Not applicable |

## U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

## 16. OTHER INFORMATION

Prepared By

Linda Chow

Supersedes Date

03/02/2009

Issuing Date

06/13/2013

Reason for Revision

No information available.

Glossary

No information available.

List of References.

No information available.

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