Safety Data Sheet: AWS A5.1 E6013

Supercedes 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^3	TWA: 15 mg/m^3	IDLH: 5000 mg/m^3
Quartz	TWA: 0.025 mg/m^3	No data available	IDLH: 50 mg/m^3 TWA: 0.05 mg/m^3
Calcium carbonate	No data available	TWA: 15 mg/m^3 TWA: 5 mg/m^3	TWA: 10 mg/m^3 TWA: 5 mg/m^3
Manganese	TWA: 0.2 mg/m^3	Ceiling: 5 mg/m^3	IDLH: 500 mg/m^3 STEL 3 mg/m^3 TWA: 1 mg/m^3
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

Physical State	Solid	**Viscosity**	Not applicable
Color	Light brown	**Odor**	Odorless
Odor Threshold	Not applicable	**Appearance**	Textured black paste
pH	Not applicable	**Specific Gravity**	No data available
Evaporation Rate	Not applicable	**Percent Volatile (Volume)**	No information available
VOC Content (%)	No information available	**Vapor Pressure**	Not applicable
Vapor Density	Not applicable	**Solubility**	Insoluble
n-Octanol/Water Partition	No data available	**Melting Point/Range**	2800 - 3200 °F / 1538 - 1093 °C
Decomposition Temperature	No data available	**Boiling Point/Range**	4950 °F / 2732 °C
Flammability (solid, gas)	No data available		
Flash Point	The product is not flammable	**Method**	Not applicable
Autoignition Temperature	No information available.		

Upper No data available **Lower** No data available

10. STABILITY AND REACTIVITY

Chemical Stability	Hazardous polymerization does not occur.
Conditions to Avoid	Exposure to air or moisture over prolonged periods
Incompatible Products	Incompatible with oxidizing agents, Strong acids.
Hazardous Decomposition Products	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"
Possibility of Hazardous Reactions	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):

Oral LD50	No information available
Dermal LD50	No information available
Inhalation LC50	
Gas	No information available
Mist	No information available
Vapor	No information available

Principle Route of Exposure	Inhalation
Primary Routes of Entry	Inhalation
Acute Effects	
Eyes	Causes eye irritation. Welding arc may damage eyes .
Skin	Causes skin irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Inhalation	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 .
Ingestion	May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and

diarrhea.

Chronic Toxicity 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 .

Target Organ Effects Respiratory system, Central nervous system, Kidney, Blood, Liver.

Aggravated Medical Conditions 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 96 h LC50 = 0.56 mg/L Cyprinus carpio 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 macrochirus 96 h LC50 = 3185 mg/L Brachydanio rerio 96 h	no data available	EC50= 216 mg/L 96 h	N/A

Persistence and Degradability No information available.

Bioaccumulation No information available.

Mobility No information available.

13. DISPOSAL CONSIDERATIONS

Product Disposal Dispose of in accordance with local regulations.

Container Disposal 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
Supercedes 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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