TOKO®

Safety Data Sheet: AWS A5.1 E7018

Supercedes Date 08/01/2012 **Issuing Date** 10/30/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name AWS A5.1 E7018
Recommended use Welding
Information on Manufacturer
TOKO GROUP LTD
(WUXI,CHINA)
JP@TOKOC.COM

Product Code TOKO E7018
Chemical nature Inorganic solid blend
Emergency Telephone Number
TEL: (86)510-83595138

2. HAZARD IDENTIFICATION

Color gray **Physical State** Solid **Odor** Odorless

Mixture or Pure Substance: Mixture

GHS Classification

Physical Hazards
None

Health Hazard

Acute Oral Toxicity	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Carcinogenicity	Category 1A

Other hazards
None

Labeling
Signal Word
DANGER

Hazard Statements
H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350 - May cause cancer

Precautionary Statements
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust or fume.
P285 - In case of inadequate ventilation wear respiratory protection
P270 - Do not eat, drink or smoke when using this product
P281 - Use personal protective equipment as required
P280 - Wear protective gloves, protective clothing and eye protection.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P272 - Contaminated work clothing should not be allowed out of the workplace
P308 + P313 - IF exposed or concerned: Get medical attention/advice
P321 - Specific treatment (see supplemental first aid instructions on this label)
P302+ P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs, get medical attention
P362 - Take off contaminated clothing and wash before reuse
P301+ P312 - IF SWALLOWED: Call a physician if unwell
P330 - Rinse mouth
P304 + P341 - IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms, call a physician
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists, get medical attention.
P405 - Store locked up
P273 - Avoid release to the environment
P501 - Dispose of contents and container to an approved waste disposal plant.

6 % 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
Sodium metasilicate	6834-92-0	1-5
Manganese	7439-96-5	1-5
Nickel	7440-02-0	0.1-1
Chromium	7440-47-3	0.1-1

4. FIRST AID MEASURES

General advice Do not breathe dust or fume. Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician.

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

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

Carbon dioxide (CO2). Dry chemical. Foam. Water spray.

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. Use personal protective equipment.

Environmental Precautions Prevent product from contaminating soil or from entering sewage, drainage systems, and bodies of water . Do not flush into surface water or sanitary sewer system.

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 Ensure adequate ventilation. Do not eat, drink or smoke when using this product. Avoid breathing dust.

Storage Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

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
Sodium metasilicate	No data available	No data available	No data available
Manganese	TWA: 0.02 mg/m^3 TWA: 0.1 mg/m^3	Ceiling: 5 mg/m^3	IDLH: 500 mg/m^3 STEL 3 mg/m^3

			TWA: 1 mg/m^3
Nickel	TWA: 1.5 mg/m^3	TWA: 1 mg/m^3	IDLH: 10 mg/m^3 TWA: 0.015 mg/m^3
Chromium	TWA: 0.5 mg/m^3	TWA: 1 mg/m^3	IDLH: 250 mg/m^3 TWA: 0.5 mg/m^3

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

Respiratory Protection Use a NIOSH/MSHA approved or equivalent fume respirator or air supplied respirator when welding in confined spaces, or where local exhaust or ventilation does not keep exposure below TLV's .

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 . Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid	**Viscosity**	Not applicable
Color	gray	**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**	2300 °F / 1260 °C
Decomposition Temperature	No data available	**Boiling Point/Range**	No data available
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. Stable under normal conditions.

Conditions to Avoid Exposure to air or moisture over prolonged periods

Incompatible Products Strong acids, Incompatible with oxidizing agents.

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

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 Welding arc may damage eyes . Causes eye irritation.
Skin Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Causes skin irritation. May cause allergic skin reaction.
Inhalation Excessive inhalation of iron oxides fumes or dust can lead to irritation of the respiratory tract . 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 . Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic Toxicity Harmful if inhaled and may cause delayed lung injury. 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 . 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 . Prolonged exposure may cause chronic effects. Prolonged exposure to elevated noise levels during operations may affect hearing .
Target Organ Effects Liver, Kidney, Respiratory system, Central nervous system, Blood.
Aggravated Medical Conditions Pre-existing liver and kidney diseases, Pre-existing respiratory and skin conditions such as asthma, emphysema, and dermatitis, Central nervous system, Allergies, Kidney disorders, Liver disorders.

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
Sodium metasilicate	= 600 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
Nickel	> 9000 mg/kg (Rat)	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

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
Sodium metasilicate	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
Nickel	no data available	no data available	no data available	no data available	nasal cavities, lungs, skin (lung and nasal cancer) lungs, skin, nasal cavities (lung and nasal cancer)
Chromium	no data available	no data available	no data available	no data available	eyes, respiratory system, skin

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

Component	ACGIH	IARC	NTP	OSHA	Other
Iron	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium metasilicate	not applicable	not applicable	not applicable	not applicable	not applicable
Manganese	not applicable	not applicable	not applicable	not applicable	not applicable
Nickel	not applicable	Group 1 Group 2B	Known Reasonably Anticipated	X	not applicable
Chromium	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
Sodium metasilicate	no data available	LC50 = 210 mg/L Brachydanio rerio 96 h	no data available	EC50= 216 mg/L 96 h	N/A
Manganese	no data available	no data available	no data available	no data available	N/A
Nickel	EC50 = 0.18 mg/L Pseudokirchneriella subcapitata 72 h EC50 0.174 - 0.311 mg/L Pseudokirchneriella subcapitata 96 h	LC50 > 100 mg/L Brachydanio rerio 96 h LC50 = 1.3 mg/L Cyprinus carpio 96 h LC50 = 10.4 mg/L Cyprinus carpio 96 h	no data available	EC50> 100 mg/L 48 h EC50= 1 mg/L 48 h	N/A
Chromium	no data available	no data available	no data available	no data available	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 Not regulated

TDG Not regulated

ICAO Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

Inventories
TSCA Complies
DSL Complies
U.S. Federal Regulations
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
Nickel	7440-02-0	0.1-1	0.1
Chromium	7440-47-3	0.1-1	1.0

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
Iron	Not applicable	Not applicable
Sodium metasilicate	Not applicable	Not applicable
Manganese	Not applicable	Not applicable
Nickel	100 lb	Not applicable
Chromium	10 lb	Not applicable

16. OTHER INFORMATION

Prepared By	Linda Chow
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Reason for Revision	No information available.
Glossary	No information available.
List of References.	No information available.

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