

Safety Data Sheet: ER5356

Supersedes Date 02/02/2009

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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name ER5356
Recommended use Tig wire
Information on Manufacturer
 X-TOKO Technology (Wuxi) Co.,Ltd

Product Code TOKO ER5356
Chemical nature Inorganic solid blend
Emergency Telephone Number
 TEL: (86)510-83595138

Email: jp@tokoc.com

2. HAZARD IDENTIFICATION

Color White

Physical State Solid

Odor Odorless

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.

12.2 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Aluminum	7429-90-5	85-95
Magnesium oxide	1309-48-4	3-7
Copper	7440-50-8	1-5
Silicon	7440-21-3	1-5
Iron oxide	1309-37-1	.5-1.5
Manganese	7439-96-5	.5-1.5
Zinc oxide	1314-13-2	.1-1
Titanium dioxide	13463-67-7	.1-1
Chromium	7440-47-3	.1-1.5

4. FIRST AID MEASURES

General advice

Avoid contact with skin, eyes and clothing.

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.

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.			
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
Aluminum	TWA: 1 mg/m ³	TWA: 15 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³
Magnesium oxide	TWA: 10 mg/m ³	TWA: 15 mg/m ³	IDLH: 750 mg/m ³
Copper	TWA: 0.2 mg/m ³	TWA: 0.1 mg/m ³ TWA: 1 mg/m ³	IDLH: 100 mg/m ³ TWA: 1 mg/m ³ TWA: 0.1 mg/m ³
Silicon	No data available	TWA: 15 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³
Iron oxide	TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 15 mg/m ³ TWA: 5 mg/m ³	IDLH: 2500 mg/m ³ TWA: 5 mg/m ³
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
Zinc oxide	TWA: 2 mg/m ³ STEL: 10 mg/m ³	TWA: 5 mg/m ³ TWA: 15 mg/m ³	IDLH: 500 mg/m ³ Ceiling: 15 mg/m ³ STEL 10 mg/m ³ TWA: 5 mg/m ³
Titanium dioxide	TWA: 10 mg/m ³	TWA: 15 mg/m ³	IDLH: 5000 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 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	White	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	1500 - 2000 °F / 816 - 1093 °C
Decomposition Temperature	No data available	Boiling Point/Range	No data available °F / °C
Flammability (solid, gas)	No data available	Method	Not applicable
Flash Point	The product is not flammable		
Autoignition Temperature	No information available.		
Upper No data available Lower	No data available		

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions. Hazardous polymerization does not occur.
Conditions to Avoid	None known
Incompatible Products	Incompatible with oxidizing agents, Strong 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 Causes eye irritation. Welding arc may damage eyes .

Skin May cause 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,

**Ingestion
Chronic Toxicity**

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 . Inhalation may cause central nervous system effects. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. May be harmful if swallowed.

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 . 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 . 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 . The TLV for Manganese (0.02 mg/m³) will be reached before the general limit for welding fumes of 5mg/m³ is reached. Monitor fumes for manganese levels. Respiratory system, Central nervous system, Kidney, Blood, Liver.

**Target Organ Effects
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
Aluminum	no data available	no data available	no data available	no data available	no data available
Magnesium oxide	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
Silicon	no data available	no data available	no data available	no data available	no data available
Iron oxide	> 10000 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
Zinc oxide	> 5000 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
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
Aluminum	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Magnesium oxide	no data available	no data available	no data available	no data available	eyes, respiratory system
Copper	no data available	no data available	no data available	no data available	eyes, kidneys, liver, respiratory system, skin
Silicon	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Iron oxide	no data available	no data available	no data available	no data available	respiratory system eyes, respiratory system, skin
Manganese	no data available	no data available	no data available	no data available	CNS, respiratory system, blood, kidneys
Zinc oxide	no data available	no data available	no data available	no data available	respiratory system, CNS
Titanium dioxide	no data available	no data available	no data available	no data available	respiratory system
Chromium	no data available	no data available	no data available	no data available	eyes, respiratory system, skin

Carcinogenicity

Component	ACGIH	IARC	NTP	OSHA	Other
Aluminum	not applicable	not applicable	not applicable	not applicable	not applicable
Magnesium oxide	not applicable	not applicable	not applicable	not applicable	not applicable
Copper	not applicable	not applicable	not applicable	not applicable	not applicable
Silicon	not applicable	not applicable	not applicable	not applicable	not applicable
Iron oxide	not applicable	not applicable	not applicable	not applicable	not applicable
Manganese	not applicable	not applicable	not applicable	not applicable	not applicable
Zinc oxide	not applicable	not applicable	not applicable	not applicable	not applicable
Titanium dioxide	A4	Group 2B	not applicable	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
Aluminum	no data available	no data available	no data available	no data available	N/A
Magnesium oxide	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
Silicon	no data available	no data available	no data available	no data available	N/A
Iron oxide	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
Zinc oxide	no data available	no data available	no data available	no data available	N/A
Titanium dioxide	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

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

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
Aluminum	7429-90-5	85-95	1.0
Copper	7440-50-8	1-5	1.0
Manganese	7439-96-5	.5-1.5	1.0
Zinc oxide	1314-13-2	.1-1	1.0
Chromium	7440-47-3	.1-1.5	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
Aluminum	Not applicable	Not applicable
Magnesium oxide	Not applicable	Not applicable
Copper	5000 lb	Not applicable
Silicon	Not applicable	Not applicable
Iron oxide	Not applicable	Not applicable
Manganese	Not applicable	Not applicable
Zinc oxide	Not applicable	Not applicable
Titanium dioxide	Not applicable	Not applicable
Chromium	5000 lb	Not applicable

16. OTHER INFORMATION

Supersedes Date 02/02/2009
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Reason for Revision No information available.
Glossary No information available.
List of References. No information available.

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