1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: E6011 WELDING ELECTRODE
Recommended use: Welding
Information on Manufacturer:
TOKO Technology(Wuxi) Co., Ltd
(WUXI, CHINA)
JP@TOKOC.COM#326

Product Code: TOKO E6011
Chemical nature: Inorganic solid blend
Emergency Telephone Number:
TEL: (86) 510-83595138

2. HAZARD IDENTIFICATION

Color: Dark gray
Physical State: Solid
Odor: Not significant

GHS Classification

Physical Hazards: None
Health Hazard:
Acute Oral Toxicity: Category 4
Acute Aquatic Toxicity: Category 1
Chronic Aquatic Toxicity: Category 1
Other hazards: None

Labeling

Signal Word: WARNING

Hazard Statements
H302 - Harmful if swallowed
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P330 - Rinse mouth
P301+P312 - IF SWALLOWED: Call a physician if unwell
P501 - Dispose of contents/container to an approved waste disposal plant.
Dispose of contents/container to an approved incineration plant

106.5 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>7439-89-6</td>
<td>60-100</td>
</tr>
<tr>
<td>Cellulose pulp</td>
<td>65996-61-4</td>
<td>1-5</td>
</tr>
<tr>
<td>Magnesium oxide</td>
<td>1309-48-4</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Sodium silicate</td>
<td>1344-09-8</td>
<td>1-5</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>13463-67-7</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>1-5</td>
</tr>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>&lt;5</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>1317-65-3</td>
<td>0.5-1.5</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice: Wash thoroughly after handling. Do not take internally.
Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician
Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes
Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion
If swallowed, call a poison control center or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Rinse mouth.

Notes to physician
Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flash Point
The product is not flammable

Suitable Extinguishing Media
Carbon dioxide (CO2). Dry chemical. Foam. Water spray.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes

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 1
Instability 0
Other 0

HMIS
Health 2
Flammability 1
Instability 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Use personal protective equipment. Prevent further leakage or spillage if safe to do so. Material can create slippery conditions.

Environmental Precautions
Do not flush into surface water or sanitary sewer system.

Methods for Containment
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Methods for Cleaning Up
Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

Neutralizing Agent
Not applicable.

7. HANDLING AND STORAGE

Handling
Avoid contact with skin, eyes and clothing.

Storage
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 X
Heated
Refrigerated

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Cellulose pulp</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Magnesium oxide</td>
<td>TWA: 10 mg/m³³</td>
<td>TWA: 15 mg/m³³</td>
<td>IDLH: 750 mg/m³³</td>
</tr>
<tr>
<td>Sodium silicate</td>
<td>No data available</td>
<td>No data available</td>
<td>No data available</td>
</tr>
<tr>
<td>Titanium dioxide</td>
<td>TWA: 10 mg/m³³</td>
<td>TWA: 15 mg/m³³</td>
<td>IDLH: 5000 mg/m³³</td>
</tr>
<tr>
<td>Manganese</td>
<td>TWA: 0.2 mg/m³³</td>
<td>Ceiling: 5 mg/m³³</td>
<td>IDLH: 500 mg/m³³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STEL 3 mg/m³³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA: 1 mg/m³³</td>
</tr>
<tr>
<td>Quartz</td>
<td>TWA: 0.025 mg/m³³</td>
<td>No data available</td>
<td>IDLH: 50 mg/m³³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STEL 0.05 mg/m³³</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>No data available</td>
<td>TWA: 15 mg/m³³ TWA: 5 mg/m³³</td>
<td>TWA: 10 mg/m³³ TWA: 5 mg/m³³</td>
</tr>
</tbody>
</table>

Engineering Measures
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.

Personal Protective Equipment

Eye/Face Protection
Safety glasses with side-shields.

Skin Protection
Wear head, hand and body protection which help to prevent injury from radiation, sparks and electrical shock. SEE ANSI Z 49.1. Train the welder not to touch live electrical parts and to insulate himself from work and ground.
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State          Solid
Color                    Dark gray
Odor Threshold          Not applicable
pH                       Not applicable
Evaporation Rate       No information available
VOC Content (%)       No information available
Vapor Density            Not applicable
n-Octanol/Water Partition No data available
Decomposition Temperature No data available
Flammability (solid, gas) No data available
Flash Point             The product is not flammable
Autoignition Temperature No information available.

10. STABILITY AND REACTIVITY

Chemical Stability       Stable under normal conditions
Conditions to Avoid      None known
Incompatible Products    No materials to be especially mentioned
Hazardous Decomposition Products None under normal use
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, Ingestion.
Primary Routes of Entry   Inhalation
Acute Effects
Eyes                      May cause slight irritation
Skin                      Substance may cause slight skin irritation
Inhalation                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          No information available
Target Organ Effects      Blood, Central nervous system, Kidney, Respiratory system.
Aggravated Medical Conditions Central nervous system, Kidney disorders.

Component Information

Acute Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
<th>Draize Test</th>
<th>Other</th>
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<tbody>
<tr>
<td>Iron</td>
<td>= 984 mg/kg ( Rat )</td>
<td>no data available</td>
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<tr>
<td>Cellulose pulp</td>
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<td>no data available</td>
</tr>
<tr>
<td>Magnesium oxide</td>
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<td>no data available</td>
<td>no data available</td>
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<td>no data available</td>
</tr>
<tr>
<td>Sodium silicate</td>
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<tr>
<td>Titanium dioxide</td>
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</table>

Chronic Toxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Mutagenicity</th>
<th>Sensitization</th>
<th>Developmental Toxicity</th>
<th>Reproductive Toxicity</th>
<th>Target Organ Effects</th>
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<tr>
<td>Magnesium oxide</td>
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<td>no data available</td>
<td>no data available</td>
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<td>eyes,respiratory system</td>
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<td>no data available</td>
<td>no data available</td>
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<td>kidneys</td>
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<tr>
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<td>no data available</td>
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<td>respiratory system</td>
</tr>
</tbody>
</table>
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
<th>Other</th>
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</thead>
<tbody>
<tr>
<td>Iron</td>
<td>not applicable</td>
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<td>not applicable</td>
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<td>not applicable</td>
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<tr>
<td>Magnesium oxide</td>
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<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
</tr>
<tr>
<td>Sodium silicate</td>
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<td>not applicable</td>
<td>not applicable</td>
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<td>not applicable</td>
<td>not applicable</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Product Information
No information available.

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
<th>log Pow</th>
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</thead>
<tbody>
<tr>
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<td>LC50 = 13.6 mg/L Morone saxatilis 96 h</td>
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<td></td>
<td></td>
<td>LC50 = 0.56 mg/L Cyprinus carpio 96 h</td>
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<td>Cellulose pulp</td>
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<tr>
<td>Magnesium oxide</td>
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<td>no data available</td>
<td>no data available</td>
<td>no data available</td>
<td>N/A</td>
</tr>
<tr>
<td>Sodium silicate</td>
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<td>EC50= 216 mg/L 96 h</td>
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<tr>
<td></td>
<td></td>
<td>LC50 = 3185 mg/L Brachydanio rerio 96 h</td>
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<tr>
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<tr>
<td>Manganese</td>
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<td>N/A</td>
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<tr>
<td>Quartz</td>
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<td>N/A</td>
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<tr>
<td>Calcium carbonate</td>
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<td>no data available</td>
<td>no data available</td>
<td>no data available</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manganese</td>
<td>7439-96-5</td>
<td>1-5</td>
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</table>

SARA 311/312 Hazardous Categorization

<table>
<thead>
<tr>
<th></th>
<th>Acute Health Hazard</th>
<th>Chronic Health Hazard</th>
<th>Fire Hazard</th>
<th>Sudden Release of Pressure Hazard</th>
<th>Reactive Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

CERCLA

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Cellulose pulp</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Magnesium oxide</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Sodium silicate</td>
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<td>Not applicable</td>
</tr>
<tr>
<td>Titanium dioxide</td>
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<td>Not applicable</td>
</tr>
<tr>
<td>Manganese</td>
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<td>Not applicable</td>
</tr>
<tr>
<td>Quartz</td>
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<td>Not applicable</td>
</tr>
<tr>
<td>Calcium carbonate</td>
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16. OTHER INFORMATION

Supercedes Date: Not applicable
Issuing Date: 04/17/2013
Reason for Revision: No information available.
Glossary: No information available.
List of References: No information available.

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