TOKO®

DATE:	11/30/2007
TRADE NAME:	E71T-1C
SIZES:	ALL
SUPERSEDES:	1/20/1999

Material Safety Data Sheet

For Welding Consumables and Related Products

Conforms to OSHA's Hazard Communication Standard 29CFR 1910.1200

SECTION I - IDENTIFICATION

Manufacturer Name, Address, & Contact Info	TOKO Technology(Wuxi)Co.,Ltd WUXI, CHINA Email:jp@tokoc.com	**Product Type:** Carbon steel eletrodes for flux cored arc welding with external gas shielding. **Classification:** AWS A5.20

SECTION II - HAZARDOUS MATERIAL (*)

IMPORTANT: This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Sectioni V; see it for industrial hygiene information. CAS number shown is representative for the ingredients listed. All ingredients listed may not be present in all sizes. *The term "hazardous" in "hazardous materials" should be interpreted as a term required and defined in the OSHA's hazards communication standard and does not necessarily imply the existence of any hazard. All materials are listed on the TSCA inventory.

Ingredient	% Weight	CAS No	OSHA PEL(mg/m³)	ACGIH TLV(mg/m³)
Iron Oxide	< 10	1309-37-1	10 (as Fe)	5 (as Fe)
Manganese Compounds (as Mn)	< 5	7439-96-5	5 (Ceiling Limit, as Fume)	0.2
Titanium Dioxide	< 5	13463-67-7	5 (Respirable Fration)	10
Silica	< 1	60676-67-7	0.1	2 (Respirable, Fume)
Nickel Compounds (Soluble)	< 1		1 (as Ni)	0.1 (as Ni)
Nickel Compounds (Insoluble)	< 1		1 (as Ni)	0.2 (as Ni), A1
Carbon Steel Tube	< 85	7439-89-6	10*	10*

SECTION III - FIRE AND EXPLOSION HAZARD DATA

Non flammable: Welding arc and sparks can ignite combustibles products. See Z49.1 referenced in Section VI. Product is inert, no special handling or spill procedures required. NOT regulated by DOT.

SECTION IV - HEALTH HAZARD DATA

Threshold Limit Value: The ACGIH recommended general limit for Welding Fume NOC-(Not Otherwise Classified) is 5mg/m3. ACGIH-1999 preface states that the TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations. See Section V for specific fume constituents which may modify this TLV. Threshold Limit Values are figures published by the American Conference of Government Industrial Hygienists. Units are milligrams per cubic meter of air.

Effects of Overexposure: Electric arc welding may create one or more of the following health hazards: Fumes and Gases can be dangerous to your health. Common entry is by inhalation. Other possible routes are skin contact and ingestion. Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema). Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and may affect ı

Manganese overexposure can affect the central nervous system, resulting in impaired speech and movement. Bronchitis and some lung fibrosis have b reported. **WARNING:** This product contains or produces a chemical known to the State of California to cause cancer and birth effects (or other reproductive harm). (California Health & Safety Code Section 25249.5 et seq.) Arc Rays can injure eyes and burn skin. Skin cancer has been reported. Electric Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, or if there is a high risk of unavoidable or accidental contact with workpiece , use the following equipment: Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control.

Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross

IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques. IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.

A1-Confirmed Human Carcinogen Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by radiation from the arc. One recommended way to determine the composition and quantity of fumes and gases to which workers are exposed is to take an air sample inside the welder's helmet if worn or in the worker's breathing zone. See ANSI/AWS F1.1, available from the American Welding Society, PO Box 351040, Miani, FL 33135. Also available from AWS is F1.3, "Evaluation Contaiminants in the Welding Environment-A Sampling Strategy Guide", which gives additional advice on sampling. At a minimum materials listed in this section should be analyzed.

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SECTION V - REACTIVITY DATA

Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded the process and electrodes used. Keep exposure as low as possible. Indoors, use local exhaust; outdoors, a respirator may be required.

Short-term(acute) overexposure effects

Welding Fumes; May result in discomfort such as dizziness, nausea or dryness or irritation of the nose, throat or eyes.
Iron, Iron Oxide; None are known. Treat as a nuisance dust or fume.
Manganese; Metal fume fever characterized by chills, fever, upset stomach, vomiting, irritation of throat and aching of body.
Nickel, Nickel Compounds; Metallic taste, nausea, tightness in chest, fever, allergic reactions.
Chromium; Inhalation of fume with chromium VI compounds can cause irritation of the respiratory system, lung damage and asthmas-like symptoms. Swallowing chromium VI salts can cause severe injury or death. Dust on the skin can form ulcers. Eyes may be burned by chromium VI compounds. Allergic reactions are likely in some people from chromium compounds.
Copper; Metal fume fever can be caused by fresh copper oxide.
Barium; Aching eyes, rhinitis, frontal headache, wheezing, laryngeal spasms, salivation or anorexia.
Silica; None are known. Treat as a nuisances dust or fume.
Molybdenum; None are known. Treat as a nuisances dust or fume.
Titanium Dioxide; None are known. Treat as a nuisances dust or fume.
Aluminum, Aluminum Oxide; None are known. Treat as a nuisances dust or fume.
Magnesium, Magnesium Oxide; None are known. Treat as a nuisances dust or fume.

Long term(chronic) overexposure effects

Welding Fume; Excess levels may cause bronchial asthma, lung fibrosis, pneumoconiosis, or siderosis.
Iron, Iron Oxide; Siderosis or deposits of iron in lungs which is believed to affect pulmonary function. Lungs will clear in time when exposure to iron fumes and its compounds ceases. Iron and magnetite(Fe_3O_4) are not regarded as fibrogenic materials.
Manganese; Central nervous system effects referred to as manganism. Symptoms include muscular weakness and tremors. Behavioral changes in handwriting may also appear. Employees overexposed to manganese should receive quarterly medical examinations for early detection of manganism.
Nickel, Nickel Compounds; Lung fibrosis or pneumoconiosis. Studies of nickel refinery workers indicated a higher incidence of lung and nasal cancers.
Chromium; Ulceration and perforation of the nasal septum. Respiratory irritation may occur with symptoms resembling asthma. Studies have shown that chromate production workers exposed to chromium □ compound have an excess of lung cancers. Chromium □ compounds are more readily absorbed through the skin than chromium □ compounds. Good practice requires the reduction of employee exposure to chromium □ and □ compounds.
Copper; No adverse long-term health effects have been reported in the literature.
Barium; Exposure to soluble barium compounds may cause nervous disorders and may have deleterious effects on the heart, circulatory and muscular system.
Silica; Treat as nuisance dust. Little adverse effect on lungs. Does not produce significant organic disease or toxic effect when exposures are kept under control.
Molybdenum; Treat as a nuisance dust. Little adverse effect on lungs. Does not produce significant organic disease or toxic effect when exposures are kept under reasonable control. **Aluminum, Aluminum Oxide;** Treat as a nuisance dust. Little adverse effect on lungs. Does not produce significant organic disease or toxic effect when exposures are kept under reasonable contro **Magnesium, Magnesium Oxide;** Treat as a nuisance dust. Little adverse effect on lungs. Does not produce significant organic disease or toxic effect when exposures are kept under reasonable control.

SECTION VI - Precautions for Safe Handling And Use/Applicable Control Measures

Read and understand the manufacturer's instructions and precautionary label on the product. See American National Standard Z49.1,"Safety in Welding and Cutting", published by the American Welding Society, P.O Box 351040, Miami, FL 33135 and OSHA Publication 2206 (29 CFR 1910), U.S. Government Printing Office, Washington, D.C. 20402, for more detail on many of the following:
Ventilation; Use enough ventilation, local exhaust at the arc, or both, to keep the fumes and gases below TLV's in the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes. **Respiratory Protection;** Use NIOSH approved or equivalent fume respirator or air supplied respirator when welding in confined space or where local exhaust or ventilation does not keep exposure below TLV.
Eye Protection; Wear helmet or use face shield with filter lens. As a rule of thumb begin with Shade Number 14.
Adjust if needed by selecting the next lighter and/or darker shade number. Provide protective screens and flash goggles, if necessary, to protect others.
Protective Clothing; Wear hand, head and body protection which help to prevent injury from radiation, sparks and electrical shock. See ANSIZ49.1.
At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark, non-synthetic clothing. Train the welder not to touch live electrical parts and to insulate himself from the work and ground.
Disposal Information; Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner according to federal, State and local regulations unless otherwise noted.