



SAFETY DATA SHEET

This Safety Data Sheet complies with European Commission Directive 91/155/EEC, ISO 11014-1 and ANSI Z400.1

SDS number: 20100325/01

Date: March 24, 2010

Product: CHS022

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: CHS022

Application: Arc Welding

Classification(s): SFA/AWS A5.4: E316L-16, JIS Z3221: D316L-16

Supplier: ATLANTIC CHINA WELDING CONSUMABLES, INC

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Web site: www.chinaweld-atlantic.com

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a preparation of core wire with extruded coating. The core wire type is H00Cr19Ni12Mo2 steel.

Coating Ingredients %	Weight	CAS#	EINECS# Classification (1)	Hazard	IARC (2) List (4)	NTP (3) OSHA
Aluminum silicate	10-15	12141-46-7	235-253-8	No	-	
Chromium	10-15	7440-47-3	231-157-5	No		
Fluorides	4-6	7789-75-5	232-188-7	No		
Iron	3-6	7439-89-6	231-096-4	No		
Limestone	10-15	1317-65-3	215-279-6	No		
Manganese	2-4	7439-96-5	231-105-1	No		
Nickel	<1	7440-02-0	231-111-4	Xn;R40-43	Possibly carcinogenic to humans (2B)	
Silicates	5-10	1312-76-1	215-199-1	No		
Titanium oxide	30-40	13463-67-7	236-675-5	No		

(1) Hazard Classification according to European Council Directive 67/548/EEC, for R-phrases see heading 16.

(2) Evaluation according to the International Agency for Research on Cancer.

(3) Classification according to the 11th Report on Carcinogens, published by the US National Toxicology Program

(4) Carcinogen listing according to OSHA, Occupational Safety & Health Administration (USA)

3. HAZARDS IDENTIFICATION

Emergency overview: Coated metal rods in varying colors. This product is normally not considered hazardous as shipped. This product contains nickel, which is classified as a skin sensitizer and a suspect carcinogen. This product is however not classified as hazardous based on the limited concentration of classified substances. This product contains quartz, but normally not in an inhalable fraction. Quartz can cause silicosis and may cause cancer. Avoid eye contact or inhalation of dust from the product. Skin contact is normally no hazard but should be avoided to prevent possible allergic reactions. Persons with a pacemaker should not go near welding or cutting operations until they have consulted their doctor and obtained information from the manufacturer of the device.

When this product is used in a welding process, the most important hazards are heat, radiation, electric shock and welding fumes.

Heat: Spatter and melting metal can cause burn injuries and start fires.



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Radiation: Arc rays can severely damage eyes or skin.

Electricity: Electric shock can kill.

Fumes: Overexposure to welding fumes may result in symptoms like dizziness, nausea, dryness or irritation of the nose, throat or eyes. Chronic overexposure to welding fumes may affect pulmonary function. Prolonged inhalation of nickel and chromium compounds above safe exposure limits can cause cancer. Overexposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain.

4. FIRST AID MEASURES

Inhalation: If breathing has stopped, perform artificial respiration and obtain medical assistance immediately! If breathing is difficult, provide fresh air and call physician.

Eye contact: For radiation burns due to arc flash, see physician. To remove dusts or fumes flush with water for at least fifteen minutes. If irritation persists, obtain medical assistance.

Skin contact: For skin burns from arc radiation, promptly flush with cold water. Get medical attention for irritation or burns that persists. To remove dust or particles wash with mild soap and water.

Electric shock: Disconnect and turn off the power. Use a nonconductive material to pull victim away from contact with live parts or wires. If not breathing, begin artificial respiration, preferably mouth-to-mouth. If no detectable pulse, begin Cardio Pulmonary Resuscitation (CPR). Immediately call a physician.

General: Move to fresh air and call for medical aid.

5. FIRE FIGHTING MEASURES

No specific recommendations for welding consumables. Welding arcs and sparks can ignite combustible and flammable materials. Use the extinguishing media recommended for the burning materials and fire situation. Wear self-contained breathing apparatus as fumes or vapors may be harmful.

6. ACCIDENTAL RELEASE MEASURES

Solid objects may be picked up and placed into a container. Liquids or pastes should be scooped up and placed into a container. Wear proper protective equipment while handling these materials. Do not discard as refuse.

Personal precautions: refer to section 8

Environmental precautions: refer to section 13

7. HANDLING AND STORAGE

Handling:

Avoid exposure to welding fumes, radiation, spatter, electric shock, heated materials and dust. Do not ingest. Handle with care to avoid stings and cuts. Wear gloves when handling welding consumables. Some individuals can develop an allergic reaction to certain materials. Retain all warning and identity labels.

Storage:

Keep separate from chemical substances like acids and strong bases, which could cause chemical reactions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures:

Ensure sufficient ventilation, local exhaust, or both, to keep welding fumes and gases from breathing zone and



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general area. Keep working place and protective clothing clean and dry. Train welders to avoid contact with live electrical parts and insulate conductive parts. Check condition of protective clothing and equipment on a regular basis.

Personal protective equipment:

Use respirator or air supplied respirator when welding or brazing in a confined space, or where steels since hazardous substances from the coating may be emitted. Wear hand, head, eyes, ear and body protection like welders gloves, helmet or face shield with filter lens, safety boots, apron, arm and shoulder protection. Keep protective clothing clean and dry.

Use industrial hygiene monitoring equipment to ensure that exposure does not exceed applicable national exposure limits. The following limits can be used as guidance for dust. For information about welding fume analysis refer to section 10.

Substance	CAS#	ACGIH TLV mg/m ³	OSHA PEL mg/m ³
Aluminum silicate	12141-46-7		
Chromium	7440-47-3	0.5	1
Fluorides	7789-75-5	2.5	2.5
Iron	7439-89-6	5	
Limestone	1317-65-3	10	15
Manganese	7439-96-5	0.2	5
Nickel	7440-02-0	1.5	1
Silicates	1312-76-1	10	80mg/m ³ / %SiO ₂
Titanium oxide	13463-67-7	10	15

(1) Threshold Limit Values according to American Conference of Governmental Hygienists, 2005

(2) Permissible Exposure Limits according to the Occupational Safety & Health Administration (USA)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid, non-volatile with varying color

Melting point: >1300°C / >2300°F

10. STABILITY AND REACTIVITY

General: This product is only intended for normal welding purposes.

Stability: This product is stable under normal conditions.

Reactivity: Contact with chemical substances like acids or strong bases could cause generation of gas.

When this product is used in a welding process, hazardous decomposition products would include those from the volatilization, reaction or oxidation of the materials listed in section 2 and those from the base metal and coating.

The amount of fumes generated from manual metal arc welding, varies with welding parameters and dimensions but is generally no more than 5 to 15 g/kg consumable. Fumes from this product contain compounds of the following chemical elements. The rest is not analyzed, according to available standards.

Fume analysis: Fe Mn F Pb Cu Ni Cr



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weight % less than: 10 10 20 0.2 0.1 1 10

Refer to applicable national exposure limits for fume compounds. A significant amount of the chromium in the fumes can be hexavalent chromium, which has a very low exposure limit in some countries.

Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area, can be affected by the welding process and influence the composition and quantity of fumes and gases produced.

11. TOXICOLOGICAL INFORMATION

Inhalation of welding fumes and gases can be dangerous to your health. Classification of welding fumes is difficult because of varying base materials, coatings, air contamination and processes. The International Agency for Research on Cancer has classified welding fumes as possibly carcinogenic to humans (Group 2B).

Acute: Overexposure to welding fumes may result in symptoms like metal fume fever.

toxicity: dizziness, nausea, dryness or irritation of the nose, throat or eyes.

Chronic: Over exposure to welding fumes may affect pulmonary function. Prolong.

toxicity: inhalation of nickel and chromium compounds above safe exposure limits can cause cancer. Over exposure to manganese and manganese compounds above safe exposure limits can cause irreversible damage to the central nervous system, including the brain. Inhalation of quartz may cause lung disease and cancer.

12. ECOLOGICAL INFORMATION

Welding consumables and materials could degrade/weather into components originating from the consumables or from the materials used in the welding process. Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

13. DISPOSAL CONSIDERATIONS

Discard any product, residue, disposable container or liner in an environmentally acceptable manner, in full compliance with federal and local regulations. Use recycling procedures if available.

USA RCRA: Unused products or product residue containing chromium is considered hazardous waste if discarded, RCRA ID Characteristic Toxic Hazardous Waste D007. Residues from welding consumables and processes could degrade and accumulate in soils and groundwater. Welding slag from this product typically contains mainly the following components originating from the coating of the electrode.

Slag analysis:	Al ₂ O ₃	CaO	Cr ₂ O ₃	F	Fe ₂ O ₃	K ₂ O	MnO	Na ₂ O	TiO ₂
% less than:	10	10	20	5	5	5	5	2	35

14. TRANSPORT INFORMATION

No international regulations or restrictions are applicable.

15. REGULATORY INFORMATION

Read and understand the manufacturer's instructions, your employer's safety practices and the health and safety instructions on the label. Observe any federal and local regulations. Take precautions when welding and protect yourself and others.

WARNING: Welding fumes and gases are hazardous to your health and may damage lungs and other organs.

ELECTRIC SHOCK can kill.



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Jeune Road, Miami, Florida, 33135. Safety and Health Fact Sheets available from AWS at www.aws.org OSHA Publication 2206 (29C.F.R. 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 American Conference of Governmental Hygienists (ACGIH), Threshold Limit Values and Biological Exposure Indices, 6500 Glenway Ave., Cincinnati, Ohio 45211, USA. NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work" published by the National Fire Protection Association, 1 Battery March Park, Quincy, MA 02169

UK: WMA Publication 236 and 237, "Hazards from Welding fume", "The arc welder at work, some general aspects of health and safety".

Germany: Unfallverhütungsvorschrift BGV D1, "Schweißen, Schneiden und verwandte Verfahren".

Canada: CSA Standard CAN/CSA-W117.2-01 "Safety in Welding, Cutting and Allied Processes" This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

R-phrases: R40 - Limited evidence of a carcinogenic effect.

R43 - May cause sensitization by skin contact.

R45 - May cause cancer.

ATLANTIC CHINA WELDING CONSUMABLES INC. requests the users of this product to study this Safety Data Sheet (S.D.S.) and become aware of product hazards and safety information. To promote safe use of this product a user should:

- notify its employees, agents and contractors of the information on this S.D.S and any product hazards/safety information.
- furnish this same information to each of its customers for the product.
- request such customers to notify employees and customers for the same product to hazard and safety information.

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