

Safety Data Sheet: XL GOLD DUPLEX ALLOY ELECTRODE

Supersedes Date 04/02/2012

Issuing Date 10/23/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name XL GOLD DUPLEX ALLOY ELECTRODE

Recommended use Welding

Information on Manufacturer

X-ERGON by Partsmaster, Div of NCH Corp.

P.O. Box 655326

Dallas, TX 75265-5326

Product Code 00100001

Chemical nature Inorganic solid blend

Emergency Telephone Number

CHEMTREC® 800-424-9300

2. HAZARD IDENTIFICATION

Color Gold

Physical State Solid

Odor Odorless

Mixture or Pure Substance: Mixture

GHS

Classification

Physical Hazards

None

Health Hazard

Acute Oral Toxicity

Respiratory Sensitization

Skin Sensitization

Carcinogenicity

Specific target organ systemic toxicity (repeated exposure)

Other hazards

None

Category 4

Category 1

Category 1

Category 1A

Category 2

Labeling

Signal Word

DANGER



Hazard Statements

H302 - Harmful if swallowed

H317 - May cause an allergic skin reaction

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled

H350 - May cause cancer

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P260 - Do not breathe dust or fume.

P285 - In case of inadequate ventilation wear respiratory protection

P270 - Do not eat, drink or smoke when using this product

P264 - Wash face, hands and any exposed skin thoroughly after handling.

P281 - Use personal protective equipment as required

P280 - Wear protective gloves, protective clothing and eye protection.

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

P363 - Wash contaminated clothing 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

P405 - Store locked up

P273 - Avoid release to the environment

P501 - Dispose of contents and container to an approved waste disposal plant.

58 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Iron	7439-89-6	30-60
Chromium	7440-47-3	15-40
Titanium dioxide	13463-67-7	5-10
Manganese	7439-96-5	7-13
Nickel	7440-02-0	7-13
Calcium Fluoride	7789-75-5	7-13
Chrome Rutile Yellow	68186-90-3	1-5
Feldspar	68476-25-5	1-5
Bentonite	1302-78-9	3-7
Potassium silicate	1312-76-1	3-7
Calcium carbonate	1317-65-3	3-7

4. FIRST AID MEASURES

General advice	If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.
Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin Contact	In case of contact, immediately flush skin with soap and plenty of water. If skin irritation persists, call a physician.
Inhalation	Remove from the area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult.
Ingestion	If swallowed, do not induce vomiting - seek medical advice. Never give anything by mouth to an unconscious person. Rinse mouth.
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point	Not applicable	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.			
Unsuitable Extinguishing Media			
None known.			
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. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Avoid breathing dust.			
Storage	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Store in original container.			
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
Chromium	TWA: 0.5 mg/m ³	TWA: 1 mg/m ³	IDLH: 250 mg/m ³ TWA: 0.5 mg/m ³
Titanium dioxide	TWA: 10 mg/m ³	TWA: 15 mg/m ³	IDLH: 5000 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
Nickel	TWA: 1.5 mg/m ³	TWA: 1 mg/m ³	IDLH: 10 mg/m ³ TWA: 0.015 mg/m ³
Calcium Fluoride	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	No data available
Chrome Rutile Yellow	TWA: 0.5 mg/m ³	TWA: 0.5 mg/m ³	IDLH: 50 mg/m ³ IDLH: 25 mg/m ³ TWA: 0.5 mg/m ³
Feldspar	No data available	No data available	No data available
Bentonite	TWA: 1 mg/m ³	No data available	No data available
Potassium silicate	No data available	No data available	No data available
Calcium carbonate	No data available	TWA: 15 mg/m ³ TWA: 5 mg/m ³	TWA: 10 mg/m ³ TWA: 5 mg/m ³

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**

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 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. General industrial hygiene practice. Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid	Viscosity	Not applicable
Color	Gold	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	1830 - 2730 °F / 999 - °C
Decomposition Temperature	No data available	Boiling Point/Range	5500 °F / 3038 °C
Flammability (solid, gas)	No data available	Method	Not applicable
Flash Point	Not applicable		
Autoignition Temperature	No information available.		
Upper	No data available		
Lower	No data available		

10. STABILITY AND REACTIVITY

Chemical Stability

Stable.

Conditions to Avoid

Exposure to air or moisture over prolonged periods

Incompatible Products

Strong acids, Strong oxidizing agents such as Chlorine bleach and concentrated Hydrogen Peroxide.

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 Airborne Particles Generated By Welding And Allied Processes" available from the American Welding Society, P.O. Box 35140, Miami, FL 33135

Possibility of Hazardous Reactions

Hazardous polymerization does not occur

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 Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause eye/skin irritation. May cause allergic skin reaction.

Inhalation Excessive inhalation of iron oxides fumes or dust can lead to irritation of the respiratory tract . May cause irritation of 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.

Ingestion May be harmful if swallowed.

Chronic Toxicity

Repeated contact may cause allergic reactions in very susceptible persons. 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 . Repetitive exposure to nickel oxides may lead to lung fibrosis or pneumoconiosis. Soreness and itchiness of the nose and changes in skin color and/or appearance may also result. Nickel compounds are on the IARC list as posing a carcinogenic risk to humans. OSHA (29 CFR 1910.120) lists nickel as possible carcinogen . 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 . May cause sensitization by skin contact. Prolonged exposure may cause chronic effects. Prolonged exposure to elevated noise levels during operations may affect hearing . Long term. Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.

Target Organ Effects Eyes, Lungs, Nasal Cavities, Respiratory system, Skin, Blood, Central nervous system, Kidney.

Aggravated Medical Conditions Allergies, Skin disorders, Respiratory system, Central nervous system, Kidney 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
Chromium	no data available	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
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
Calcium Fluoride	= 4250 mg/kg (Rat)	no data available	no data available	no data available	no data available
Chrome Rutile Yellow	> 10000 mg/kg (Rat)	no data available	no data available	no data available	no data available
Feldspar	no data available	no data available	no data available	no data available	no data available
Bentonite	> 5000 mg/kg (Rat)	no data available	no data available	no data available	no data available
Potassium silicate	= 1300 mg/kg (Rat)	no data available	no data available	no data available	no data available

Calcium carbonate	= 6450 mg/kg (Rat)	no data available	no data available	no data available	no data available
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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
Chromium	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Titanium dioxide	no data available	no data available	no data available	no data available	respiratory system
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)
Calcium Fluoride	no data available	no data available	no data available	no data available	no data available
Chrome Rutile Yellow	no data available	no data available	no data available	no data available	respiratory system,CVS,skin,eyes eyes,skin
Feldspar	no data available	no data available	no data available	no data available	no data available
Bentonite	no data available	no data available	no data available	no data available	no data available
Potassium silicate	no data available	no data available	no data available	no data available	no data available
Calcium carbonate	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
Chromium	not applicable	not applicable	not applicable	not applicable	not applicable
Titanium dioxide	A4	Group 2B	not applicable	X	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
Calcium Fluoride	not applicable	not applicable	not applicable	not applicable	not applicable
Chrome Rutile Yellow	not applicable	not applicable	not applicable	not applicable	not applicable
Feldspar	not applicable	Group 2B	not applicable	not applicable	not applicable
Bentonite	not applicable	not applicable	not applicable	not applicable	not applicable
Potassium silicate	not applicable	not applicable	not applicable	not applicable	not applicable
Calcium carbonate	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
Chromium	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
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
Calcium Fluoride	no data available	no data available	no data available	no data available	N/A
Chrome Rutile Yellow	no data available	LC50 > 10000 mg/L Leuciscus idus 96 h	no data available	no data available	N/A
Feldspar	no data available	no data available	no data available	no data available	N/A
Bentonite	no data available	LC50 8.0 - 19.0 g/L Salmo gairdneri 96 h LC50 = 19000 mg/L Oncorhynchus mykiss 96 h	no data available	no data available	N/A
Potassium silicate	no data available	LC50 301 - 478 mg/L Lepomis macrochirus 96 h LC50 = 3185 mg/L Brachydanio rerio 96 h	no data available	EC50= 216 mg/L 96 h	N/A
Calcium carbonate	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
Chromium	7440-47-3	15-40	1.0
Manganese	7439-96-5	7-13	1.0
Nickel	7440-02-0	7-13	0.1
Chrome Rutile Yellow	68186-90-3	1-5	1.0
Feldspar	68476-25-5	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	Yes	No	No	No

CERCLA

Component	Hazardous Substances RQs	CERCLA EHS RQs
Iron	Not applicable	Not applicable
Chromium	10 lb	Not applicable
Titanium dioxide	Not applicable	Not applicable
Manganese	Not applicable	Not applicable
Nickel	100 lb	Not applicable
Calcium Fluoride	Not applicable	Not applicable
Chrome Rutile Yellow	Not applicable	Not applicable
Feldspar	Not applicable	Not applicable
Bentonite	Not applicable	Not applicable
Potassium silicate	Not applicable	Not applicable
Calcium carbonate	Not applicable	Not applicable

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Component	CAS-No	California Prop. 65
Nickel	7440-02-0	carcinogen
Titanium dioxide	13463-67-7	carcinogen
Chromium	7440-47-3	carcinogen, initial date 2/27/87, developmental female, male 12/19/08

16. OTHER INFORMATION

Prepared By	Christopher Drogin
Supersedes Date	04/02/2012
Issuing Date	10/23/2013
Reason for Revision	No information available.
Glossary	No information available.
List of References.	No information available.

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