

# Safety Data Sheet: TUL-SPEED ELECTRODE

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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name** TUL-SPEED 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** 11140000  
**Chemical nature** Inorganic solid blend  
**Emergency Telephone Number**  
CHEMTREC® 800-424-9300

## 2. HAZARD IDENTIFICATION

**Color** gray

**Physical State** Solid

**Odor** Odorless

### GHS

#### Classification

##### Physical Hazards

None

##### Health Hazard

Acute Oral Toxicity

Acute Aquatic Toxicity

Chronic Aquatic Toxicity

##### Other hazards

None

Category 4

Category 1

Category 1

### Labeling

#### Signal Word

**WARNING**



#### Hazard Statements

H302 - Harmful if swallowed

H410 - Very toxic to aquatic life with long lasting effects

#### Precautionary Statements

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

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

P301+ P312 - IF SWALLOWED: Call a physician if unwell

P330 - Rinse mouth

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

P273 - Avoid release to the environment

28 % of the mixture consists of ingredient(s) of unknown toxicity

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Molybdenum	7439-98-7	7-13
Manganese	7439-96-5	7-13
Chromium	7440-47-3	1-5
Titanium dioxide	13463-67-7	1-5
Silicon dioxide - hydrated	7631-86-9	1-5
Calcium Fluoride	7789-75-5	1-5
Vanadium	7440-62-2	1-5
Tungsten	7440-33-7	1-5
Aluminum oxide	1344-28-1	.5-1

## 4. FIRST AID MEASURES

### General advice

If symptoms persist, call a physician.

### 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

Inhalation a physician.  
 Remove person to fresh air. If signs/symptoms continue, get medical attention.  
 Ingestion If swallowed, do not induce vomiting - seek medical advice. 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.  
 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
Molybdenum	TWA: 10 mg/m <sup>3</sup> TWA: 3 mg/m <sup>3</sup>	No data available	IDLH: 5000 mg/m <sup>3</sup>
Manganese	TWA: 0.2 mg/m <sup>3</sup>	Ceiling: 5 mg/m <sup>3</sup>	IDLH: 500 mg/m <sup>3</sup> STEL 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Chromium	TWA: 0.5 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	IDLH: 250 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup>
Titanium dioxide	TWA: 10 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup>	IDLH: 5000 mg/m <sup>3</sup>
Silicon dioxide - hydrated	No data available	No data available	IDLH: 3000 mg/m <sup>3</sup> TWA: 6 mg/m <sup>3</sup>
Calcium Fluoride	TWA: 2.5 mg/m <sup>3</sup>	TWA: 2.5 mg/m <sup>3</sup>	No data available
Vanadium	No data available	Ceiling: 0.5 mg/m <sup>3</sup> Ceiling: 0.1 mg/m <sup>3</sup>	Ceiling: 0.05 mg/m <sup>3</sup> STEL 3 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Tungsten	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	No data available	STEL 10 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>
Aluminum oxide	TWA: 1 mg/m <sup>3</sup>	TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	No data available

**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/flamm resistant/retardant clothing, Wear suitable protective clothing, Impervious gloves.

**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**

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 . Do not eat, drink or smoke when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State</b>	Solid	<b>Viscosity</b>	Not applicable
<b>Color</b>	gray	<b>Odor</b>	Odorless
<b>Odor Threshold</b>	Not applicable	<b>Appearance</b>	Textured black paste
<b>pH</b>	Not applicable	<b>Specific Gravity</b>	No data available
<b>Evaporation Rate</b>	Not applicable	<b>Percent Volatile (Volume)</b>	No information available
<b>VOC Content (%)</b>	No information available	<b>Vapor Pressure</b>	Not applicable
<b>Vapor Density</b>	Not applicable	<b>Solubility</b>	Insoluble
<b>n-Octanol/Water Partition</b>	No data available	<b>Melting Point/Range</b>	2800 - 3200 °F / 1538 - °C
<b>Decomposition Temperature</b>	No data available	<b>Boiling Point/Range</b>	5500 °F / 3038 °C
<b>Flammability (solid, gas)</b>	No data available	<b>Method</b>	Not applicable
<b>Flash Point</b>	Not applicable		
<b>Autoignition Temperature</b>	No information available.		
<b>Upper</b>	No data available	<b>Lower</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable.
<b>Conditions to Avoid</b>	Exposure to air or moisture over prolonged periods
<b>Incompatible Products</b>	Strong oxidizing agents such as Chlorine bleach and concentrated Hydrogen Peroxide.
<b>Hazardous Decomposition Products</b>	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
<b>Possibility of Hazardous Reactions</b>	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** May cause skin irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause allergic skin reaction.  
**Inhalation** Welding fumes may result in discomfort such as: dizziness, nausea, or dryness or irritation of nose, 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. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.  
**Ingestion**

**Chronic Toxicity**

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 . 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 . 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 Molybdenum fumes has caused kidney damage, respiratory irritation and liver damage in animals . Prolonged exposure to elevated noise levels during operations may affect hearing . May cause sensitization by skin contact. Suspect reproductive hazard - contains material which may injure unborn child.

**Target Organ Effects**

Liver, Kidney, Respiratory system, Eyes, Skin, Central nervous system, Blood, Lungs, Nasal Septum, Reproductive System, Central Vascular System.

**Aggravated Medical Conditions**

Skin disorders, Liver disorders, Kidney disorders, Central nervous system, Allergies, Respiratory system.

Component Information

**Acute Toxicity**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Molybdenum	no data available	no data available	no data available	no data available	no data available
Manganese	= 9 g/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
Silicon dioxide - hydrated	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 2.2 mg/L ( Rat ) 1 h	no data available	no data available
Calcium Fluoride	= 4250 mg/kg ( Rat )	no data available	no data available	no data available	no data available
Vanadium	no data available	no data available	no data available	no data available	no data available
Tungsten	no data available	no data available	no data available	no data available	no data available
Aluminum oxide	> 5000 mg/kg ( Rat )	no data available	no data available	no data available	no data available

**Chronic Toxicity**

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Molybdenum	no data available	no data available	no data available	no data available	eyes,respiratory system,liver,kidneys
Manganese	no data available	no data available	no data available	no data available	CNS,respiratory system,blood,kidneys
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
Silicon dioxide - hydrated	no data available	no data available	no data available	no data available	eyes, respiratory system
Calcium Fluoride	no data available	no data available	no data available	no data available	no data available
Vanadium	no data available	no data available	no data available	no data available	no data available
Tungsten	no data available	no data available	no data available	no data available	eyes,skin,respiratory system,blood
Aluminum oxide	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
Molybdenum	not applicable	not applicable	not applicable	not applicable	not applicable
Manganese	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
Silicon dioxide - hydrated	not applicable	not applicable	not applicable	not applicable	not applicable
Calcium Fluoride	not applicable	not applicable	not applicable	not applicable	not applicable
Vanadium	not applicable	not applicable	not applicable	not applicable	not applicable
Tungsten	not applicable	not applicable	not applicable	not applicable	not applicable
Aluminum oxide	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
Molybdenum	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
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
Silicon dioxide - hydrated	EC50 = 440 mg/L Pseudokirchneriella subcapitata 72 h	LC50 = 5000 mg/L Brachydanio rerio 96 h	no data available	EC50= 7600 mg/L 48 h	N/A
Calcium Fluoride	no data available	no data available	no data available	no data available	N/A
Vanadium	no data available	no data available	no data available	no data available	N/A
Tungsten	no data available	no data available	no data available	no data available	N/A
Aluminum oxide	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
Manganese	7439-96-5	7-13	1.0
Chromium	7440-47-3	1-5	1.0
Vanadium	7440-62-2	1-5	1.0
Aluminum oxide	1344-28-1	.5-1	1.0

**SARA 311/312 Hazardous Categorization**

<b>Acute Health Hazard</b>	<b>Chronic Health Hazard</b>	<b>Fire Hazard</b>	<b>Sudden Release of Pressure Hazard</b>	<b>Reactive Hazard</b>
Yes	Yes	No	No	No

**CERCLA**

Component	Hazardous Substances RQs	CERCLA EHS RQs
Molybdenum	Not applicable	Not applicable
Manganese	Not applicable	Not applicable
Chromium	5000 lb	Not applicable
Titanium dioxide	Not applicable	Not applicable
Silicon dioxide - hydrated	Not applicable	Not applicable
Calcium Fluoride	Not applicable	Not applicable
Vanadium	Not applicable	Not applicable
Tungsten	Not applicable	Not applicable
Aluminum oxide	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
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 07/13/2009  
 Issuing Date 06/04/2013  
 Reason for Revision No information available.  
 Glossary No information available.  
 List of References. No information available.

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