

Safety Data Sheet: ABRADE-X ELECTRODE

Supersedes Date 0.1/25/2012	1. PRODUCT AND COMPANY IDENTIFICATION	Issuing Date 12/17/2013
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Product Name ABRADE-X ELECTRODE
Recommended use Welding
Information on Manufacturer
X-ERCON by Partsmaster, Div of NCH Corp.
P.O. Box 655326
Dallas, TX 75265-5326

Product Code 17220000
Chemical nature Inorganic solid blend
Emergency Telephone Number
CHEMTREC® 800-424-9300

2. HAZARD IDENTIFICATION	
Color gray	Odor Odorless
Physical State Solid	
GHS	
Classification	
Physical Hazards	
None	
Health Hazard	
Acute Oral Toxicity	
Other Hazards	
None	
Labeling	
Signal Word	
WARNING	
Category 4	



Hazard Statements
H302 - Harmful if swallowed

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
P273 - Avoid release to the environment
P501 - Dispose of contents and container to an approved waste disposal plant.

25 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION / INFORMATION ON INGREDIENTS		
Component	CAS-No.	Weight %
Iron	7439-89-6	40-70
Chromium	7440-47-3	7-13
Titanium dioxide	13463-87-7	1-5
Calcium carbonate	471-34-1	1-5
Sodium silicate	1344-09-8	1-5
Vanadium	7440-62-2	1-5
Natural Graphite	7782-42-5	1-5
Calcium Fluoride	7789-75-5	1-5
Manganese	7439-96-5	1-5
Silicon	7440-21-3	1-5
Molybdenum	7439-98-7	1-5
Potassium silicate	1312-76-1	1-5
4. FIRST AID MEASURES		
General advice Eye Contact If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms		

Skin Contact
In case of contact, immediately flush skin with soap and plenty of water. If skin irritation persists, call a physician.
Inhalation
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
Upper No data available	Not applicable	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
HMIS	Health 2	Instability 0

6. ACCIDENTAL RELEASE MEASURES		
Personal Precautions	Wear appropriate protective clothing. Avoid creating dust 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	Maximum
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
	Titanium dioxide	TWA: 10 mg/m ³	TWA: 15 mg/m ³	TWA: 0.5 mg/m ³
	Calcium carbonate	No data available	No data available	IDLH: 5000 mg/m ³
	Sodium silicate	No data available	No data available	TWA: 10 mg/m ³
	Vanadium	No data available	Ceiling: 0.5 mg/m ³	TWA: 5 mg/m ³
			Ceiling: 0.1 mg/m ³	Ceiling: 0.05 mg/m ³
	Natural Graphite	TWA: 2 mg/m ³	TWA: 15 mg/m ³	STEL 3 mg/m ³
	Calcium Fluoride	TWA: 2.5 mg/m ³	TWA: 5 mg/m ³	IDLH: 1250 mg/m ³
	Manganese	TWA: 0.02 mg/m ³	TWA: 2.5 mg/m ³	No data available
		TWA: 0.1 mg/m ³	Ceiling: 5 mg/m ³	IDLH: 500 mg/m ³
	Silicon	No data available	TWA: 15 mg/m ³	STEL 3 mg/m ³
				TWA: 1 mg/m ³
				TWA: 10 mg/m ³

Molybdenum	TWA: 10 mg/m ³ TWA: 3 mg/m ³	TWA: 5 mg/m ³ No data available		TWA: 5 mg/m ³ IDLH: 5000 mg/m ³
Potassium silicate	No data available	No data available		No data available

Engineering Measures

Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases below the TLV's in the worker's breathing zone and in the general area. Train the worker to keep his head out of the fumes .

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
Respiratory Protection

Welder's leather gloves. Wear fire/ flame resistant/retardant clothing.
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 .
Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes and clothing shield. 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 .

General Hygiene Considerations

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid	Viscosity	Not applicable
Color	gray	Odor	Odorless
Odor Threshold	Not applicable	Appearance	Textured black paste
pH	Not applicable	Specific Gravity	8
Evaporation Rate	Not applicable	Percent Volatile (Volume)	No information available
VOC Content (%)	No information available	Vapor Pressure	Not applicable
Vapor Density	No data available	Solubility	Insoluble
n-Octanol/Water Partition	No data available	Melting Point/Range	1830 - 2730 °F/ 999 - 1500 °C
Decomposition Temperature	No data available	Boiling Point/Range	5500 °F/ 3038 °C
Flammability (solid, gas)	Not applicable	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	Keep away from open flames, hot surfaces, and sources of ignition
Incompatible Products	Strong acids. Strong oxidizing agents such as Chlorine bleach and concentrated Hydrogen Peroxide
Hazardous Decomposition Products	Fumes and gases 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
Primary Routes of Entry

Acute Effects Inhalation

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.

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 .

Ingestion
Chronic Toxicity

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Prolonged exposure may cause chronic effects. Harmful if inhaled and may cause delayed lung injury. 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 19.10.120 lists chromium as possible carcinogen. Chromium VI compounds are required by OSHA to be considered carcinogenic .

Eyes, Lungs, Nasal Cavities, Respiratory system, Blood, Central nervous system, Kidney, Liver. Allergies, Respiratory system, Central nervous system, Kidney disorders, Liver disorders.

Target Organ Effects
Aggravated Medical Conditions
Component Information

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
Calcium carbonate	= 6450 mg/kg (Rat)	no data available	no data available	no data available	no data available
Sodium silicate	= 1153 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
Natural Graphite	no data available	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
Manganese	no data available	no data available	no data available	no data available	no data available
Silicon	no data available	no data available	no data available	no data available	no data available
Molybdenum	no data available	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

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
Titanium dioxide	no data available	no data available	no data available	no data available	respiratory system
Calcium carbonate	no data available	no data available	no data available	no data available	eyes, respiratory system, skin
Sodium silicate	no data available	no data available	no data available	no data available	kidneys
Vanadium	no data available	no data available	no data available	no data available	respiratory system, CVS (listed under Graphite
Natural Graphite	no data available	no data available	no data available	no data available	(synthetic) respiratory system, CVS
Calcium Fluoride	no data available	no data available	no data available	no data available	respiratory system, CVS
Manganese	no data available	no data available	no data available	no data available	system, blood, kidney
Silicon	no data available	no data available	no data available	no data available	eyes, respiratory system, skin

Molybdenum	no data available	no data available	no data available	no data available	no data available	eyes, respiratory system, liver, kidneys
Potassium silicate	no data available	no data available	no data available	no data available	no data available	no data available

Carcinogenicity 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
Calcium carbonate	not applicable	not applicable	not applicable	not applicable	not applicable
Sodium silicate	not applicable	not applicable	not applicable	not applicable	not applicable
Vanadium	not applicable	not applicable	not applicable	not applicable	not applicable
Natural Graphite	not applicable	not applicable	not applicable	not applicable	not applicable
Calcium Fluoride	not applicable	not applicable	not applicable	not applicable	not applicable
Manganese	not applicable	not applicable	not applicable	not applicable	not applicable
Silicon	not applicable	not applicable	not applicable	not applicable	not applicable
Molybdenum	not applicable	not applicable	not applicable	not applicable	not applicable
Potassium silicate	not applicable	not applicable	not applicable	not applicable	not applicable

12. ECOLOGICAL INFORMATION

Product 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
Calcium carbonate	no data available	no data available	no data available	EC50= 216 mg/L 96 h	N/A
Sodium 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
Vanadium	no data available	no data available	no data available	no data available	N/A
Natural Graphite	no data available	no data available	no data available	no data available	N/A
Calcium Fluoride	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
Silicon	no data available	no data available	no data available	no data available	N/A
Molybdenum	no data available	LC50 301 - 478 mg/L Lepomis macrochirus 96 h	no data available	EC50= 216 mg/L 96 h	N/A
Potassium silicate	no data available	LC50 = 3185 mg/L Brachydanio rerio 96 h	no data available	EC50= 216 mg/L 96 h	N/A

Persistence and Degradability
Bioaccumulation
Mobility

No information available.
No information available.
No information available.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with local regulations.
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	7-13	1.0
Vanadium	7440-62-2	1-5	1.0
Manganese	7439-96-5	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	No	No	No	No

CERCLA

Component	Hazardous Substances RoDs	CERCLA EHS RoDs
Iron	No applicable	Not applicable
Chromium	To 1b	Not applicable
Titanium dioxide	Not applicable	Not applicable
Calcium carbonate	Not applicable	Not applicable
Sodium silicate	Not applicable	Not applicable
Vanadium	Not applicable	Not applicable
Natural Graphite	Not applicable	Not applicable
Calcium Fluoride	Not applicable	Not applicable
Manganese	Not applicable	Not applicable
Silicon	Not applicable	Not applicable
Molybdenum	Not applicable	Not applicable
Potassium silicate	Not applicable	Not applicable

U.S. State Regulations
California Proposition 65

Component	CAS-No	California Prop. 65
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
Supersedes Date
Issuing Date
Reason for Revision
Glossary
List of References.

Christopher Drogin
01/25/2012
12/17/2013
No information available.
No information available.
No information available.

X-ERGO by Partsmaster, Div of NCH Corp. assumes no responsibility for personal injury or property damage caused by the use, storage, or disposal of the product in a manner not recommended on the product label. Users assume all risks associated with such unrecommended use, storage or disposal of the product. The information provided on this document is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.