

Safety Data Sheet: SIL-FLEX

Supersedes Date 05/19/2010

Issuing Date 06/11/2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name SIL-FLEX

Recommended use Brazing

Information on Manufacturer

X-ERGON by Partsmaster, Div of NCH Corp.

P.O. Box 655326

Dallas, TX 75265-5326

Product Code 26270000

Chemical nature Inorganic solid blend

Emergency Telephone Number

CHEMTREC® 800-424-9300

2. HAZARD IDENTIFICATION

Color Pink

Physical State Solid

Odor Odorless

GHS

Classification

Physical Hazards

None

Health Hazard

Acute Oral Toxicity

Skin Corrosion/Irritation

Category 4

Category 3

Other hazards

None

Labeling

Signal Word

WARNING



Hazard Statements

H302 - Harmful if swallowed

H316 - Causes mild skin irritation

Precautionary Statements

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

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

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

P330 - Rinse mouth

P332 + P313 - If skin irritation occurs, get medical attention.

P273 - Avoid release to the environment

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

83 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Silver	7440-22-4	30-60
Copper	7440-50-8	10-30
Zinc	7440-66-6	10-30
Tin	7440-31-5	3-7

4. FIRST AID MEASURES

General advice

Show this safety data sheet to the doctor in attendance. 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 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 The product is not flammable **Method** Not applicable
Upper No data available **Lower** No data available

Suitable Extinguishing MediaCarbon dioxide (CO₂). Water spray. Foam.**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 Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

Storage Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

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
Silver	TWA: 0.1 mg/m ³	TWA: 0.01 mg/m ³	IDLH: 10 mg/m ³ TWA: 0.01 mg/m ³
Copper	TWA: 0.2 mg/m ³	TWA: 0.1 mg/m ³ TWA: 1 mg/m ³	IDLH: 100 mg/m ³ TWA: 1 mg/m ³ TWA: 0.1 mg/m ³
Zinc	No data available	No data available	No data available
Tin	TWA: 2 mg/m ³	TWA: 2 mg/m ³	IDLH: 100 mg/m ³ TWA: 2 mg/m ³

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 Wear fire/flame resistant/retardant clothing, Welder's leather 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 Do not eat, drink or smoke when using this product. 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 .

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid	Viscosity	Not applicable
Color	Pink	Odor	Odorless
Odor Threshold	Not applicable	Appearance	Textured black paste
pH	Not applicable	Specific Gravity	8.94
Evaporation Rate	Not applicable	Percent Volatile (Volume)	No data available
VOC Content (%)	No information available	Vapor Pressure	0 mmHg @ 2343°F
Vapor Density	Not applicable	Solubility	Insoluble
n-Octanol/Water Partition	No data available	Melting Point/Range	- °F / - °C
Decomposition Temperature	No data available	Boiling Point/Range	Not relevant 4014 °F / 2212 °C
Flammability (solid, gas)	No data available	Method	Not applicable
Flash Point	The product is not flammable		
Autoignition Temperature	No information available.		
Upper No data available	Lower No data available		

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions. Hazardous polymerization does not occur.
Conditions to Avoid	Extremes of temperature and direct sunlight
Incompatible Products	Strong acids, Incompatible with oxidizing agents.
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	None under normal processing

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 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 . Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Ingestion	May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic Toxicity	May cause sensitization by skin contact. Fume may cause Wilson's disease in some individuals with a rare inherited metabolic disorder characterized by retention of copper in the liver, brain, kidney

Target Organ Effects
Aggravated Medical Conditions
 Component Information

and corneas. Wilson's disease, if untreated can result in liver failure .
 Respiratory system, Kidney, Blood, Liver, Nasal Septum.
 Skin disorders, Kidney disorders, Liver disorders.

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation	Draize Test	Other
Silver	> 2000 mg/kg (Rat)	no data available	no data available	no data available	no data available
Copper	no data available	no data available	no data available	no data available	no data available
Zinc	no data available	no data available	no data available	no data available	no data available
Tin	no data available	no data available	no data available	no data available	no data available

Chronic Toxicity

Component	Mutagenicity	Sensitization	Developmental Toxicity	Reproductive Toxicity	Target Organ Effects
Silver	no data available	no data available	no data available	no data available	nasal septum,skin,eyes
Copper	no data available	no data available	no data available	no data available	eyes,kidneys,liver, respiratory system,skin
Zinc	no data available	no data available	no data available	no data available	no data available
Tin	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
Silver	not applicable	not applicable	not applicable	not applicable	not applicable
Copper	not applicable	not applicable	not applicable	not applicable	not applicable
Zinc	not applicable	not applicable	not applicable	not applicable	not applicable
Tin	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
Silver	no data available	LC50 0.00155 - 0.00293 mg/L Pimephales promelas 96 h LC50 = 0.0062 mg/L Oncorhynchus mykiss 96 h LC50 = 0.064 mg/L Lepomis macrochirus 96 h	no data available	EC50= 0.00024 mg/L 48 h	N/A
Copper	EC50 0.0426 - 0.0535 mg/L Pseudokirchneriella subcapitata 72 h EC50 0.031 - 0.054 mg/L Pseudokirchneriella subcapitata 96 h	LC50 0.0068 - 0.0156 mg/L Pimephales promelas 96 h LC50 < 0.3 mg/L Pimephales promelas 96 h LC50 = 0.2 mg/L Pimephales promelas 96 h LC50 = 0.052 mg/L Oncorhynchus mykiss 96 h LC50 = 1.25 mg/L Lepomis macrochirus 96 h LC50 = 0.3 mg/L Cyprinus carpio 96 h LC50 = 0.8 mg/L Cyprinus carpio 96 h LC50 = 0.112 mg/L Poecilia reticulata 96 h	no data available	EC50= 0.03 mg/L 48 h	N/A
Zinc	EC50 0.11 - 0.271 mg/L Pseudokirchneriella subcapitata 96 h EC50 0.09 - 0.125 mg/L Pseudokirchneriella subcapitata 72 h	LC50 2.16 - 3.05 mg/L Pimephales promelas 96 h LC50 0.211 - 0.269 mg/L Pimephales promelas 96 h LC50 = 2.66 mg/L Pimephales promelas 96 h LC50 = 30 mg/L Cyprinus carpio 96 h LC50 = 0.45 mg/L Cyprinus carpio 96 h LC50 = 7.8 mg/L Cyprinus carpio 96 h LC50 = 3.5 mg/L Lepomis macrochirus 96 h LC50 = 0.24 mg/L Oncorhynchus mykiss 96 h LC50 = 0.59 mg/L Oncorhynchus	no data available	EC50 0.139 - 0.908 mg/L 48 h	N/A

		mykiss 96 h LC50 = 0.41 mg/L Oncorhynchus mykiss 96 h			
Tin	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
Silver	7440-22-4	30-60	1.0
Copper	7440-50-8	10-30	1.0
Zinc	7440-66-6	10-30	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
Silver	1000 lb	Not applicable
Copper	5000 lb	Not applicable
Zinc	1000 lb	Not applicable
Tin	Not applicable	Not applicable

U.S. State Regulations California Proposition 65

This product contains the following Proposition 65 chemicals

16. OTHER INFORMATION

Prepared By Christopher Drogin
Supersedes Date 05/19/2010
Issuing Date 06/11/2013
Reason for Revision No information available.
Glossary No information available.
List of References. No information available.

X-ERGON 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 MSDS 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.