

SELECTRA® SULF-X CNG2

MSDS Code: F5001

Revision date: 04/11/2003

Date Printed: 04/11/2003

NFPA Classification:Health: 1
Flammability: 0
Instability: 1
Special Hazards:**HMS Classification:**Health: 1 *
Flammability: 0
Reactivity: 1
Personal Protection: B

* Indicates possible chronic health effects.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Common Name: Copper Oxide And Aluminum Oxide

Chemical Name: Chemical Mixture

Product Use: Absorbent.

Supplier: ENGELHARD CORPORATION
CHEMICAL CATALYSTS, PROCESS TECHNOLOGIES
101 WOOD AVENUE
ISELIN, NJ 08830-0770
1-800-336-8559 OR 1-800-321-2747For Chemical Emergency Call CHEMTREC (24 hours):
1-800-424-9300 (US, Canada, Puerto Rico, Virgin Islands)
1-703-527-3887 (Outside Above Area)**2. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>Ingredient</u>	<u>Weight in Product (%)</u>	<u>Notes</u>
Aluminum Oxide 1333-84-2	85-91	None.
Copper Oxide 1317-38-0	8-10	None.

Other Information: NOTE: The percentage by weight values reported for this product represent approximate formulation values.

3. HAZARDS IDENTIFICATION

Color: Green Black
Form: Spheres
Odor: Odorless
Flash Point, °C: Not Applicable

Most Important Hazards: Overexposure may cause liver and kidney damage, and blood disorders. Prolonged or repeated exposure to dust may cause pulmonary problems. Irritating to eyes, respiratory system and skin. Harmful if swallowed. May cause pain, nausea, vomiting and diarrhea.

Potential Health Effects:

Inhalation: Exposure to dust particles generated from this material may cause irritation of the respiratory tract. May result in symptoms similar to those of the common cold. Prolonged or excessive exposure may result in Copper poisoning.

Ingestion: Harmful if swallowed. May cause pain, nausea, vomiting and diarrhea. Copper poisoning can result in hemolytic anemia and kidney, liver and spleen damage.

Skin Contact: Causes skin irritation. May cause a rash and itching of the skin.

Eye Contact: Causes eye irritation.

Carcinogenicity:

<u>Ingredient</u>	<u>Weight in Product (%)</u>	<u>NTP (Y/N)</u>	<u>IARC (See Notes)</u>	<u>OSHA (Y/N)</u>	<u>ACGIH (See Notes)</u>
Aluminum Oxide 1333-84-2	85-91	N	N	N	A4
Copper Oxide 1317-38-0	8-10	N	N	N	N

Notes:

IARC: Y1=Carcinogenic to humans; Y2A=Probably carcinogenic to humans; Y2B=Possibly carcinogenic to humans; N3=Not classifiable as to its carcinogenicity; N=Not studied or probably not carcinogenic.

ACGIH: A1=Confirmed human carcinogen; A2=Suspected human carcinogen; A3=Confirmed animal carcinogen; A4=Not classifiable as a human carcinogen; A5=Not suspected as a human carcinogen; N=Not studied.

Chronic Health Hazards: May cause liver and kidney damage. May affect the blood and blood system. Prolonged or repeated exposure to dust may cause pulmonary problems. Refer to Potential Health Effects.

Aggravated Medical Conditions: Dermal ailments. Pulmonary disorders. Kidney disorders. Liver disorders. Blood disorders.
Individuals with Wilson's Disease are at increased risk of Copper poisoning.

4. FIRST AID MEASURES

- Inhalation:** Move person to fresh air. Aid in breathing, if necessary, and get immediate medical attention.
- Ingestion:** If person is conscious and able to swallow, give large amounts of water to dilute. If vomiting occurs, keep head lower than hips to prevent aspiration. Get medical attention immediately.
- Skin Contact:** Wash with soap and water. Get medical attention if irritation persists.
- Eye Contact:** In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

5. FIRE FIGHTING MEASURES

- Flash Point, °C:** Not Applicable
Autoignition Temperature, °C: Not Applicable
Lower Explosive Limit, %: Not Applicable
Upper Explosive Limit, %: Not Applicable
- Extinguishing Media:** Water. Carbon dioxide. Foam. Dry chemical.
- Fire Fighting Procedures:** Positive pressure, self-contained breathing apparatus. Wear full protective clothing.
- Unusual Fire and Explosion Hazards:** Not a fire or explosion hazard.

6. ACCIDENTAL RELEASE MEASURES

- Spill Procedures:** Contain spillage. Scoop up or vacuum into a container for reclamation or disposal. Avoid dusting.

7. HANDLING AND STORAGE

- Store in a cool, dry location away from incompatible materials.
Keep container closed.
Wash thoroughly after handling.
Avoid generating or breathing dust.
Avoid contact with eyes, skin and clothing.
Use with adequate ventilation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Ingredient</u>	<u>Weight in Product (%)</u>	<u>OSHA PEL:</u>	<u>ACGIH TLV:</u>
Aluminum Oxide 1333-84-2	85-91	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable dust)	10 mg/m ³ (as Al, dust)
Copper Oxide 1317-38-0	8-10	1 mg/m ³ (as Cu)	1 mg/m ³ (as Cu)

Unless otherwise noted, all values are reported as 8-hour Time-Weighted Averages (TWAs) and total dust (particulates only). All ACGIH TLVs refer to the 2002 standards. Unless otherwise noted, all OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final Rule, June 30, 1993.

Personal Protective Equipment: Safety glasses with side shields. Wear suitable gloves.
Wear clean, body-covering clothing.

Respiratory Protection: Use approved respiratory protection if exposure limits are exceeded, or overexposure is likely. If respiratory protection is used, follow all requirements for respiratory programs set forth in OSHA regulations (29 CFR 1910.134).

Ventilation: General ventilation. Local exhaust ventilation is recommended to control exposures to within applicable limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Spheres
Color: Green Black
Odor: Odorless

Melting Point, °C: 2038
Bulk Density: 0.56-0.67g/cc
Solubility (in water): Insoluble
pH: 10 (10 % slurry solution) at 20 °C

10. STABILITY AND REACTIVITY

Stability Data: Stable

Conditions/Hazards to Avoid: None anticipated

Incompatibility (Materials to Avoid): Strong oxidizing agents.

Hazardous Reactions: Contact with water may produce significant amounts of heat.

Hazardous Decomposition Products: Toxic fumes.

Polymerization: None anticipated.

Polymerization - Avoid: None anticipated.

11. TOXICOLOGICAL INFORMATION

Information on Product:

No data available.

Information on Components:

<u>Ingredient</u>	<u>Weight in Product (%)</u>	<u>Acute Toxicity - Oral</u>	<u>Acute Toxicity - Inhalation</u>	<u>Acute Toxicity - Dermal</u>	<u>Acute Toxicity - Other</u>
Aluminum Oxide 1333-84-2	85-91	Not Available	Not Available	Not Available	Not Available
Copper Oxide 1317-38-0	8-10	Not Available	Not Available	Not Available	Not Available

12. ECOLOGICAL INFORMATION

Information on Product:

Environmental Fate:

No data available.

Ecotoxicological Information:

No data available.

13. DISPOSAL CONSIDERATIONS

US EPA Waste Number: Not Regulated

Disposal of Waste Method: Local disposal laws and regulations will determine the proper waste disposal/recycling/reclamation procedure. Disposal requirements are dependent on the hazard classification and will vary by location and the type of disposal selected. All waste materials should be reviewed to determine the applicable hazards (testing may be necessary).

14. TRANSPORT INFORMATION

International Transport Regulations:

UN/PIN Number: Not Regulated

US Transportation Regulations:

DOT Classification: Not Regulated

Canadian Transportation of Dangerous Goods (TDG):

TDG Classification: Not Regulated

15. REGULATORY INFORMATION

International Inventories:

Engelhard
Material Safety Data Sheet

MSDS code: F5001
Revision date: 04/11/2003

United States: This product or its ingredients are listed on or compliant with the TSCA Inventory.
Canada: This product or its ingredients are listed on or compliant with the DSL.
Europe: This product or its ingredients are listed on or compliant with EINECS.
Japan: This product or its ingredients are listed on or compliant with MITI.
Australia: This product or its ingredients are listed on or compliant with AICS.
Korea: Not Determined

US Federal Regulations:

<u>Ingredient</u>	<u>Weight in Product (%)</u>	<u>Subject to SARA 313 Reporting</u>
Aluminum Oxide 1333-84-2	85-91	No
Copper Oxide 1317-38-0	8-10	Yes

SARA 311/ 312 Hazard Categories:

Acute Health Hazard Chronic Health Hazard

CAA 602 Ozone Depleting Substances (ODS):

This product neither contains nor is manufactured with an ozone depleting substance subject to the labeling requirements of the Clean Air Act Amendments 1990 and 40 CFR Part 82.

US State Regulations:

VOC Content (CARB): Not Determined

Canadian Regulations:

WHMIS Classification:

Class D Division 2 Subdivision B

This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the MSDS contains all the information required by the *Controlled Products Regulations*.

16. OTHER INFORMATION

Revision number: 2

Section(s) Revised in this Version: Product Name
Section 8: Exposure Controls/Personal Protection

Prepared By: Engelhard Corporate Environmental Health & Safety Group

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or

Engelhard
Material Safety Data Sheet

MSDS code:
Revision date:

F5001
04/11/2003

otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations, management and for persons working with or handling this product. The information presented in the MSDS is premised upon proper handling and anticipated uses, and is for the material without chemical additions/alterations. We believe this information to be reliable and up-to-date as of the date of publication, but make no warranty that it is. Additionally, if this Material Safety Data Sheet is more than three years old, please contact the supplier at the phone number listed in Section 1 to make certain that this sheet is current. Copyright Engelhard Corporation. License granted to make unlimited copies for internal use only. End of MSDS.....