



SAFETY DATA SHEET

HIGH FIRE EXOTICS – COPPER, NICKEL & COBALT GLAZES

1. Product Information

High Fire Exotics: HE125, HE133, HE137, HE141, HE145, HE149, HE153.

2. Hazardous Ingredients

Entity	%	CAS No.	ACGIH TLV	OSHA PEL
Silica	0-6	14808-60-7	0.1mg/m ³	0.1mg/m ³
Copper Carbonate	<4	12069-69-1	1.0 mg/m ³	0.1mg/m ³
Nickel Oxide	<1	1314-06-3	0.2 mg/m ³	1.0 mg/m ³
Cobalt Oxide	<2	1307-96-6	0.01 mg/m ³	0.1 mg/m ³

3. Physical and Chemical Properties

Appearance	Various colours
Odour	Negligible
Boiling Point	N/A
Melting Point	>400°C
Vapour Pressure	N/A
Specific Gravity	1.45-1.47 @ 25°C
Flash Point	N/A
Flammability Limits	No data
Solubility in Water	Negligible
Viscosity	No data
Ph	7.0-8.5
Volatile Organic Comp.	7-14%

4. Hazards Identification

Silica	Crystalline Silica may be present. Crystalline Silica may cause irritation to eyes, skin and the respiratory tract. Prolonged or repeated inhalation of silica, in excess of TLV, may lead to delayed lung injury (silicosis). This
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	material is listed as a possible carcinogen.
Copper Carbonate	Copper is slightly toxic. Copper may be irritating to the skin and eyes on contact. Inhalation will cause irritation to the lungs and mucus membrane. Irritation to the eyes will cause watering and redness. Reddening, scaling, and itching are characteristics of skin inflammation.
Nickel Oxide	Like many nickel compounds, there is evidence that this compound may be cancer causing. In the US this is regarded as a confirmed carcinogen. Long-term exposure to the dust may lead to serious lung damage, and an increased risk of lung and nasal cancer. Harmful by ingestion, inhalation or through skin contact. May cause sensitization.
Cobalt Oxide	WARNING! Harmful if swallowed or inhaled. Causes irritation to skin, eyes and respiratory tract. May cause allergic skin or respiratory reaction. Chronic exposure may affect thyroid, lungs, heart and kidneys.
Routes of entry	Ingestion. Absorption through skin negligible. Inhalation only if sprayed.

5. First Aid Measures

Swallowed	Dilute by drinking water
Eye	Flush eyes with copious quantities of water for at least 15 minutes. If irritation persists, contact a physician.
Skin	Wash skin with soap and water
Inhaled	Remove from exposure. Apply artificial respiration if breathing has stopped and contact physician.

6. Fire/Explosion Hazard

Flash Point:	N/A
Flammable Limits:	N/A
Extinguishing Media:	Not combustible
Special Fire Fighting Procedure:	None
Unusual Fire and Explosion Hazards:	None

7. Accidental Release Measures

Spillage:	Uncontaminated material may be recovered and re-used. If contaminated, scoop, vacuum or wash into receptacle for disposal.
Waste Disposal:	Follow Federal or State and Local regulations for disposal. Testing of the waste may be required to determine status under hazardous waste regulations.



8. Handling and Storage

Engineering Control:	None
Work Practices:	Store away from food. Do not smoke, eat or drink while handling.
Procedure/ Equipment:	None

9. Exposure Controls /Personal Protection

Use of the following protective measures are strongly recommended if the glazes are to be applied by spraying.

The work hygiene practices apply regardless of the method of application.

Respiratory Protection:	Use NIOSH approved dust and/or fume respirator as necessary.
Ventilation:	Local exhaust for spraying.
Protective gloves:	N/A
Eye Protection:	For spraying.
Other Protection:	Wear appropriate, clean, protective clothing such as, but not limited to overalls, smocks and aprons.
Work Practices:	Food, beverages and smoking materials should not be in the work area. Hygiene is very important. Wash thoroughly before eating, drinking and smoking or applying cosmetics.

10. Stability & Reactivity Data

Incompatibility:	N/A
Stability:	Stable.
Hazardous decomposition:	N/A
Hazardous polymerisation:	N/A
Conditions to avoid:	Fumes from firing, inhalation of spray.

11. Toxicological Information

Hazard to Humans:	<p>None during normal use. Harmful if inhaled or swallowed.</p> <p>DO NOT SPRAY APPLY.</p> <p>If glaze is spray applied the following warnings apply: Warning: Contains Quartz.</p> <ol style="list-style-type: none"> 1. Possible cancer agent based on tests with laboratory animals. 2. Exposure may cause lung damage. 3. Keep out of reach of children; avoid inhalation.
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This product contains chemicals known to cause cancer.



Health Hazards (acute and chronic):	Prolonged inhalation of silica, in excess of TLV, over an extended period of time may result in injury to the lungs.
Carcinogenicity:	In IARC Supplement 7, Cobalt Oxide is given a 2B rating. This indicates 'sufficient evidence' for carcinogenicity to animals and 'inadequate evidence' for carcinogenicity to humans.
Additional Information:	Frits are fused silica glass like substances. The bioavailability may be limited because of the physical nature of the frit.
Effects of over exposure:	Copper is slightly toxic. Inhalation of copper dust/fumes may cause acute irritation of the nose and/or trachea, may produce acute metal fume fever. Exposure of skin to copper dust may cause acute dermatitis. In the case of chronic exposure, the liver, kidneys and/or spleen may be injured, and/or anaemia may develop. Chronic toxicity is confined to those persons suffering from pre-existing Wilson's disease.
Medical conditions prone to aggravation by exposure to copper dust:	<ol style="list-style-type: none"> 1. Persons afflicted with chronic respiratory disease and/or impaired pulmonary function, especially those with obstructive airway diseases. 2. Persons afflicted with pre-existing liver disease. 3. Persons afflicted with pre-existing kidney disease. 4. Persons afflicted with pre-existing skin disorders. 5. Persons afflicted with pre-existing blood disorders. 6. Persons afflicted with pre-existing Wilson's Disease.
Primary routes of entry:	Inhalation. Only if sprayed. DO NOT SPRAY. Ingestion. When heated copper compounds may give off copper fume which may cause symptoms similar to common cold. If ingested in large amounts, gastrointestinal irritation may occur with salivation, nausea, vomiting, gastric pain, diarrhoea and possible haemorrhagic gastritis. Eye contact is irritating and may cause conjunctivitis.

12. Ecological Information

Mobility:	N/A
Persistence/Degradability:	N/A
Bioaccumulation:	N/A



Ecotoxicity:	N/A
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13. Disposal Considerations

Waste Disposal Method:	Follow Federal, State or Local regulations for disposal. Testing of waste may be required to determine status under hazardous waste regulations.
Waste residue/unused product:	Can be land filled according to local regulations.
Contaminated packaging:	Can be land filled according to local regulations.

14. Transport Information

Not regulated. Not dangerous cargo, not restricted by air.
UN Number: N/A

15. Regulatory Information

EEC Marketing and labelling hazard symbol:	Toxic (T)	
R Phrases	R20/22	Harmful by inhalation and if swallowed.
	R33	Danger of cumulative effects.
	R61	May cause harm to the unborn child.
	R62	Possible risk of impaired fertility.
S Phrases	S36/37	Wear suitable protective clothing and gloves.
	S44	If you feel unwell, seek medical advice (show the label when possible).
	S53	Avoid exposure – obtain special instructions before use.
WHMIS Status	Not controlled.	

16. Other Information

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