

SDS NO:

DFC103

DATE PREPARED: 05/19/15

CURRENT DATE: 05/19/15

SECTION 1: Identification

Product Identifier:

Name of Product: High Temperature Marking Crayons
Other Means of Identification: Blue Crayon
Recommended Use: High temperature marking

Manufacturer/Supplier: DFC Ceramics, LLC
515 South 9th Street
Canon City, CO 81212

Telephone General: (719) 275-7525

Emergency Telephone: (800) 424-9300 – CHEMTREC

SECTION 2: Hazard(s) Identification

EMERGENCY OVERVIEW

Caution

No known health effects are associated with this product. However, exposure to fume or dust generated from high temperature burning can cause physical irritations.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

Classification:

OSHA HCS 2012

Carcinogenicity: Category 2

Label Elements:

GHS-US LABELING

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HAZARD PICTOGRAMS (GHS-US)

Signal Word (GHS-US):

Warning

Hazard Statements (GHS-US):

H351: Suspected of causing cancer (components in mixture if eaten or breathing smoke from product)

H335: May cause respiratory irritation [from smoke]

Precautionary Statements (GHS-US):

P101: If medical advice is needed, have product container or label at hand.

P102: Keep out of reach of children

P201: Obtain special instructions before use

P313: Get medical advice/attention if eaten

P340: Remove person to fresh air and keep comfortable for breathing if smoke from product is breathed.

P501: Dispose of contents/container in accordance with local, regional, national, and international regulation listed in section 13 of this document.

Storage/Disposal (GHS-US): Store in original factory container in a dry area. Keep container closed when not in use. Avoid creating airborne dust. Follow routine housekeeping procedures. Vacuum only with HEPA filtered equipment. If sweeping is necessary, use a dust suppressant and place material in closed containers. **Do not use compressed air for clean-up.**

Other Hazards:

Not available

Unknown Acute Toxicity (GHS-US):

Not available

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SECTION 3: Composition/Information on Ingredients

Substances:

NAME	PRODUCT IDENTIFIER (CAS #)	% BY WEIGHT	OSHA PEL	ACGIH TLV
Crystalline Silica	14808-60-7 or 14464-46-1	Up to 1.3	See Notes ⁽¹⁾	0.05 mg/m ³
Ferric oxide	1309-37-1	Up to 43	10 mg/m ³	5 mg/m ³
Nickel Oxide ⁽²⁾	1313-99-1	≤0.2	1 mg/m ³ (as nickel)	0.2 mg/m ³
Chromium Oxide	1308-31-2	Up to 2	0.5 mg/m ³	0.5 mg/m ³
Silica, amorphous	7631-86-9	≤1	(80 mg/m ³ ÷ % SiO ₂) or 20 mppcf	10 mg/m ₃
Wax	64742-43-4	Up to 35	15 mg/m ³ (total); 5mg/m ³ (respirable)	Not Established
Cobalt Oxide ⁽²⁾	1308-06-1	Up to 16	0.1 mg/m ³ (as cobalt)	Not Established

Notes:

⁽¹⁾ Depending on the percentage and the type(s) of silica in the mineral, the OSHA Permissible Exposure Limit (PEL) for respirable dust containing crystalline silica (8 HR TWA) is based on the formula listed in 29 CFR 1910.1000, "Air Contaminants" under Table Z-3, "Mineral Dust:. For quartz containing mineral dust, the PEL= 10 mg/m³ / (*% of silica + 2 (% of cristobalite) = + 2 (% of tridymite) + 2).

⁽²⁾ Nickel Oxide and Cobalt Oxide are in small blue crayon only

(See Section 8 " Exposure Controls / Personal Protection: for exposure guidelines.)

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SECTION 4: First-aid Measures

Description of First Aid Measures

Acute Effects:

Upper respiratory physical irritation. Irritation and inflammation to the eyes on contact and to the skin on prolonged contact.

Chronic Effects:

There are no known health effects associated with chronic exposure to this product. See Section 11 for more information.

Inhalation:

Remove affected person to dust free location. See Section 8 to reduce or eliminate exposure, and Section 11 for additional information.

Eye Irritation:

Flush with large amounts of water for at least 15 minutes. Do not rub eyes.

Skin Irritation:

Wash affected area gently with soap and water. Skin cream or lotion after washing may be helpful.

Ingestion:

Do not induce vomiting; drink plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms/Injuries:

All symptoms should be temporary and should subside with treatment.

Symptoms/Injuries after inhalation:

See Section 11.

Symptoms/Injuries after eye contact:

Symptoms should be temporary, should subside with treatment, and may include redness, itching, or irritation.

Symptoms/Injuries after ingestion:

No conclusive data is available at this time, and no known health hazards for this product.

Symptoms/Injuries after skin contact:

Physical irritation; burn from molten material.

-If symptoms persist, seek medical attention.

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Indication of any immediate medical attention and special treatment needed

-If symptoms persist, seek medical attention.

***If medical advice is needed, have product container or label at hand.**

SECTION 5: Fire-fighting Measures

Extinguishing Media

Suitable extinguishing media: Use extinguishing media suitable for type of surrounding fire.

Special Hazards Arising From the Substance or Mixture

Fire hazard: None

Explosion hazard: None

Reactivity: None

Advice for Firefighters

Firefighting instructions: Fires should be treated respective of what caused them and what is in the surrounding area.

SECTION 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Spill/Leak Procedures: Avoid creating airborne dust. Follow routine housekeeping procedures.

For Non-Emergency Personnel

Protective equipment: Not applicable

Emergency procedures: Not applicable

For Emergency Responders

Protective equipment: Not applicable

Emergency procedures: Not applicable

Methods and Material for Containment and Cleaning Up

For containment: See **Spill/ Leak Procedures** above

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Methods for cleaning up: See **Spill/ Leak Procedures** above

Reference to Other Sections

See heading 8, Exposure controls and Personal Protection

SECTION 7: Handling and Storage

Precautions for Safe Handling

Additional hazards when processed:

Precautions for safe handling:

Hygiene measures:

No specific handling procedures are required.

Wash exposed skin with mild soap and water after exposure, if desired.

Conditions for Safe Storage, Including Any Incompatibilities

Storage conditions:

This product is stable under all conditions of storage. Store in original factory container in a dry area. Keep container closed when not in use.

Incompatible products:

Powerful oxidizers; fluorine, manganese trioxide, oxygen disulfide

Storage area:

Store in dry area in original container. Keep container closed when not in use.

Special rules on packaging:

Do not reuse product packaging as it may contain residue.

Specific End Use(s):

High temperature marking.

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SECTION 8: Exposure Controls/Personal Protection

Control Parameters

NAME	PRODUCT IDENTIFIER (CAS #)	% BY WEIGHT	OSHA PEL	ACGIH TLV
Crystalline Silica	14808-60-7 or 14464-46-1	Up to 1.3	See Notes ⁽¹⁾	0.05 mg/m ³
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Exposure Controls

Appropriate engineering controls: Use in the furnace/oven with exhaust system or in a well ventilated area. Over exposure to any of the chemicals listed on Section 3 is not anticipated. Consult an industrial hygienist for exposure assessment due to abnormal use of this product. If respirators are selected, use NIOSH/MSHA approved respirators, in compliance with OSHA Respiratory Protection Standard 29 CFR 1910.134 and 29 CFR 1926.103, for the particular hazard or airborne concentrations to be encountered in the work environment.

Personal protective equipment:

Hand protection:

Gloves may be worn, if desired, but not required.

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Eye protection:

Goggles/safety glasses with side shields may be worn.

Skin and body protection:

Special equipment not required.

Respiratory protection:

If respirators are selected, use NIOSH/MSHA approved respirators, in compliance with OSHA Respiratory Protection Standard 29 CFR 1910.134 and 29 CFR 1926.103, for the particular hazard or airborne concentrations to be encountered in the work environment.

Thermal hazard protection:

Not applicable

SECTION 9: Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical state	: Chemical family: Mixture
Appearance	: Smooth, odorless solid
Color	: Blue
Odor	: None
Odor Threshold	: Not applicable
pH	: Not applicable
Relative evaporation rate	: Not applicable
Melting point	: 160° -165° F
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Approximately 465°
Auto-ignition temperature	: Not applicable
Decomposition temperature	: Not applicable
Flammability (solid, gas)	: Not applicable
Vapor pressure	: Not applicable
Relative density at 20 * C	: Not applicable
Relative density	: Not applicable
Density	: Not applicable
Solubility	: Not soluble in water
Log Pow	: Not applicable
Log Kow	: Not applicable
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: Not applicable

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Explosive properties : None
Oxidizing properties : Not applicable
Explosive limits : Not applicable

Other Information

SECTION 10: Stability and Reactivity

Reactivity: Hazardous reactions will not occur under normal conditions.

Hazardous polymerization: Hazardous polymerization will not occur.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Not likely under normal usage conditions.

Condition to Avoid:
Chemical incompatibilities: Powerful oxidizers; fluorine, trioxide, oxygen disulfide

Incompatible Materials: Powerful oxidizers; fluorine, trioxide, oxygen disulfide

Hazardous Decomposition Products: Dense smoke, carbon dioxide and metal fumes may be generated as products of combustion.

SECTION 11: Toxicological Information

Information on Toxicological Effects

Acute toxicity: Upper respiratory physical irritation if exposed to product smoke. Irritation and inflammation to the eyes on contact and to the skin on prolonged contact.

Skin corrosion/irritation: Not Applicable
Serious eye damage/irritation: Not Applicable
Respiratory or skin sensitization: Not Applicable

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Germ cell mutagenicity: Not Applicable

Carcinogenicity: 2

Crystalline Silica: Some samples of crystalline silica administered to rats by inhalation and intratracheal instillation have caused fibrosis and lung cancer. Mice and hamsters, similarly exposed, develop inflammatory disease including fibrosis but no lung cancer.

Silica, amorphous: Toxic effects described in animals from single inhalation exposures of amorphous silica include upper respiratory irritation, lung congestion, bronchitis, and emphysema. Repeated inhalation exposures at concentration of 50 or 150 mg/m³ produced increased lung weights and lung changes. No progressive pulmonary fibrosis was seen and the observed lung changes were reversible. No adverse effects were observed in this study at 10 mg/m³. **No animal test reports are available to define the carcinogenic, mutagenic, or reproductive effects.**

Nickel Oxide: According to OSHA CFR 29 part 1910-1200 (Hazard Communication) nickel and certain nickel compounds are deemed to be possible cancer hazards. This is based on assessment by the U.S. NTP (National Toxicology Program) that they may reasonably be anticipated to be carcinogens and an assessment of IARC (International Agency for Research on Cancer) which concluded that there was sufficient evidence that nickel and nickel compounds, as a group but not necessarily as individual chemicals, were carcinogenic to humans. IARC could not state with certainty which specific nickel compounds are human carcinogens and which are not.

Cobalt Oxide: The IARC states that cobalt and compounds are possible carcinogens to humans. The toxicity data for cobalt oxide (Co₃O₄) CAS # 1308-06-1 is not available. The following data is for cobalt oxide (CoO) CAS#1307-96-6 from the Registry of Toxic Effects of Chemical Substances 1981-82.

Oral rat LD 50 202 mg/kg

LD50=Lowest published lethal dose: dose most likely to cause death of 50% of experimental animals.

Reproductive toxicity: Not available

Specific target organ toxicity (single exposure): Not available

Specific target organ (repeated exposure): Not available

Aspiration hazard: Not available

Symptoms/injuries after inhalation: Chronic respiratory conditions may be aggravated.

Symptoms/injuries after eye contact: Symptoms should be temporary, should subside with treatment, and may include redness, itching, or irritation.

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Symptoms/injuries after ingestion:

Not a likely route of exposure; no conclusive data is available at this time.

SECTION 12: Ecological Information (Non-Mandatory)

Adverse effects of this material on the environment are not anticipated.

SECTION 13: Disposal Considerations (Non-Mandatory)

Waste Management

To prevent waste materials becoming airborne during waste storage, transportation and disposal, a covered container or plastic bagging is recommended. Comply with federal, state and local regulations.

Disposal

If discarded in its purchased form, this product would not be a hazardous waste under Federal regulations (40 CFR 261). Any processing, use, alteration, or chemical additions to the product, as purchased, may alter the disposal requirements. Under Federal regulations, it is the waste generator's responsibility to properly characterize a waste material, to determine if it is a hazardous waste. Check local, regional, state, or provincial regulations to identify all applicable disposal requirements.

SECTION 14: Transport Information (Non-Mandatory)

U.S. Department of Transportation (DOT)

Hazard Class:	Not Regulated
Labels:	Not Applicable
Placards:	Not Applicable
United Nations (UN) Number:	Not Applicable
North America (NA) Number:	Not Applicable
Bill of Lading:	Product Name

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SECTION 15: Regulatory Information (Non-Mandatory)

SARA Title III: This product contains nickel, chromium, and cobalt compounds that are reportable under Sections 313 (40 CFR 372).

Sections 311 and 312 apply.

OSHA: Comply with Hazard Communication Standards 29 CFR 1910.134 and 29 CFR 1926.59 and Respiratory Protection Standard 29 CFR 1910.134 and 29 CFR 1926.103. Components of this product are considered to be hazardous as defined by the OSHA Hazard Communication Standard.

TSCA: All substances contained in this product are listed in the TSCA Chemical Inventory

SECTION 16: Other Information,

Indication of changes : **05/19/2015**

Other information: The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered 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 materials or in any process, unless specified in the text.