Code: 541-264 Date: 21 MAR 1994 Printed: 13 MAY 1994

ENGELHARD MATERIAL SAFETY DATA SHEET

Product: E-99 CORAL GLAZE STAIN

SECTION I: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Common Name

: C.I. PIGMENT RED 232

Chemical Name : ZIRCONIUM IRON PINK ZIRCON (DCMA 14-44-5)

Formula

: (Zr,Fe)SiO₄ (C.I. 77991)

Product CAS No.: 68187-13-3

Product Use

: Industrial pigment

Supplier

: ENGELHARD CORPORATION, SPECIALTY MINERALS AND COLORS

GROUP

Address

: 101 WOOD AVENUE

City, St, Zip : ISELIN, NJ 08830-0770

Phone

: 1-908-205-6933 FOR CUSTOMER SERVICE

1-502-775-7288 FOR ENVIRONMENT, HEALTH, AND

SAFETY

FOR CHEMICAL EMERGENCY CALL CHEMTREC (24 HOURS): 1-800-424-9300 (US, Canada, Puerto Rico, Virgin Islands)

1-202-483-7616 (Outside Above Area)

SECTION II: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT

CAS NO.

% Wt.

ZIRCONIUM IRON PINK ZIRCON

68187-13-3

100

See Section VIII for Exposure Limits and Section XI for Toxicological Information.

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SECTION III: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Coral fine powder

Odorless

Flash Point: Not Applicable

Prolonged or repeated contact may cause irritation to eyes, skin and respiratory tract.

Prolonged or repeated inhalation may cause lung damage.

May cause allergic skin reaction.

Prolonged or repeated contact may cause eye and skin irritation. Harmful if large amounts are swallowed. May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Not a fire or explosion hazard. However, toxic emissions are possible in a fire situation.

ROUTES OF ENTRY

Eyes? NO

Skin? NO

Inhalation? YES

Ingestion? YES

POTENTIAL HEALTH EFFECTS

EYE CONTACT may cause mechanical irritation if exposed to large amounts of dust.

SKIN CONTACT may cause irritation and allergic reaction.

INHALATION may cause irritation to respiratory tract and lung damage if exposure is repeated or prolonged.

INGESTION of large amounts may cause irritation of the gastrointestinal tract, nausea, vomiting and diarrhea.

NOTE: The Food and Drug Administration has reported that ZIRCONIUM OXIDE in skin application has resulted in skin granulomas believed to be dependent on allergic hypersensitivity.

CARCINOGENICITY

NTP? NO

IARC? NO

OSHA? NO

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CHRONIC HEALTH HAZARDS

Refer to Potential Health Effects.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

May aggravate pre-existing medical conditions, such as asthma and inflammatory or fibrotic lung disease.

NOTE: See Section VIII for Exposure Limits, Section XI for Toxicological Information and Section XII for Ecological Information.

SECTION IV: FIRST AID MEASURES

EYE CONTACT: Flush eyes with plenty of water. If irritation develops, call a physician.

SKIN CONTACT: Procedures normally not needed. If skin contact occurs flush with plenty of water. If irritation develops, call a physician.

INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. Call a physician.

INGESTION: Immediately give two glasses of water and call a physician, hospital emergency room, or poison control center for a way to induce vomiting. Never give anything by mouth to an unconscious person.

SECTION V: FIRE-FIGHTING MEASURES

Flash Point: Not Applicable Auto-Ignition: Not Determined

LEL: Not Determined UEL: Not Determined

NFPA HAZARD CLASSIFICATION

Health: 1 Flammable: 0 Reactivity: 0

HMIS HAZARD CLASSIFICATION

Health: 2* Flammable: 0 Reactivity: 0

* Indicates the possibility of chronic health effects. See Chronic Health Hazards in Section III for more information.

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EXTINGUISHING MEDIA

Use water, carbon dioxide or foam.

SPECIAL FIRE FIGHTING PROCEDURES

Wear NIOSH/MSHA approved positive-pressure self-contained breathing apparatus and protective clothing as specified in 29 CFR 1910.156.

UNUSUAL FIRE AND EXPLOSION HAZARDS

Not a fire or explosion hazard. However, toxic emissions are possible in a fire situation.

SECTION VI: ACCIDENTAL RELEASE MEASURES

Contain spillage and scoop up or vacuum. Avoid dusting. Notification of the National Response Center (800/424-8802) may be required. Refer to EPA, DOT and applicable state and local regulations for current response information.

It is recommended that each user establish a spill prevention, control and countermeasure plan (SPCC). Such plan should include procedures applicable to proper storage, control and clean-up of spills, including reuse or disposal as appropriate (see Section XI: Disposal Considerations).

NOTE In the event of an accidental release of this material, the above procedures should be followed. Additionally proper exposure controls and personal protection equipment should be used (see Section VIII - Exposure Control/Personal Protection) and disposal of the material should be in accordance with Section XI - Disposal Considerations.

SECTION VII: HANDLING AND STORAGE

Wash thoroughly after handling. Keep container closed.

Avoid breathing dust.

Avoid contact with eyes, skin and clothing.

Use only with adequate ventilation.

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SECTION VIII: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMITS INGREDIENT

PEL-OSHA

TLV-ACGIH

ZIRCONIUM IRON PINK ZIRCON

CAS NO.: 68187-13-3

5 mg/m 3 (as Zr) 10 mg/m 3 (as Zr) STEL

 $5 \text{ mg/m}^3 \text{ (as Zr)}$ $10 \text{ mg/m}^3 \text{ (as Zr)}$

NOTE: The permissible exposure limits (PELs), threshold limit values (TLV's), potential health effects statements and SARA hazard categories may not be applicable as the hazardous ingredients listed are in the solid form. If dust, powder or fume is generated then these statements will be applicable.

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 1992-93 Standards. All OSHA PELs refer to 29 CFR Part 1910 Air Contaminants: Final Rule, January 19, 1989.

NOTE: As a result of the July 7, 1992 decision by the U.S. Circuit Court of Appeals (AFL-CIO v. OSHA) to vacate the 1989 PELs, OSHA will no longer enforce these new limits and will return to the pre-1989 PELs. Engelhard, however, will continue to list the more protective 1989 levels.

RESPIRATORY PROTECTION

A NIOSH/MSHA-approved respirator as necessary.

VENTILATION

General; local exhaust ventilation as necessary to control any air contaminants to within their PELs or TLVs during the use of this product.

PROTECTIVE EQUIPMENT

Chemical goggles.

Gloves.

Body protection as necessary to prevent skin contact.

PERSONNEL SAMPLING PROCEDURE

For ZIRCONIUM COMPOUNDS: Refer to NIOSH Manual of Analytical Methods, 3RD Edition, Volume 1, Method 7300.

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SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Not Applicable

Specific Gravity (H2O=1): Not Determined

Melting Point: Not Determined

Vapor Pressure (mm Hg): Not Applicable Vapor Density (Air=1): Not Applicable

Evaporation Rate (Butyl Acetate=1): Not Applicable

% Solubility In Water: Insoluble
Appearance: Coral fine powder

Odor: Odorless pH: Not Applicable

SECTION X: STABILITY AND REACTIVITY

Stability: Generally considered stable.

Avoid: None expected.

INCOMPATIBILITY (Materials to Avoid)

None expected.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS

None expected.

Polymerization: Polymerization is not expected to occur.

Avoid: Not applicable.

SECTION XI: TOXICOLOGICAL INFORMATION

CHEMICAL NAME

% Wt. LD50

LC50

ZIRCONIUM IRON PINK ZIRCON

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100 Not Available

Not Determined

NOTE: See Sections III, VIII and XII for additional information.

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SECTION XII: ECOLOGICAL INFORMATION

ECOTOXICITY

No data available.

ENVIRONMENTAL FATE

No data available.

SECTION XIII: DISPOSAL CONSIDERATIONS

US EPA Waste Number: Not Regulated

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

NOTE Chemical additions, processing or otherwise altering this material may make the waste management information presented above incomplete, inaccurate or otherwise inappropriate.

As local regulations may vary; all waste must be disposed/recycled/reclaimed in accordance with federal, state, and local environmental control regulations.

SECTION XIV: TRANSPORT INFORMATION

INTERNATIONAL

UN Number: Not Regulated

UNITED STATES

EPA Waste Number: Not Regulated DOT Classification: Not Regulated

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CANADA

PIN Number: Not Regulated TDG Class: Not Regulated

EC

DGL: Not Determined

SECTION XV: REGULATORY INFORMATION

US FEDERAL REGULATIONS

TSCA: IN TSCA

SARA 311 AND 312 HAZARD CATEGORIES

IMMEDIATE (Acute) Health Hazard: YES DELAYED (Chronic) Health Hazard: YES

FIRE Hazard: NO

REACTIVITY Hazard: NO

Sudden Release of PRESSURE: NO

SARA SECTION 313 NOTIFICATION

This product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

OZONE DEPLETING SUBSTANCES (ODS)

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

VOLATILE ORGANIC COMPOUNDS (VOC)

None

US STATE REGULATIONS

VOLATILE ORGANIC COMPOUND (CARB): None

CANADIAN REGULATIONS

DSL/NDSL: Not Determined

WHMIS Classification: Not Determined

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EUROPEAN REGULATIONS

EINECS: Not Determined

OTHER REGULATIONS

MITI: Not Determined

AICS: Not Determined

SECTION XVI: OTHER INFORMATION

REVISIONS

Revision Number: 2

This MSDS has been revised in the following section(s):

SECTION III: HAZARDS IDENTIFICATION

PREPARATION INFORMATION

Prepared By: Corporate Environment, Health & Safety Group

Phone Number: See Section I

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations, and 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 I to make certain that this sheet is current. Copyright Engelhard Corporation. License granted to make unlimited copies for internal use only. End of MSDS.....