

MSDS CODE: UM5
Date Revised: 01/11/2006
Prepared By: Nick Paris

Reason for Revision: See Section 16

1. CHEMICAL, PRODUCT AND COMPANY IDENTIFICATION:

Product Code(s): **J4534, J4556, 5170M**
Product Name: Jet Milled Raw Sienna
Chemical Family: Inorganic Metal Oxide
Synonyms: Natural Iron Oxide
C.A.S. Number: Mixture of 1309-37-1+1317-34-6+1333-86-4
Color Index Name: Pigment Brown 7
Color Index Number: 77491

Manufacturer's Name/Address:

Rockwood Pigments, 7011 Muirkirk Road, Beltsville, Maryland, USA 20705
Business Tel: (301) 210-7800 9a-5p (0900-1700) EST M-F
Rockwood Pigments, 3700 East Olympic Boulevard, Los Angeles, California, USA 90023
Business Tel: (323) 269-7311 9am-5pm (0900-1700) PST M-F

24 Hour Emergency (Chemtrec): 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

OSHA Hazardous Ingredients (29CFR1910.1200):

Components:	C.A.S.	%	Exposure Limits (8 Hrs.TWA)	
			OSHA PEL	ACGIH TLV
Crystalline Silica	14808-60-7	(<5)	0.05 mg/m ³	0.05 mg/m ³
Iron Oxide (red)	1309-37-1	(50-60)	Not established	Not established
Manganite (Mn ₂ O ₃)	1317-34-6	(15)	5 mg/m ³	5 mg/m ³
Carbon Black pigment	1333-86-4	(0-4)	3.5 mg/m ³	0.1 mg/m ³
Calcium Carbonate CaCO ₃	1317-65-3	(<5)	15 mg/m ³	10 mg/m ³

Non-Hazardous Ingredients:

Components:	C.A.S.	%	Exposure Limits (8 Hrs.TWA)	
			OSHA PEL	ACGIH TLV
None				

3. HAZARDS IDENTIFICATION

***** EMERGENCY OVERVIEW *****

Dry, brown or gold powder with little to no odor. Will not burn or react. Packaging material can burn or melt in fire, producing toxic smoke and fumes.

HMIS Codes: H=1, F=0, R=0, P=0 (0=Minimal, 1=Slight, 2=Moderate, 3=Serious, 4=Severe)

WARNING: CONTAINS CRYSTALLINE SILICA (more than 0.1%). Chronic inhalation of crystalline silica can cause cancer or silicosis (a disabling, nonreversible and sometimes fatal lung disease). May affect eyes, respiratory system and cardiovascular system. May affect lungs. Cancer Hazard.

Potential Health Effects:

Eyes: May cause redness or irritation.
Skin: May cause dryness or skin irritation but is not likely to cause allergic skin reaction. Irritation to skin or mucous membranes can occur by direct mechanical action or by rigorous skin cleaning necessary for removal of dust.
Ingestion: Small amount (less than one ounce/30 grams) swallowed is not likely to cause injury. If large amount ingested, may cause gastric irritation, nausea and diarrhea. Seek medical attention.
Inhalation: Inhalation of large amounts of fine dust may lead to pulmonary edema. As with all dusty materials, inhalation of small amounts may cause respiratory irritation, sneezing, coughing, and runny nose. Tickling cough is a common symptom. Wear respirator and avoid breathing dust.

Human Effects and symptoms of overexposure:

Acute: To date, adverse health effects from exposure have not been reported among workers using this pigment. On the basis of Animal Toxicity Data (see Section 11), we would expect this product to be non-irritating to the eyes and skin and essentially non-toxic by ingestion. However, excessive exposure to airborne dust may reduce visibility and/or cause unpleasant deposits in the eyes, ears and nose. Irritation to skin or mucous membranes can occur by direct mechanical action or by

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Shelf Life : Unlimited in closed container
Special Sensitivity : None
Other Precautions : None

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use exhaust ventilation or vacuum dust collection equipment to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred to control emissions at their source, preventing dispersion into the general work area. Refer to ACGIH ventilation guidelines and recommended practices.

Eyes: Safety Glasses.

Skin: Body-covering clothing. Rubber, Plastic, Leather or cloth gloves are suggested to facilitate personal hygiene.

Respiratory Protection: Personal Respirators (NIOSH Approved): If the Airborne Exposure Limit is exceeded and engineering controls are not feasible, a half face piece particulate respirator (NIOSH type N95 or better filter) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. Where respirators are required, you must have a written program covering the basic requirements in the OSHA respirator standard. These include training, fit testing, medical approval, cleaning, maintenance, cartridge change schedules, etc. See 29CFR1910.134 for details.

Other: Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous chemicals.

Work/Hygiene Practices: Employees should wash their hands and face before eating, drinking or using tobacco products.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance..... : Solid Brown or Gold Powder
Odor : Odorless
Physical State : Dry Powder
pH : 6.5-7.5 in 50 gr/l H₂O aqueous suspension; DIN 787/9
Vapor Pressure : Not a vapor
Vapor Density : Not a vapor
Boiling Point : Not applicable
Freezing Point : Not applicable
Melting Point : Greater than 1000°C (1832°F)
Solubility in Water : Insoluble
Specific Gravity (g/ml)..... : 3.0 to 3.6 @ 20°C (68°F); DIN 787/10
Bulk Density (kg/m³)..... : 650 to 750 @ 20°C (68°F)
Particle Size (microns)..... : 0.3-0.6
Volatile Organic Compounds (VOC) : None
Chemical Formula..... : Fe₂O₃ + Mn₂O₃ + SiO₂ + Carbon
..... : (Iron Oxide + Manganite + Silica + Carbon)

10. STABILITY AND REACTIVITY

Chemical Stability (Conditions to Avoid): Stable.

Incompatibility (materials to avoid): Concentrated acid solutions. Material contains manganite, which, when exposed to acids, can liberate hazardous gases.

Decomposition Temperature C° (F°): Does not decompose

Hazardous Decomposition Products: None

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

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Eyes: Not irritating to rabbit eyes
 Skin: Not irritating to rabbit skin Dermal, LD 50 not established for product
 Ingestion: Non irritating. The oral, LD50 for rats is greater than 5000 mg/l
 Inhalation: Non irritating. LC 50 not established for product
 Subchronic: Data not established for product
 Chronic/Carcinogenicity: Data not established for product
 Other (Mutagenic, Teratogenic, Reproductive Tests): The IARC monograph on underground hematite mining (1972) states, "No carcinogenic effects were observed in mice, hamsters, or guinea pigs given ferric oxide intratracheally."

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: Fish toxicity: Golden Orfe (*Leuciscus idus*) LCo greater than 1000 mg/l
 Chemical Fate Information: No appreciable bioconcentration is expected in the environment.

13. DISPOSAL CONSIDERATIONS

Material which cannot be re-used should be disposed in accordance with federal, state and local environmental control regulations at an authorized site. This product when discarded as sold is not a RCRA hazardous waste. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40CFR 261.20-24)

14. TRANSPORT INFORMATION

DOT Shipping Name : None
 Technical Shipping Name : Inorganic Oxide
 DOT Hazardous Classification : Non-Regulated
 DOT Hazard Class : Non-Regulated
 DOT Identification Number : None
 DOT Labels required : None
 DOT Placards required : None
 UN Class : None
 UN/NA Number : None
 Freight Class : Iron Oxide; NOI
 Harmonized Tariff Number :

15. REGULATORY INFORMATION

***** U.S. Federal Regulations *****

OSHA: This product is considered Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200) due to content of crystalline silica above 0.1%.
 CERCLA/SUPERFUND: (40 CFR 117,302) Reportable Quantity (RQ):
 Not Reportable, however, we recommend you contact local authorities to verify requirements for your site.

Superfund Amendments and Reauthorization Act (SARA), Title III:
 Section 302 (Extremely Hazardous Substances): None
 Section 311/312 (Hazard Categories): Delayed Health Hazard

Section 313 (Reportable Toxic Ingredients):
 Chemical Name: C.A.S. Concentration
 Manganese Compounds Less than 10%

T.S.C.A.: This product is listed on TSCA Inventory.
 NOTE THAT APPLICABLE LAWS AND REGULATIONS MAY REQUIRE YOU TO LABEL AND PROVIDE INFORMATION TO PURCHASERS OR USERS OF YOUR PRODUCTS CONTAINING CRYSTALLINE SILICA.

***** International Regulations *****

Canadian WHMIS: Umber (12713-03-0) Approximately 100%
 Canadian Environmental Protection Act (CEPA): All components of this product are on the Domestic Substances

MATERIAL SAFETY DATA SHEET

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EINECS: List (DSL), and acceptable for use under the provisions of CEPA. All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).

***** State Regulations *****

California Proposition 65 Warning: This product contains chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

- CA = California Safe Drinking Water and Toxic Enforce Act (Proposition 65)
- MA = Massachusetts Hazardous Substance List
- NJ4 = New Jersey Other- included in 5 predominant ingredients >1%
- PA3 = Pennsylvania Non-hazardous present at 3% or greater
- CN1 = Canada WHMIS Ingredient Disclosure List over 1%.

Chemical Name:	C.A.S.	Concentration	State Code
Umber	12713-03-0	80 to 85%	NJ4,PA3,CN1
Iron Oxide (red)	1309-37-1	<10%	PA3,NJ4
Lead	7439-92-1	<200 ppm	CA,MA
Barium Insoluble	7440-39-3	<2000	CA,MA
Cadmium	7440-43-9	<10 ppm	CA,MA
Arsenic	7440-38-2	<350 ppm	CA,MA
Chromium	7440-47-3	10-30 ppm	PA3,MA
Copper	7440-50-8	<750 ppm	MA
Manganese	7439-96-5	<10%	MA
Selenium	7782-49-2	<15 ppm	CA,MA
Zinc	7440-66-6	<600 ppm	CA,MA
Calcium Carbonate CaCO ₃	1317-65-3	<5%	PA3,NJ4
Carbon Black pigment	1333-86-4	<5%	CA,NJ4,PA3,CN1

Note: This information based on random sample analyses. Actual content may vary from batch to batch.

16. OTHER INFORMATION

- Reason for revision: New MSDS format, re-issue
- 4/20/2005 - Changed crystalline silica chronic exposure text section 3. Removed Umber from Prop 65 List section 15.
 - 3/30/2005 - Changed Umber content to 80-85%, Iron Oxide to <10%, Manganese to <10%. Added Carbon Black <5% to section 15 state regulations list. Changed OSHA status to Hazardous. Added L1566 to product list.
 - 11/29/2004 - Removed Iron Oxide Fume from ingredients, Section 2, as it is not contained in this product.
 - 11/29/2004 - Changed crystalline silica exposure limit to 0.05 mg/m³.
 - 11/29/2004 - Moved Carbon Black pigment and calcium carbonate CaCO₃ to Hazardous ingredients section 2.
 - 1/11/2006 - Removed Calif Prop 65 listing for Copper and Manganese in section 15.

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