ROCKWOOD PIGMENTS
Colors • Systems • Solutions

MATERIAL SAFETY DATA SHEET

Date Revised: 02/11/2009
Prepared By: Nick Paris Reason for Revision: See Section 16

1. CHEMICAL, PRODUCT AND COMPANY IDENTIFICATION:

Product Code(s): 803, 804, 820, 842, 860, 861, 863, 868, 870, 875, 884, 885, 888, 8001AP, 8102, 80203, 80205, 80212, 80225, 80265, 80502, 8107Z, 891J, C1905, C2297, J8104, J8105, J8106
Product Name: Iron Oxide Black
Chemical Family: Inorganic Metal Oxide
Synonyms: Synthetic Iron Oxide
C.A.S. Number: 1317-61-9
Color Index Name: Pigment Black 11
Color Index Number: 77499
Formula: Fe_3O_4

Manufacturer's Name/Address:
Rockwood Pigments/Davis Colors, 7011 Muirkirk Road, Beltsville, Maryland, USA 20705
Business Tel: (301) 210-7800 9a-5p (0900-1700) EST M-F
Rockwood Pigments/Davis Colors, 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):			Exposure Limits (8 Hrs.TWA)	
Components:	C.A.S.	%	OSHA PEL	ACGIH TLV
Silicon Dioxide-Amorphous (SiO_2)	7631-86-9	(<1)	6 mg/m^3	10 mg/m^3

Non-Hazardous Ingredients:			Exposure Limits (8 Hrs.TWA)	
Components:	C.A.S.	%	OSHA PEL	ACGIH TLV
Iron Oxide (Black)	1317-61-9	(90-98)	Not established	Not established

3. HAZARDS IDENTIFICATION

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

Dry, black powder with little to no odor. Will not burn or react, but may auto-oxidize if exposed to heat in excess of 176°F (80°C) causing additional heat which may be sufficient to cause packaging to smoulder or ignite. Long-term inhalation can cause lung irritation or siderosis. Packaging material can burn or melt in fire, producing toxic smoke and fumes.

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

Potential Health Effects:

Eye Contact: Non-irritating to the eyes. Excessive exposure to airborne dust may reduce visibility and/or cause unpleasant deposits.

Skin Contact: Will not irritate skin and 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 amounts (a tablespoonful) swallowed are not likely to cause injury. Ingestion of very large quantities may result in stomachache, vomiting, intestinal obstruction, and/or constipation.

Inhalation: As with all dusty materials, inhalation may cause respiratory irritation, sneezing, coughing, and runny nose. 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 rigorous skin cleaning necessary for removal of dust.

Chronic: Prolonged inhalation of amorphous silica may produce x-ray changes in the lungs without disability.

Other Effects: No chronic effects are known from repeated exposure to iron oxide PIGMENT. Prolonged inhalation (6 to 10 years) of iron oxide FUME has been reported to produce changes in lung x-rays of exposed individuals. This condition, siderosis, is considered to be benign pneumoconiosis that exhibits no adverse health effects. Siderosis has been observed among occupations such as arc-welders where iron oxide FUMES are present. To the best of our knowledge, this condition has not been observed after prolonged exposure to iron oxide pigment. There is no Iron Oxide FUME contained in this product and none should be generated under normal use.

Medical Conditions Aggravated by Exposure: None known

Carcinogenicity: IARC: Not Listed NTP: Not Listed OSHA: Not regulated

Other: IARC and NTP both contain listings for underground hematite mining. These listings are for the occupational exposures associated with the mining process which include radon, a known lung carcinogen. NIOSH in the Registry of Toxic Effects of Chemical Substances (RTECS) lists Iron Oxide as a suspect human carcinogen. However, the IARC reference to underground hematite mining is the source for this classification. Based on information currently available, this product is not considered a carcinogen.

4. FIRST AID MEASURES

Eye Contact: Flush eyes with water, lifting eyelids periodically. Remove contact lenses. Continue flushing for 15 minutes or until eyes return to normal. Get medical attention if irritation develops or persists.

Skin Contact: Wash with soap and water. Get medical attention if irritation develops or persists. Wash clothing before re-use.

Ingestion: Swallowing less than an ounce (less than 30 grams) will not cause harm. For larger amounts, do not induce vomiting, but give one or two glasses of water (8 to 10 oz/240 to 300 ml) to drink and Contact medical personnel or poison control center immediately. Do not give anything by mouth if person is rapidly losing consciousness or is unconscious or convulsing.

Inhalation: Move from dusty area to fresh air and get medical attention for any breathing difficulty. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

Flammable Properties: Not Flammable.

Flash Point: Will not flash.

Upper Explosive Limit (UEL): Will not explode

Lower Explosive Limit (LEL): Will not explode

Auto-ignition Temperature: Exposure to excessive heat greater than 176°F (80°C) can cause the portion of Iron Oxide Black contained in this product to slowly auto-oxidize, which generates additional heat. Under certain conditions, this heat may be sufficient to cause the bag or combustible materials stored nearby to ignite.

Extinguishing Media: This product is not combustible or flammable. Use extinguishing agents that are suitable to the surrounding fire;water spray, dry chemical, foam or CO_2

Fire fighting Instructions: Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes and smoke inhalation.

6. ACCIDENTAL RELEASE MEASURES

Small Spill: If dust is generated, use appropriate respiratory protection. Vacuum or scoop material into an appropriately marked container for re-use or disposal. Avoid excessive generation of dust.

Large Spill: Use recommended protective clothing and respiratory protection. Use shovel to reclaim material.

Vacuum or scoop material into an appropriately marked container for re-use or disposal. Avoid excessive generation of dust. It is more effective to clean this product while dry by vacuuming or sweeping. However, spill area can be washed with water. Collect wash water for approved disposal. Prevent runoff from entering storm sewers and ditches which lead to natural waterways.

7. HANDLING AND STORAGE

Storage: Store dry at ambient temperature away from food and beverages, excessive heat or flame sources (furnace, kilns, boilers etc.). Keep separate from substances subject to catalytic decomposition by dust, e.g peroxides.

Handling: Avoid breathing dust. Avoid getting in eyes or on skin. Wash hands thoroughly after handling. Avoid contact with moisture. Re-seal bag immediately after use. Pallets are wrapped in polyethylene plastic. Removal may cause an electrostatic spark; therefore removal of the wrap should not be in the presence of flammable vapors.

Storage Temperature (Min/Max)	:	Ambient/50ºC (122ºF)
Shelf Life	:	Unlimited in closed container
Special Sensitivity	:	None
Other Precautions	:	None

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Maintain air levels below the recommended exposure limit using process enclosure and exhaust ventilation if necessary. Supply sufficient replacement air to make up for air removed by exhaust systems. If engineering controls and work practices are not effective in controlling exposures, appropriate personal protective equipment including a NIOSH/OSHA approved dust respirator should be worn.

Eyes: Wear Safety Glasses with side shields or goggles. Eye wash stations should be available in workplace.

Skin: Wear body-covering clothing closed at wrists and ankles. Rubber, PVC, or Leather gloves are suggested to facilitate personal hygiene.

Respiratory Protection: Workplace ambient dust concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved respirator with dust prefilter should be worn.

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 Black Powder
Odor	:	Odorless
Physical State	:	Dry Powder
pH	:	4 - 8 in 50 gr/l H_2O 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)	:	4.0 to 4.8 @ 20°C (68°F); DIN 787/10
Bulk Density (kg/m^3)	:	600 to 800 @ 20°C (68°F)
Particle Size (microns)	:	0.3-0.6
Volatile Organic Compounds (VOC)	:	None
Chemical Formula	:	Fe_3O_4

10. STABILITY AND REACTIVITY

Chemical Stability (Conditions to Avoid):	Stable. Keep away from flames and heat. Exposure to excessive heat greater than 176°F (80°C) can cause this product to slowly auto-oxidize, which generates additional heat. Under certain conditions, this heat may be sufficient to cause the bag or combustible materials stored nearby to ignite.
Incompatibility (materials to avoid):	No known material incompatibilities
Decomposition Temperature F°(C°):	Greater than 176°F (80°C)
Hazardous Decomposition Products:	None
Hazardous Polymerization:	Will not occur

11. TOXICOLOGICAL INFORMATION

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 by an approved contractor. Product and packaging can be disposed of or recycled as non-hazardous waste. 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 Black Iron 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 (Inorganic Oxide)

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 potential to auto-oxidize (self-heat). See section 5.
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
None Reportable

T.S.C.A.: This product is listed on TSCA Inventory.

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

Canadian WHMIS: Not restricted/non-hazardous
Canadian Environmental Protection Act (CEPA): All components of this product are on the Domestic Substances List (DSL), and acceptable for use under the provisions of CEPA.
EINECS: 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

Chemical Name:	C.A.S.	Concentration	State Code
Black Iron Oxide	1317-61-9	90-98%	PA3,NJ4
Silicon Dioxide-Amorphous (SiO_2)	7631-86-9	<1%	PA3,NJ4
Lead	7439-92-1	<100 ppm	CA,MA
Cadmium	7440-43-9	<5 ppm	CA,MA
Arsenic	7440-38-2	<50 ppm	CA,MA
Copper	7440-50-8	<800 ppm	MA
Manganese	7439-96-5	<2000 ppm	MA
Mercury	7429-97-6	<1 ppm	CA
Nickel	7440-02-0	<400 ppm	CA,MA

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

16. OTHER INFORMATION

Reason for revision:
- 7/23/2003 - Remove aniline from trace content table because it is not contained in product. Remove 77 & 78 to MSDS BK6.
- 6/8/2004 - Added 868.
- 6/14/2005 - Added 861 and 8001 to list of products.
- 1/11/2006 - Removed Calif Prop 65 listing for Copper and Manganese in section 15
- 6/2/2006 - Added C2297 to list of products
- 2/11/2009 - Updated review date.

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