



# MATERIAL SAFETY DATA SHEET

Colors • Systems • Solutions

MSDS CODE: HY3  
Date Revised: 01/11/2006  
Prepared By: Nick Paris

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Reason for Revision: See Section 16

## 1. CHEMICAL, PRODUCT AND COMPANY IDENTIFICATION:

Product Code(s): **A860, A875**  
Product Name: Hydrotint® Liquid Iron Oxide Black  
Chemical Family: Inorganic Metal Oxide  
Synonyms: Aqueous suspension of Iron Oxide, Iron Oxide Slurry  
C.A.S. Number: 1317-61-9  
Color Index Name: Pigment Black 11  
Color Index Number: 77499

### 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)		Vapor Pressure (mm Hg)
Components:	C.A.S.	%	OSHA PEL	ACGIH TLV	
Silicon Dioxide-Amorphous (SiO <sub>2</sub> )	7631-86-9	(<1)	6 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not applicable
Ethylene Glycol*	107-21-1	(3-5)	50 ppm	25 ppm	0.6 20°C (68°F)

\*Indicates toxic chemicals subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.

### Non-Hazardous Ingredients:

Non-Hazardous Ingredients:			Exposure Limits (8 Hrs.TWA)		Vapor Pressure (mm Hg)
Components:	C.A.S.	%	OSHA PEL	ACGIH TLV	
Water	7732-18-5	(25-30)	Not established.	Not established.	17.0 20°C (68°F)
Iron Oxide (Black)	1317-61-9	(60-80)	Not established.	Not established.	

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

Black liquid or paste of thick consistency with mild ammonia-like odor. Inhalation of vapor or mist can cause headache, nausea, and irritation of nose, throat, and lungs. Will not burn or combust. 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)

The following information is based on the hazard profiles of other aqueous pigment suspensions that are compositionally similar to this product. Typical data are:

### Potential Health Effects:

Eyes: Mild irritant. Effects are temporary and reversible. May cause irritation, redness, blurred vision, and tearing.  
Skin: Not absorbed into the skin. Will not irritate skin and is not likely to cause allergic skin reaction. If allowed to remain on the skin without being rinsed off with water, a thin film of dried pigment may form. Injury or irritation of the skin can occur by direct mechanical action or by rigorous skin cleaning necessary for removal of dried liquid.  
Ingestion: May be harmful if swallowed. Ingestion may cause nausea, vomiting, diarrhea, and gastrointestinal irritation. Consult a physician.  
Inhalation: Mild irritant. Effects are temporary and reversible. Vapor or mist can cause headache, nausea, and irritation of nose, throat, and lungs. Use in well-ventilated area and avoid breathing vapors.

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## Human Effects and symptoms of overexposure:

**Acute:** Repeated skin contact may result in the development of an allergic skin reaction in a small number of individuals. This product is non-carcinogenic and not listed on NTP, IARC Monographs, and OSHA. Individual hazardous constituents listed in Section 2 of this MSDS can have a different acute and chronic effect depending on the health condition of a person.

**Chronic:** Prolonged inhalation of vapor or mist may cause brain, lung, and other organ damage.

**Other Effects:** No other chronic effects have been studied.

**Medical Conditions Aggravated by Exposure:** Information available on chemically similar products show that overexposure is unlikely to aggravate any medical condition.

**Carcinogenicity:** IARC: Not Listed      NTP: Product is not a known carcinogen      OSHA: Not regulated

**Other:** None known

## 4. FIRST AID MEASURES

**Eyes:** 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:** Wash with soap and water. Get medical attention in the unlikely event that irritation develops or persists. Remove contaminated clothing immediately. Wash clothing before re-use.

**Ingestion:** Do not induce vomiting. Contact medical personnel or poison control center immediately. Activated charcoal may be administered. If conscious, give two glasses or more of water. Do not give anything by mouth to an unconscious person.

**Inhalation:** If exposed to excessive levels of fumes, move from work area to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Not Flammable. Non-combustible in as-sold form.

**Flash Point:** >110 C (230 F)

**Upper Explosive Limit (UEL):** Not Explosive

**Lower Explosive Limit (LEL):** Not Explosive

**Auto-ignition Temperature:** Exposure to heat greater than 100°C (212°F) can cause product to boil or splatter.

**Extinguishing Media:** This product is not combustible or flammable. Use extinguishing agents that are suitable for the surrounding fire: water spray, dry chemical, foam, or CO<sub>2</sub>.

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

**Unusual Fire and Explosion Hazards:** Exposure to heat builds up pressure in closed container. Cool with water spray. This product is non-combustible.

## 6. ACCIDENTAL RELEASE MEASURES

**Small Spill:** Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Sweep-up material with vacuum or use a shovel or scoop. Dispose in DOT approved waste container.

**Large Spill:** Contain spill with dike made of cement, sand, soil or other absorbent material. Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Vacuum or scoop material into an appropriately marked container for disposal. Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Keep out of sewers, storm drains, surface waters, and soil.

## 7. HANDLING AND STORAGE

**Storage:** Store dry at ambient temperature away from food and beverages, excessive heat or flame sources (furnace, kilns, boilers etc.). Avoid freezing. Rotate stock to use older product first. Inspect container for leaks or cracks.

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**Handling:** Avoid prolonged or repeated breathing of vapors. Avoid getting in eyes or on skin. Wash thoroughly after handling. Avoid contact with moisture. Re-seal container immediately after use. Shipping 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/50°C (122°F)  
 Shelf Life ..... : Two years in closed container  
 Special Sensitivity ..... : Heat  
 Other Precautions ..... : Keep closed container away from heat. If empty container contains residue (vapors, liquids or solids), handle container subject to hazard precautions given in this MSDS.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Local exhaust ventilation is recommended. General mechanical ventilation is usually sufficient to keep product vapor below threshold limit values.

**Eyes:** Eye goggles or face shields are recommended to protect against splash or splatters.

**Skin:** Body-covering clothing. Rubber, plastic or other solvent-impervious gloves are recommended. gloves are recommended.

**Respiratory Protection:** In typical uses of this product, no respiratory protection is required. However, if strong odor is present, work ambient vapor concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved respirator with 700 ppm vapor prefilter should be worn. Types: CCROVF; GMOV; SAF or SCBAF.

**Other:** Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous chemicals. Remove contaminated clothing immediately. Wash clothing before re-use.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance ..... : Black Liquid  
 Odor ..... : Sweet, Glycol-like  
 Physical State ..... : Liquid  
 pH ..... : 9 - 10  
 Vapor Pressure ..... : 24 MM HG @ 25°C(77°F)  
 Vapor Density. (Air=1) ..... : Lighter than air  
 Boiling Point ..... : >100°C (212°F)  
 Freezing Point ..... : 0°C (32°F)  
 Solubility in Water ..... : Major portion is insoluble  
 Specific Gravity (H<sub>2</sub>O=1) ..... : 2.04  
 Evaporation Rate ..... : Slower than Ether  
 Volatile Organic Compounds (VOC) ..... : 86 gr/l  
 Chemical Formula ..... : Mixture

## 10. STABILITY AND REACTIVITY

**Chemical Stability (Conditions to Avoid):** Stable. Keep away from flames and heat. Exposure to excessive heat greater than 100°C (212°F) can cause product to boil or splatter. Avoid freezing.

**Incompatibility (materials to avoid):** Strong oxidizing agents. Materials that react with water. Avoid strong acids and alkalines.

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

**Hazardous Decomposition Products:** Produces Carbon Dioxide and/or Carbon Monoxide on combustion.

**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

The following information is based on the toxicity profiles of other products that are compositionally similar to this product. Typical data are:

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/Kg
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):	

## 12. ECOLOGICAL INFORMATION

The following information is based on the toxicity profiles of other products that are compositionally similar to this product. Typical data are:

Ecotoxicological Information:	Fish toxicity:	Golden Orfe ( <i>Leuciscus idus</i> ) 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).

Container Disposal: Triple rinse with water, then dispose of in licensed landfill, if allowed by local regulation.

## 14. TRANSPORT INFORMATION

DOT Shipping Name.....	: Not regulated
Technical Shipping Name.....	:
DOT Hazardous Classification .....	: Not regulated
DOT Hazard Class.....	: Not regulated
DOT Identification Number .....	: Not regulated
DOT Labels required .....	: Not regulated
DOT Placards required .....	: Not regulated
UN Class.....	: Not available
UN/NA Number.....	: Not available
Freight Class.....	: 55
Harmonized Tariff Number .....	: 3206.49.20

## 15. REGULATORY INFORMATION

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### U.S. Federal Regulations

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OSHA: This product is considered Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200) due to ethylene glycol content.

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
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Ethylene Glycol 107-21-1 3 to 5%

T.S.C.A.: This product class 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
Ethylene Glycol	107-21-1	3 - 5%	CA, NJ4, PA3
Black Iron Oxide	1317-61-9	60 - 80%	PA3,NJ4

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.
- 2/22/2001 - Revise section 6 concerning spills.
  - 7/23/2003 - Changed product to OSHA hazardous classification due to ethylene glycol content and removed iron oxide 'fume' content because it is not present in product.
  - 11/9/2005 - Revised VOC content from 223 g/L to 86 g/L (section 9). Changed Ethylene Glycol content from 5-10% to 3-5% (sections 2 & 15)
  - 1/11/2006 - Update review date.

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

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of the Manufacturer. The data on this sheet relates only to the specific material designated herein. It may not be valid for this material if used in combination with any other materials or process. It is the users responsibility to verify suitability and completeness of this information for their own particular use. The Manufacturer assumes no legal responsibility for use or reliance upon these data.



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# MATERIAL SAFETY DATA SHEET

MSDS CODE: HY2  
Date Revised: 01/11/2006  
Prepared By: Nick Paris

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Reason for Revision: See Section 16

## 1. CHEMICAL, PRODUCT AND COMPANY IDENTIFICATION:

Product Code(s): **A550, A569**  
Product Name: Hydrotint® Liquid Iron Oxide Yellow  
Chemical Family: Inorganic Metal Oxide  
Synonyms: Aqueous suspension of Iron Oxide, Iron Oxide Slurry  
C.A.S. Number: 51274-00-1  
Color Index Name: Pigment Yellow 42  
Color Index Number: 77492

### 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)		Vapor Pressure (mm Hg)
Components:	C.A.S.	%	OSHA PEL	ACGIH TLV	
Silicon Dioxide-Amorphous (SiO <sub>2</sub> )	7631-86-9	(<1)	6 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not applicable
Ethylene Glycol*	107-21-1	(3-8)	50 ppm	25 ppm	0.6 20°C (68°F)

\*Indicates toxic chemicals subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.

OSHA Hazardous Ingredients (29CFR1910.1200):			Exposure Limits (8 Hrs.TWA)		Vapor Pressure (mm Hg)
Components:	C.A.S.	%	OSHA PEL	ACGIH TLV	
Water	7732-18-5	(25-30)	Not established	Not established	17.0 20°C (68°F)
Iron Oxide (yellow)	51274-00-1	(60-75)	Not established	Not established	

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

Yellow liquid or paste of milky consistency with mild glycol-like odor. Inhalation of vapor or mist can cause headache, nausea, and irritation of nose, throat, and lungs. Will not burn or combust. 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)

The following information is based on the hazard profiles of other aqueous pigment suspensions that are compositionally similar to this product. Typical data are:

### Potential Health Effects:

Eyes: Mild irritant. Effects are temporary and reversible. May cause irritation, redness, blurred vision, and tearing.  
Skin: Not absorbed into the skin. Will not irritate skin and is not likely to cause allergic skin reaction. If allowed to remain on the skin without being rinsed off with water, a thin film of dried pigment may form. Injury or irritation of the skin can occur by direct mechanical action or by rigorous skin cleaning necessary for removal of dried liquid.  
Ingestion: May be harmful if swallowed. Ingestion may cause nausea, vomiting, diarrhea, and gastrointestinal irritation. Consult a physician.  
Inhalation: Mild irritant. Effects are temporary and reversible. Vapor or mist can cause headache, nausea, and irritation of nose, throat, and lungs. Use in well-ventilated area and avoid breathing vapors.

Human Effects and symptoms of overexposure:

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Acute: Repeated skin contact may result in the development of an allergic skin reaction in a small number of individuals. This product is non-carcinogenic and not listed on NTP, IARC Monographs, and OSHA. Individual hazardous constituents listed in Section 2 of this MSDS can have a different acute and chronic effect depending on the health condition of a person.

Chronic: Prolonged inhalation of vapor or mist may cause brain, lung, and other organ damage.

Other Effects: No other chronic effects have been studied.

Medical Conditions Aggravated by Exposure: Information available on chemically similar products show that overexposure is unlikely to aggravate any medical condition.

Carcinogenicity: IARC: Not Listed      NTP: Product is not a known carcinogen      OSHA: Not regulated

Other: None known

#### 4. FIRST AID MEASURES

Eyes: 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: Wash with soap and water. Get medical attention in the unlikely event that irritation develops or persists. Remove contaminated clothing immediately. Wash clothing before re-use.

Ingestion: Do not induce vomiting. Contact medical personnel or poison control center immediately. Activated charcoal may be administered. If conscious, give two glasses or more of water. Do not give anything by mouth to an unconscious person.

Inhalation: If exposed to excessive levels of fumes, move from work area to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

#### 5. FIRE FIGHTING MEASURES

Flammable Properties: Not Flammable. Non-combustible in as-sold form.

Flash Point: >110°C (230°F)

Upper Explosive Limit (UEL): Not Explosive

Lower Explosive Limit (LEL): Not Explosive

Auto-ignition Temperature: Exposure to heat greater than 100°C (212°F) can cause product to boil or splatter.

Extinguishing Media: This product is not combustible or flammable. Use extinguishing agents that are suitable for the surrounding fire: water spray, dry chemical, foam, or CO<sub>2</sub>.

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

Unusual Fire and Explosion Hazards: Exposure to heat builds up pressure in closed container. Cool with water spray. This product is non-combustible.

#### 6. ACCIDENTAL RELEASE MEASURES

Small Spill: Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Sweep-up material with vacuum or use a shovel or scoop. Dispose in DOT approved waste container.

Large Spill: Contain spill with dike made of cement, sand, soil or other absorbent material. Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Vacuum or scoop material into an appropriately marked container for disposal. Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Keep out of sewers, storm drains, surface waters, and soil.

#### 7. HANDLING AND STORAGE

Storage: Store dry at ambient temperature away from food and beverages, excessive heat or flame sources (furnace, kilns, boilers etc.). Avoid freezing. Rotate stock to use older product first. Inspect container for leaks or cracks.

Handling: Avoid prolonged or repeated breathing of vapors. Avoid getting in eyes or on skin. Wash

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thoroughly after handling. Avoid contact with moisture. Re-seal container immediately after use. Shipping 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/50°C (122°F)  
 Shelf Life ..... : Two years in closed container  
 Special Sensitivity ..... : Heat  
 Other Precautions ..... : Keep closed container away from heat. If empty container contains residue (vapors, liquids or solids), handle container subject to hazard precautions given in this MSDS.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation is recommended. General mechanical ventilation is usually sufficient to keep product vapor below threshold limit values.

Eyes: Eye goggles or face shields are recommended to protect against splash or splatters.

Skin: Body-covering clothing. Rubber, plastic or other solvent-impervious gloves are recommended. gloves are recommended.

Respiratory Protection: In typical uses of this product, no respiratory protection is required. However, if strong odor is present, work ambient vapor concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved respirator with 700 ppm vapor prefilter should be worn. Types: CCROVF; GMOV; SAF or SCBAF.

Other: Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous chemicals. Remove contaminated clothing immediately. Wash clothing before re-use.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance ..... : Yellow Liquid  
 Odor ..... : Sweet, Glycol-like  
 Physical State ..... : Liquid  
 pH ..... : 8 - 10  
 Vapor Pressure ..... : 24 MM HG @ 25°C(77°F)  
 Vapor Density. (Air=1) ..... : Lighter than air  
 Boiling Point ..... : >100°C (212°F)  
 Freezing Point ..... : 0°C (32°F)  
 Solubility in Water ..... : Major portion is insoluble  
 Specific Gravity (H<sub>2</sub>O=1) ..... : 2.03  
 Evaporation Rate ..... : Slower than Ether  
 Volatile Organic Compounds (VOC) ..... : 88 gr/l  
 Chemical Formula ..... : Mixture

## 10. STABILITY AND REACTIVITY

Chemical Stability (Conditions to Avoid): Stable. Keep away from flames and heat. Exposure to excessive heat greater than 100°C (212°F) can cause product to boil or splatter. Avoid freezing.

Incompatibility (materials to avoid): Strong oxidizing agents. Materials that react with water. Avoid strong acids and alkalines.

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

Hazardous Decomposition Products: Produces Carbon Dioxide and/or Carbon Monoxide on combustion.

Hazardous Polymerization: Will not occur.

## 11. TOXICOLOGICAL INFORMATION



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The following information is based on the toxicity profiles of other products that are compositionally similar to this product. Typical data are:

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/Kg
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):	

## 12. ECOLOGICAL INFORMATION

The following information is based on the toxicity profiles of other products that are compositionally similar to this product. Typical data are:

Ecotoxicological Information:	Fish toxicity:	Golden Orfe ( <i>Leuciscus idus</i> ) 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).

Container Disposal: Triple rinse with water, then dispose of in licensed landfill, if allowed by local regulation.

## 14. TRANSPORT INFORMATION

DOT Shipping Name.....	: Not regulated
Technical Shipping Name.....	:
DOT Hazardous Classification .....	: Not regulated
DOT Hazard Class.....	: Not regulated
DOT Identification Number .....	: Not regulated
DOT Labels required .....	: Not regulated
DOT Placards required.....	: Not regulated
UN Class.....	: Not available
UN/NA Number.....	: Not available
Freight Class.....	: 55
Harmonized Tariff Number .....	: 3206.49.20

## 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 ethylene glycol content.
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
Ethylene Glycol	107-21-1	3 to 8%

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Reason for Revision: See Section 16

T.S.C.A.: This product class 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
Ethylene Glycol	107-21-1	3 - 8%	CA, NJ4, PA3
Iron Oxide Yellow	51274-00-1	60 - 75%	PA3, NJ4

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.  
3/3/2000 - Change Ethylene content & pH.  
2/22/2001 - Change section 6 concerning spills.  
7/23/2003 - Changed product to OSHA hazardous classification due to ethylene glycol content and removed iron oxide 'fume' content because it is not present in product.  
11/9/2005 - Changed VOC content from 233 g/L to 88 g/L (section 9)  
1/11/2006 - Updated review date.

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

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of the Manufacturer. The data on this sheet relates only to the specific material designated herein. It may not be valid for this material if used in combination with any other materials or process. It is the users responsibility to verify suitability and completeness of this information for their own particular use. The Manufacturer assumes no legal responsibility for use or reliance upon these data.

# MATERIAL SAFETY DATA SHEET

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 Date Revised: 01/11/2006  
 Prepared By: Nick Paris Reason for Revision: See Section 16

## 1. CHEMICAL, PRODUCT AND COMPANY IDENTIFICATION:

Product Code(s): **A1010, A1111, A1117, A1070**  
 Product Name: Hydrotint® Liquid Iron Oxide Red  
 Chemical Family: Inorganic Metal Oxide  
 Synonyms: Aqueous suspension of Iron Oxide, Iron Oxide Slurry  
 C.A.S. Number: 1309-37-1  
 Color Index Name: Pigment Red 101  
 Color Index Number: 77491

### 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)		Vapor Pressure (mm Hg)
Components:	C.A.S.	%	OSHA PEL	ACGIH TLV	
Silicon Dioxide-Amorphous (SiO <sub>2</sub> )	7631-86-9	(<1)	6 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	Not applicable
Iron Oxide (red)	1309-37-1	(60-75)	Not established	Not established	Not applicable
Ethylene Glycol*	107-21-1	(3-5)	50 ppm	25 ppm	0.6 20°C (68°F)
*Indicates toxic chemicals subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.					
Non-Hazardous Ingredients:			Exposure Limits (8 Hrs.TWA)		Vapor Pressure (mm Hg)
Components:	C.A.S.	%	OSHA PEL	ACGIH TLV	
Water	7732-18-5	(25-30)	Not established	Not established	17.0 20°C (68°F)

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

Red liquid or paste of milky consistency with mild glycol-like odor. Inhalation of vapor or mist can cause headache, nausea, and irritation of nose, throat, and lungs. Will not burn or combust. 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)

The following information is based on the hazard profiles of other aqueous pigment suspensions that are compositionally similar to this product. Typical data are:

#### Potential Health Effects:

Eyes: Mild irritant. Effects are temporary and reversible. May cause irritation, redness, blurred vision, and tearing.

Skin: Not absorbed into the skin. Will not irritate skin and is not likely to cause allergic skin reaction. If allowed to remain on the skin without being rinsed off with water, a thin film of dried pigment may form. Injury or irritation of the skin can occur by direct mechanical action or by rigorous skin cleaning necessary for removal of dried liquid.

Ingestion: May be harmful if swallowed. Ingestion may cause nausea, vomiting, diarrhea, and gastrointestinal irritation. Consult a physician.

Inhalation: Mild irritant. Effects are temporary and reversible. Vapor or mist can cause headache, nausea, and irritation of nose, throat, and lungs. Use in well-ventilated area and avoid breathing vapors.

Human Effects and symptoms of overexposure:

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Acute: Repeated skin contact may result in the development of an allergic skin reaction in a small number of individuals. This product is non-carcinogenic and not listed on NTP, IARC Monographs, and OSHA. Individual hazardous constituents listed in Section 2 of this MSDS can have a different acute and chronic effect depending on the health condition of a person.

Chronic: Prolonged inhalation of vapor or mist may cause brain, lung, and other organ damage.

Other Effects: No other chronic effects have been studied.

Medical Conditions Aggravated by Exposure: Information available on chemically similar products show that overexposure is unlikely to aggravate any medical condition.

Carcinogenicity: IARC: Not Listed NTP: Product is not a known carcinogen OSHA: Not regulated

Other: None known

#### 4. FIRST AID MEASURES

Eyes: 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: Wash with soap and water. Get medical attention in the unlikely event that irritation develops or persists. Remove contaminated clothing immediately. Wash clothing before re-use.

Ingestion: Do not induce vomiting. Contact medical personnel or poison control center immediately. Activated charcoal may be administered. If conscious, give two glasses or more of water. Do not give anything by mouth to an unconscious person.

Inhalation: If exposed to excessive levels of fumes, move from work area to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention.

#### 5. FIRE FIGHTING MEASURES

Flammable Properties: Not Flammable. Non-combustible in as-sold form.

Flash Point: >110°C (230°F)

Upper Explosive Limit (UEL): Not Explosive

Lower Explosive Limit (LEL): Not Explosive

Auto-ignition Temperature: Exposure to heat greater than 100°C (212°F) can cause product to boil or splatter.

Extinguishing Media: This product is not combustible or flammable. Use extinguishing agents that are suitable for the surrounding fire: water spray, dry chemical, foam, or CO<sub>2</sub>.

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

Unusual Fire and Explosion Hazards: Exposure to heat builds up pressure in closed container. Cool with water spray. This product is non-combustible.

#### 6. ACCIDENTAL RELEASE MEASURES

Small Spill: Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Sweep-up material with vacuum or use a shovel or scoop. Dispose in DOT approved waste container.

Large Spill: Contain spill with dike made of cement, sand, soil or other absorbent material. Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Vacuum or scoop material into an appropriately marked container for disposal. Sprinkle spill with dry absorbent powder, such as cement, dried clay or other absorbent material and mix with broom until mixture is dry. Keep out of sewers, storm drains, surface waters, and soil.

#### 7. HANDLING AND STORAGE

Storage: Store dry at ambient temperature away from food and beverages, excessive heat or flame sources (furnace, kilns, boilers etc.). Avoid freezing. Rotate stock to use older product first. Inspect container for leaks or cracks.

Handling: Avoid prolonged or repeated breathing of vapors. Avoid getting in eyes or on skin. Wash

thoroughly after handling. Avoid contact with moisture. Re-seal container immediately after use. Shipping 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/50°C (122°F)  
 Shelf Life ..... : Two years in closed container  
 Special Sensitivity ..... : Heat  
 Other Precautions ..... : Keep closed container away from heat. If empty container contains residue (vapors, liquids or solids), handle container subject to hazard precautions given in this MSDS.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation is recommended. General mechanical ventilation is usually sufficient to keep product vapor below threshold limit values.

Eyes: Eye goggles or face shields are recommended to protect against splash or splatters.

Skin: Body-covering clothing. Rubber, plastic or other solvent-impervious gloves are recommended. gloves are recommended.

Respiratory Protection: In typical uses of this product, no respiratory protection is required. However, if strong odor is present, work ambient vapor concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved respirator with 700 ppm vapor prefilter should be worn. Types: CCROVF; GMOV; SAF or SCBAF.

Other: Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous chemicals. Remove contaminated clothing immediately. Wash clothing before re-use.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance ..... : Red Liquid  
 Odor ..... : Sweet, Glycol-like  
 Physical State ..... : Liquid  
 pH ..... : 9 - 10  
 Vapor Pressure ..... : 24 MM HG @ 25°C(77°F)  
 Vapor Density. (Air=1) ..... : Lighter than air  
 Boiling Point ..... : >100°C (212°F)  
 Freezing Point ..... : 0°C (32°F)  
 Solubility in Water ..... : Major portion is insoluble  
 Specific Gravity (H<sub>2</sub>O=1) ..... : A1010=1.93 A1070=1.94 A1111=2.03 A1117=2.20  
 Evaporation Rate ..... : Slower than Ether  
 Volatile Organic Compounds (VOC) ..... : A1010=97 A1070=100 A1111=86 A1117=92 gr/l  
 Chemical Formula ..... : Mixture

## 10. STABILITY AND REACTIVITY

Chemical Stability (Conditions to Avoid): Stable. Keep away from flames and heat. Exposure to excessive heat greater than 100°C (212°F) can cause product to boil or splatter. Avoid freezing.

Incompatibility (materials to avoid): Strong oxidizing agents. Materials that react with water. Avoid strong acids and alkalines.

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

Hazardous Decomposition Products: Produces Carbon Dioxide and/or Carbon Monoxide on combustion.

Hazardous Polymerization: Will not occur.

## 11. TOXICOLOGICAL INFORMATION



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The following information is based on the toxicity profiles of other products that are compositionally similar to this product. Typical data are:

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/Kg  
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):

## 12. ECOLOGICAL INFORMATION

The following information is based on the toxicity profiles of other products that are compositionally similar to this product. Typical data are:

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).

Container Disposal: Triple rinse with water, then dispose of in licensed landfill, if allowed by local regulation.

## 14. TRANSPORT INFORMATION

DOT Shipping Name..... : Not regulated  
Technical Shipping Name..... :  
DOT Hazardous Classification ..... : Not regulated  
DOT Hazard Class..... : Not regulated  
DOT Identification Number ..... : Not regulated  
DOT Labels required ..... : Not regulated  
DOT Placards required..... : Not regulated  
UN Class..... : Not available  
UN/NA Number..... : Not available  
Freight Class..... : 55  
Harmonized Tariff Number ..... : 3206.49.20

## 15. REGULATORY INFORMATION

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### U.S. Federal Regulations

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OSHA: This product is considered Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200) due to ethylene glycol content.

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: Ethylene Glycol  
C.A.S. 107-21-1  
Concentration 3 to 5%



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T.S.C.A.: This product class 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
Ethylene Glycol	107-21-1	3 - 5%	CA, NJ4, PA3
Iron Oxide (red)	1309-37-1	60 - 75	NJ4, PA3

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

## 16. OTHER INFORMATION

- Reason for revision: 6/5/2000 - Revise pigment content section 2. Ethylene Glycol content sections 2&15, revise specific gravity & VOC content section 9.
- 2/22/2001 - Revise section 6 concerning spills.
- 7/23/2003 - Changed product to OSHA hazardous classification due to ethylene glycol content and removed iron oxide 'fume' content because it is not present in product.
- 11/9/2005 - Changed VOC content information from A1010=446 A1070=441 A1111=419 A1117=324 gr/l to A1010=97 A1070=100 A1111=86 A1117=92 gr/l. Changed Ethylene Glycol content from 5-10% to 3-5% (sections 2 & 15)
- 1/11/2006 - Updated review date.

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

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