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**Material Safety Data Sheet**  
Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

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**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product code** 59192  
**Product name** Flat White  
**Product description** 59000 Series Enamel Plus Gloss Screen Ink

**Manufacturer or supplier's details**  
 UNITED STATES  
 Nazdar Company  
 8501 Hedge Lane Terrace  
 Shawnee, KS 66227  
 Tel: 1-913-422-1888  
 Tel: 1-800-677-4657  
 Fax: 1-913-422-2294

UNITED KINGDOM  
 Nazdar Limited  
 7 Barton Road  
 Heaton Mersey Industrial Estate  
 Stockport, Cheshire SK4 3EG  
 Tel: +44 161 442 2111

**Emergency Telephone Number**  
 USA: Chemtrec: 1-800-424-9300  
 Outside USA: Chemtrec: 1-703-527-3887  
  
 Website: [www.nazdar.com](http://www.nazdar.com)  
 MSDS Information: 1-913-422-1888 ext 2305  
 MSDS Contact: Regulatory Compliance  
 email: [regcomp@nazdar.com](mailto:regcomp@nazdar.com)

**2. HAZARDS IDENTIFICATION**

*This product is a preparation. Health hazard information is based on its components.*

**Appearance** Viscous liquid  
**Flammable Properties** Combustible liquid and vapor.  
**Emergency Overview** Aspiration hazard. Harmful: may cause lung damage if swallowed. Irritant. May cause drowsiness and dizziness.  
  
**Eyes** May cause eye irritation.  
**Skin** May cause skin irritation and/or dermatitis.  
**Inhalation** May cause irritation of respiratory tract. Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Harmful if swallowed. Potential for aspiration if swallowed. Risk of serious damage to the lungs (by aspiration).

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No	Weight %
Titanium dioxide	13463-67-7	10 - 30
Stoddard solvent	8052-41-3	10 - 30
Crystalline silica (cristobalite)	14464-46-1	10 - 30
Inert Pigment	Trade Secret	5 - 10
Solvent naphtha (petroleum), medium aliphatic	64742-88-7	5 - 10
Silicon Dioxide	7631-86-9	1 - 5
Quartz, crystalline silica	14808-60-7	< 0.5
Ethyl benzene (contaminant)	100-41-4	< 0.5

• Component names which have the word (contaminant) are constituents contained in Aromatic Hydrocarbon ingredients and are an integral part of the ingredient and cannot be separated. The percentage listed for the contaminant is as contained in the Hydrocarbon ingredient. (Example: 100% Hydrocarbon, 10% Contaminant A, 3% Contaminant B)

**4. FIRST AID MEASURES**

**Eye Contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention immediately if irritation develops and persists.

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<b>Skin Contact</b>	Wash off immediately with soap and plenty of water. Use a mild soap if available. Rinse immediately with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation develops, get medical attention.
<b>Inhalation</b>	Move to fresh air. If breathed in, move person into fresh air. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.
<b>Ingestion</b>	If swallowed, DO NOT induce vomiting. Call a physician or Poison Control Centre immediately. Never give anything by mouth to an unconscious person.

## 5. FIRE-FIGHTING MEASURES

<b>Flammable Properties</b>	Combustible liquid and vapor.
<b>Suitable Extinguishing Media</b>	Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Protective Equipment and Precautions for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Keep away from fire, sparks and heated surfaces. Keep container tightly closed. Cool containers / tanks with water spray. Fire or intense heat may cause violent rupture of packages.
<b>Specific Hazards Arising from the Chemical</b>	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Remove all sources of ignition. Heat, flames and sparks. Ventilate the area. Avoid breathing dust or vapor. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Methods for Cleaning Up</b>	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Do not use sparking tools.
<b>Environmental Precautions</b>	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

## 7. HANDLING AND STORAGE

<b>Handling</b>	Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Remove and wash contaminated clothing before re-use. Discard contaminated shoes. When using do not smoke. Take notice of labels and material safety data sheets for the working chemicals. Do not take internally. Harmful or fatal if swallowed.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep out of the reach of children. Keep away from heat and sources of ignition. Take notice of the directions of use on the label.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Ontario TWAEV	Mexico OEL (TWA)
Titanium dioxide	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>	5000 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> STEL: 20 mg/m <sup>3</sup>
Stoddard solvent	TWA: 100 ppm	TWA: 100 ppm TWA: 525 mg/m <sup>3</sup> TWA: 2900 mg/m <sup>3</sup> TWA: 500 ppm	20000 mg/m <sup>3</sup>	TWA: 525 mg/m <sup>3</sup>	TWA: 523 mg/m <sup>3</sup> TWA: 100 ppm STEL: 200 ppm STEL: 1050 mg/m <sup>3</sup>
Crystalline silica (cristobalite)	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>	25 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>

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Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Ontario TWAEV	Mexico OEL (TWA)
Solvent naphtha (petroleum), medium aliphatic				TWA 525 mg/m <sup>3</sup>	
Silicon Dioxide			3000 mg/m <sup>3</sup>		
Quartz, crystalline silica	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	50 mg/m <sup>3</sup>	TWA: 0.10 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>
Ethyl benzene (contaminant)	TWA: 100 ppm STEL: 125 ppm	TWA: 435 mg/m <sup>3</sup> TWA: 100 ppm STEL: 125 ppm STEL: 545 mg/m <sup>3</sup>	800 ppm 10% LEL	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 125 ppm STEL: 540 mg/m <sup>3</sup>	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 545 mg/m <sup>3</sup> STEL: 125 ppm

**Engineering Measures** Use only with adequate ventilation. Use ventilation adequate to keep exposures below recommended exposure limits. See MSDS. In case of insufficient ventilation, wear suitable respiratory equipment.

**Personal Protective Equipment****Respiratory Protection**

Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust). Respirator with a vapour filter.

**Eye Protection**

Ensure that eyewash stations and safety showers are close to the workstation location. Avoid contact with eyes. Safety glasses with side-shields. Goggles. Face-shield.

**Skin Protection**

Wear protective gloves/clothing. Solvent-resistant apron and boots.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice. Ensure that eyewash stations and safety showers are close to the workstation location. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Viscous liquid	<b>Physical State</b>	Liquid
<b>Odor</b>	Characteristic	<b>Odor Threshold</b>	No information available
<b>pH</b>	No information available	<b>Autoignition Temperature</b>	No information available
<b>Boiling point/Boiling Range</b>	>149°C / >300°F	<b>Melting Point/Range</b>	No information available
<b>Freezing Point/Range</b>	No information available	<b>Solubility</b>	No information available
<b>Evaporation Rate</b>	No information available	<b>Partition Coefficient (n-octanol/water)</b>	No information available
<b>Vapour Pressure</b>	No information available	<b>Vapour Density</b>	No information available
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	46°C / 115°F
<b>Flammability Limits in Air</b>		<b>Method</b>	Setaflash closed cup
<b>Upper</b>	No information available	<b>Photochemically Reactive</b>	No
<b>Lower</b>	No information available	<b>Specific Gravity</b>	1.371
<b>Weight Per Gallon (lbs/gal)</b>	11.433	<b>VOC by volume %</b>	38.885
<b>VOC by weight %</b>	25.216	<b>VOC grams/liter (less water)</b>	345.805
<b>VOC lbs/gal (less water)</b>	2.886		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable under normal conditions.
<b>Conditions to Avoid</b>	Heat, flames and sparks.
<b>Incompatible Products</b>	Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.
<b>Hazardous Decomposition Products</b>	Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO <sub>2</sub> ). Carbon monoxide.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.

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## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Titanium dioxide	10000 mg/kg ( Rat )		
Solvent naphtha (petroleum), medium aliphatic	5000 mg/kg ( Rat )	3000 mg/kg ( Rabbit )	5.28 mg/L ( Rat ) 4 h
Silicon Dioxide	5000 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	2.2 mg/L ( Rat ) 1 h
Quartz, crystalline silica	500 mg/kg ( Rat )		
Ethyl benzene (contaminant)	3500 mg/kg ( Rat )	15354 mg/kg ( Rabbit )	17.2 mg/L ( Rat ) 4 h

### Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Titanium dioxide		Group 2B		X
Crystalline silica (cristobalite)	A2	Group 1		X
Quartz, crystalline silica	A2	Group 1	Known	X
Ethyl benzene (contaminant)	A3	Group 2B		X

**ACGIH:** (American Conference of Governmental Industrial Hygienists)

**IARC:** (International Agency for Research on Cancer)

**NTP:** (National Toxicity Program)

**OSHA:** (Occupational Safety & Health Administration)

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

Group 1 - Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

Known - Known Carcinogen

X - Present

### Sensitisation

No information available

### Mutagenic Effects

No information available

### Reproductive Effects

No information available

### Developmental Effects

No information available

### Teratogenicity

No information available

### Chronic Effects

Exposure to component solvent vapour concentrations in excess of the stated occupational exposure limit may result in adverse health effect, such as mucous membrane and respiratory system irritation and adverse effect on kidney, liver and central nervous system.

### Target Organ Effects

Central nervous system, Eyes, Lungs, Kidney, Respiratory system, Skin.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Should not be released into the environment.

Component	Freshwater Algae	Freshwater Fish	Water Flea
Solvent naphtha (petroleum), medium aliphatic	96 Hr EC50 Selenastrum capricornutum: 450 mg/L	96 Hr LC50 Pimephales promelas: 800 mg/L [static]	48 Hr EC50 Daphnia magna: >100 mg/L
Silicon Dioxide	72 Hr EC50 Selenastrum capricornutum: 440 mg/L	96 Hr LC50 Brachydanio rerio: 5000 mg/L [static]	48 Hr EC50 Ceriodaphnia dubia: 7600 mg/L
Ethyl benzene (contaminant)	72 Hr EC50 Selenastrum capricornutum: 4.6 mg/L; 96 Hr EC50 Selenastrum capricornutum: >438 mg/L	96 Hr LC50 Oncorhynchus mykiss: 14.0 mg/L [static]; 96 Hr LC50 Pimephales promelas: 9.09 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 150.0 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 4.2 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 32 mg/L [static]; 96 Hr LC50 Pimephales promelas: 48.5 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 9.6 mg/L [static]	48 Hr EC50 Daphnia magna: 1.8-2.4 mg/L

### Persistence and Degradability

No information available

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**Bioaccumulation** No information available  
**Mobility in Environmental Media** No information available

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Methods** Dispose of contents/container in accordance with local regulation.  
**Contaminated Packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

**14. TRANSPORT INFORMATION**

**DOT**

UN1210, Printing Ink, 3, III  
 In the U.S. and Canada, this material may be reclassified as a combustible liquid and is not regulated, via surface transportation, in containers less than 119 gallons or 450 liters [per 49 CFR 173.150 (f)] [per Transportation of Dangerous Goods Regulations/Clear Language Part 1.33].

**ICAO/IATA**

UN1210, Printing Ink, 3, III

**IMDG/IMO**

UN1210, Printing Ink, 3, III

**15. REGULATORY INFORMATION**

**International Inventories**

Listed on TSCA. For further information, please contact: Manufacturer, importer, supplier

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Component	CAS-No	Weight %	SARA 313 - Threshold Values
Ethyl benzene (contaminant)	100-41-4	< 0.5	0.1

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**  
 This product does not contain any HAPs.

**U.S. State Regulations**

**California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer. WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Component	CAS-No	Weight %
Ethyl benzene (contaminant)	100-41-4	< 0.5
Quartz, crystalline silica	14808-60-7	< 0.5

**State Right-to-Know**

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Titanium dioxide	Not Listed	Not Listed	X	X	X	X
Stoddard solvent	Not Listed	Not Listed	X	X	X	X
Crystalline silica (cristobalite)	Not Listed	Not Listed	X	X	X	Not Listed
Inert Pigment	Not Listed	Not Listed	Not Listed	X	Not Listed	Not Listed
Solvent naphtha (petroleum), medium aliphatic	Not Listed	Not Listed	X	Not Listed	Not Listed	Not Listed

