



**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 category** 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** Colored 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>	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. 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. 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. Do not take internally. Harmful or fatal if swallowed. Take notice of the directions of use on the label.
<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.

## 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> (total dust) TWA: 15 mg/m <sup>3</sup> (total dust)	5000 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup> (total dust)	TWA/LMPE-PPT: 10 mg/m <sup>3</sup> (as Ti) STEL/LMPE-CT: 20 mg/m <sup>3</sup> (as Ti)

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Stoddard solvent	TWA: 100 ppm	TWA: 100 ppm TWA: 525 mg/m <sup>3</sup> TWA: 500 ppm TWA: 2900 mg/m <sup>3</sup>	20000 mg/m <sup>3</sup>	TWA: 525 mg/m <sup>3</sup>	TWA/LMPE-PPT: 100 ppm TWA/LMPE-PPT: 523 mg/m <sup>3</sup> STEL/LMPE-CT: 200 ppm STEL/LMPE-CT: 1050 mg/m <sup>3</sup>
Crystalline silica (cristobalite)	TWA: 0.025 mg/m <sup>3</sup> (respirable fraction)	TWA: 0.05 mg/m <sup>3</sup> (respirable dust)	25 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup> (respirable)	TWA/LMPE-PPT: 0.05 mg/m <sup>3</sup> (respirable fraction)
Solvent naphtha (petroleum), medium aliphatic				TWA: 525 mg/m <sup>3</sup>	
Silicon Dioxide		TWA: 6 mg/m <sup>3</sup>	3000 mg/m <sup>3</sup>		
Quartz, crystalline silica	TWA: 0.025 mg/m <sup>3</sup> (respirable fraction)	TWA: 0.1 mg/m <sup>3</sup> (respirable dust)	50 mg/m <sup>3</sup>	TWA: 0.10 mg/m <sup>3</sup> (respirable)	TWA/LMPE-PPT: 0.1 mg/m <sup>3</sup> (respirable fraction)
Ethyl benzene (contaminant)	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m <sup>3</sup> STEL: 125 ppm STEL: 545 mg/m <sup>3</sup>	800 ppm (10% LEL)	TWA: 100 ppm STEL: 125 ppm	TWA/LMPE-PPT: 100 ppm TWA/LMPE-PPT: 435 mg/m <sup>3</sup> STEL/LMPE-CT: 125 ppm STEL/LMPE-CT: 545 mg/m <sup>3</sup>

**Engineering Measures**

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. Wash hands before eating, drinking, or smoking. Remove and wash contaminated clothing before re-use. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Colored 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>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flammability Limits in Air</b>	
		<b>Upper</b>	No information available
		<b>Lower</b>	No information available
<b>Flash Point</b>	46 °C / 115 °F	<b>Photochemically Reactive</b>	No
<b>Method</b>	Setaflash closed cup		
<b>Weight Per Gallon (lbs/gal)</b>	11.43	<b>Specific Gravity</b>	1.37
<b>VOC by weight %</b>	25.22	<b>VOC by volume %</b>	38.89
<b>VOC lbs/gal (less water)</b>	2.89	<b>VOC grams/liter (less water)</b>	345.81

## 10. STABILITY AND REACTIVITY

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<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.

## 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)		Group 1		X
Quartz, crystalline silica		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 &amp; Health Administration)

A3 - Animal Carcinogen  
Group 1 - Carcinogenic to Humans  
Group 2B - Possibly Carcinogenic to Humans  
Known - Known Carcinogen  
X - Present

<b>Sensitisation</b>	No information available
<b>Mutagenic Effects</b>	No information available
<b>Reproductive Effects</b>	No information available
<b>Developmental hazard</b>	No information available
<b>Teratogenicity</b>	No information available
<b>Chronic Effects</b>	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.
<b>Target Organ Effects</b>	Central nervous system, Eyes, 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	Algae	Fish	Water Flea
Solvent naphtha (petroleum), medium aliphatic	96h EC50 Pseudokirchneriella subcapitata: 450 mg/L	96h LC50 Pimephales promelas: 800 mg/L [static]	48h EC50 Daphnia magna: >100 mg/L
Silicon Dioxide	72h EC50 Pseudokirchneriella subcapitata: 440 mg/L	96h LC50 Brachydanio rerio: 5000 mg/L [static]	48h EC50 Ceriodaphnia dubia: 7600 mg/L

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Ethyl benzene (contaminant)	96h EC50 Pseudokirchneriella subcapitata: 1.7 - 7.6 mg/L [static] 72h EC50 Pseudokirchneriella subcapitata: 2.6 - 11.3 mg/L [static] 72h EC50 Pseudokirchneriella subcapitata: 4.6 mg/L 96h EC50 Pseudokirchneriella subcapitata: >438 mg/L	96h LC50 Oncorhynchus mykiss: 11.0 - 18.0 mg/L [static] 96h LC50 Pimephales promelas: 7.55 - 11 mg/L [flow-through] 96h LC50 Pimephales promelas: 9.1 - 15.6 mg/L [static] 96h LC50 Lepomis macrochirus: 32 mg/L [static] 96h LC50 Oncorhynchus mykiss: 4.2 mg/L [semi-static] 96h LC50 Poecilia reticulata: 9.6 mg/L [static]	48h EC50 Daphnia magna: 1.8 - 2.4 mg/L
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**Persistence and Degradability** No information available  
**Bioaccumulation** No information available  
**Mobility in Environmental Media** No information available

Component	log Pow
Ethyl benzene (contaminant)	3.118

### 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

The following components are subject to reporting levels established by SARA Title III, Section 313

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 hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

#### U.S. State Regulations

Component	Massachusetts Right To Know	Minnesota Right To Know	New Jersey Right To Know	Pennsylvania Right To Know
Titanium dioxide	X	X	X	X
Stoddard solvent	X	X	X	X

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Crystalline silica (cristobalite)	X	X	X	X
Inert Pigment	Not Listed	Not Listed	Not Listed	X
Solvent naphtha (petroleum), medium aliphatic	Not Listed	Not Listed	X	Not Listed
Silicon Dioxide	X	X	X	X
Quartz, crystalline silica	X	X	X	X
Ethyl benzene (contaminant)	X	X	X	X

**California Prop. 65**

WARNING! This product contains a chemical known in the State of California to cause cancer and / or 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
Titanium dioxide	13463-67-7	10 - 30
Quartz, crystalline silica	14808-60-7	< 0.5

**Canada**

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Component	WHMIS Classifications of Components
Titanium dioxide	D2A
Stoddard solvent	B3,D2B
Crystalline silica (cristobalite)	D2A
Inert Pigment	D2A
Solvent naphtha (petroleum), medium aliphatic	B3
Silicon Dioxide	Uncontrolled product according to WHMIS classification criteria
Quartz, crystalline silica	D2A
Ethyl benzene (contaminant)	B2,D2A,D2B

Component	NPRI - National Pollutant Release Inventory
Stoddard solvent	Part 5 Substance Part 5, Other Groups and Mixtures
Solvent naphtha (petroleum), medium aliphatic	Part 5 Substance Part 5, Other Groups and Mixtures
Ethyl benzene (contaminant)	Part 4 Substance Part 1, Group 1 Substance

**Regulation (EC) No. 1907/2006 (REACH), Article 57**

None known

**HMIS:** Health 1 \* Flammability 2 Reactivity 0 PPE X

**16. OTHER INFORMATION**

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Revision Note New MSDS format

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of MSDS**

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