



## Material Safety Data Sheet

Prepared in accordance with ISO 11014-1/ANSI standard Z400.1-2004

Print Date Jul-31-2009

Revision Date Jul-31-2009

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product code** 180089VF  
**Product name** Special VF 287U Blue  
**Product description** VF Series Flat Vinyl 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** Moderately irritating to the eyes. The liquid splashed in the eyes may cause irritation and reversible damage.

**Skin** Causes skin irritation. Prolonged skin contact may defat the skin and produce dermatitis. May be absorbed through the skin in harmful amounts.

**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). Aspiration hazard if swallowed - can enter lungs and cause damage.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Isophorone	78-59-1	30 - 60
Naphtha (petroleum), heavy aromatic	64742-94-5	10 - 30
Titanium dioxide	13463-67-7	10 - 30
Ethyl 3-Ethoxypropionate	763-69-9	5 - 10
Silicon Dioxide	7631-86-9	1 - 5
Copper Phthalocyanine Compound	Trade Secret	1 - 5
Petroleum naphtha, light aromatic	64742-95-6	1 - 5
1,2,4-Trimethylbenzene (contaminant)	95-63-6	< 1
Naphthalene (contaminant)	91-20-3	< 1
1,3,5-Trimethylbenzene (contaminant)	108-67-8	< 0.5
Ethyl alcohol	64-17-5	< 0.5
Vinyl acetate	108-05-4	< 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

#### 4. FIRST AID MEASURES

<b>Eye Contact</b>	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.
<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 (CO2). 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)
Isophorone	Ceiling: 5 ppm	TWA: 4 ppm TWA: 23 mg/m <sup>3</sup> TWA: 25 ppm TWA: 140 mg/m <sup>3</sup>	200 ppm	CEV: 28 mg/m <sup>3</sup> CEV: 5 ppm	Peak: 25 mg/m <sup>3</sup> Peak: 5 ppm
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>
Ethyl 3-Ethoxypropionate				TWA: 300 mg/m <sup>3</sup> TWA: 50 ppm	
Silicon Dioxide			3000 mg/m <sup>3</sup>		
Copper Phthalocyanine Compound			100 mg/m <sup>3</sup>		
1,2,4-Trimethylbenzene (contaminant)	TWA: 25 ppm			TWA: 25 ppm TWA: 123 mg/m <sup>3</sup>	TWA: 125 mg/m <sup>3</sup> TWA: 25 ppm STEL: 35 ppm STEL: 170 mg/m <sup>3</sup>
Naphthalene (contaminant)	TWA: 10 ppm Skin STEL: 15 ppm	TWA: 50 mg/m <sup>3</sup> TWA: 10 ppm STEL: 15 ppm STEL: 75 mg/m <sup>3</sup>	250 ppm	TWA: 10 ppm TWA: 52 mg/m <sup>3</sup> STEL: 15 ppm STEL: 78 mg/m <sup>3</sup>	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup> STEL: 75 mg/m <sup>3</sup> STEL: 15 ppm
1,3,5-Trimethylbenzene (contaminant)	TWA: 25 ppm			TWA: 123 mg/m <sup>3</sup> TWA: 25 ppm	TWA: 125 mg/m <sup>3</sup> TWA: 25 ppm STEL: 35 ppm STEL: 170 mg/m <sup>3</sup>
Ethyl alcohol	TWA: 1000 ppm	TWA: 1900 mg/m <sup>3</sup> TWA: 1000 ppm	3300 ppm 10% LEL	TWA: 1900 mg/m <sup>3</sup> TWA: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
Vinyl acetate	TWA: 10 ppm STEL: 15 ppm	TWA: 10 ppm TWA: 30 mg/m <sup>3</sup> STEL: 20 ppm STEL: 60 mg/m <sup>3</sup>		TWA: 10 ppm STEL: 15 ppm	TWA: 10 ppm TWA: 30 mg/m <sup>3</sup> STEL: 20 ppm STEL: 60 mg/m <sup>3</sup>

**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

## 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>	Heavier than air
<b>Flammability (solid, gas)</b>	No information available	<b>Flash Point</b>	66°C / 150°F
<b>Flammability Limits in Air</b>		<b>Method</b>	Setaflash closed cup
<b>Upper</b>	No information available	<b>Photochemically Reactive</b>	Yes
<b>Lower</b>	No information available		
<b>Weight Per Gallon (lbs/gal)</b>	9.413	<b>Specific Gravity</b>	1.129
<b>VOC by weight</b>	57.058	<b>VOC by volume</b>	58.471
<b>VOC lbs/gal (less water)</b>	5.376	<b>VOC grams/liter (less water)</b>	644.217

## 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.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Isophorone	1870 mg/kg ( Rat )	1390 mg/kg ( Rat )	7 mg/L ( Rat ) 4 h
Naphtha (petroleum), heavy aromatic	5000 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	590 mg/m <sup>3</sup> ( Rat ) 4 h
Titanium dioxide	10000 mg/kg ( Rat )		
Ethyl 3-Ethoxypropionate	3200 mg/kg ( Rat )	10 mL/kg ( Rabbit )	
Silicon Dioxide	5000 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	2.2 mg/L ( Rat ) 1 h
Petroleum naphtha, light aromatic	8400 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	5.2 mg/L ( Rat ) 4 h 3400 ppm ( Rat ) 4 h
1,2,4-Trimethylbenzene (contaminant)	3400 mg/kg ( Rat ) 8970 mg/kg ( Rat )	3160 mg/kg ( Rabbit )	18 g/m <sup>3</sup> ( Rat ) 4 h
Naphthalene (contaminant)	490 mg/kg ( Rat )	2500 mg/kg ( Rat ) 20 g/kg ( Rabbit )	340 mg/m <sup>3</sup> ( Rat ) 1 h
1,3,5-Trimethylbenzene (contaminant)	8970 mg/kg ( Rat ) 5000 mg/kg ( Rat )		24 g/m <sup>3</sup> ( Rat ) 4 h
Ethyl alcohol	7060 mg/kg ( Rat )		
Vinyl acetate	2920 mg/kg ( Rat )	2320 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h 3200 ppm ( Rat ) 4 h

### Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Isophorone	A3			
Titanium dioxide		Group 2B		X
Naphthalene (contaminant)		Group 2B	Reasonably Anticipated	X

Component	ACGIH	IARC	NTP	OSHA
Ethyl alcohol		Group 1		X
Vinyl acetate	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)

A3 - Animal Carcinogen  
Group 1 - Carcinogenic to Humans  
Group 2B - Possibly Carcinogenic to Humans  
Reasonably Anticipated to be a Human 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 Effects</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, Lungs, Liver, 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
Isophorone	72 Hr EC50 Scenedesmus subspicatus: 475.4 mg/L; 96 Hr EC50 Selenastrum capricornutum: 126 mg/L	96 Hr LC50 Pimephales promelas: 145 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 220 mg/L [static]	48 Hr EC50 Daphnia magna: 117 mg/L
Naphtha (petroleum), heavy aromatic	72 Hr EC50 Skeletonema costatum: 2.5 mg/L	96 Hr LC50 Pimephales promelas: 19 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 2.34 mg/L; 96 Hr LC50 Lepomis macrochirus: 1740 mg/L [static]	48 Hr EC50 Daphnia magna: 0.95 mg/L
Ethyl 3-Ethoxypropionate		96 Hr LC50 Pimephales promelas: 62 mg/L [static]	48 Hr EC50 Daphnia magna: 970 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
Copper Phthalocyanine Compound		48 Hr LC50 Oryzias latipes: >100 mg/L [static]	
Petroleum naphtha, light aromatic		96 Hr LC50 Oncorhynchus mykiss: 9.22 mg/L	48 Hr EC50 Daphnia magna: 6.14 mg/L
1,2,4-Trimethylbenzene (contaminant)		96 Hr LC50 Pimephales promelas: 7.72 mg/L [flow-through]	48 Hr EC50 Daphnia magna: 6.14 mg/L
Naphthalene (contaminant)	96 Hr EC50 Skeletonema costatum: 0.4 mg/L	96 Hr LC50 Pimephales promelas: 1.99 mg/L [static]	48 Hr EC50 water flea: 2.16 mg/L
1,3,5-Trimethylbenzene (contaminant)		96 Hr LC50 Pimephales promelas: 3.48 mg/L; 96 Hr LC50 Pimephales promelas: 7.72 mg/L [flow-through]	24 Hr EC50 water flea: 50 mg/L
Ethyl alcohol		96 Hr LC50 Oncorhynchus mykiss: 12900 mg/L [flow-through] (30 days old); 96 Hr LC50 Pimephales promelas: 14.2 mg/L	48 Hr EC50 Daphnia magna: 9268 mg/L; 24 Hr EC50 Daphnia magna: 10800 mg/L
Vinyl acetate		96 Hr LC50 Pimephales promelas: 31.0 mg/L; 96 Hr LC50 Lepomis macrochirus: 31.0 mg/L; 96 Hr LC50 Pimephales promelas: 14-15 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 18 mg/L [static]	24 Hr EC50 water flea: 52.0 mg/L

**Persistence and Degradability** No information available

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

Component	log Pow
Isophorone	1.66
Naphtha (petroleum), heavy aromatic	2.9 - 6.1
Ethyl 3-Ethoxypropionate	1.35
Copper Phthalocyanine Compound	6.6
Ethyl alcohol	-0.32
Vinyl acetate	0.73

### 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

Printing Ink, Not Regulated

#### ICAO/IATA

Not classified as dangerous in the meaning of transport regulations

#### IMDG/IMO

Not classified as dangerous in the meaning of transport regulations

### 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
Vinyl acetate	108-05-4	< 0.5	0.1
Naphthalene (contaminant)	91-20-3	< 1	0.1

#### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs:

Component	CAS-No	Weight %
Isophorone	78-59-1	30 - 60

#### 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 alcohol	64-17-5	< 0.5
Naphthalene (contaminant)	91-20-3	< 1

**State Right-to-Know**

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Isophorone	Not Listed	Not Listed	X	X	X	X
Naphtha (petroleum), heavy aromatic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Titanium dioxide	Not Listed	Not Listed	X	X	X	X
Ethyl 3-Ethoxypropionate	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Silicon Dioxide	Not Listed	Not Listed	Not Listed	X	X	Not Listed
Copper Phthalocyanine Compound	Not Listed	Not Listed	X	X	Not Listed	Not Listed
Petroleum naphtha, light aromatic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
1,2,4-Trimethylbenzene (contaminant)	Not Listed	Not Listed	X	X	X	X
Naphthalene (contaminant)	Not Listed	Not Listed	X	X	X	X
1,3,5-Trimethylbenzene (contaminant)	Not Listed	Not Listed	X	X	X	X
Ethyl alcohol	Not Listed	Not Listed	X	X	X	X
Vinyl acetate	Not Listed	Not Listed	X	X	X	X

**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
Isophorone	B3, D2B
Titanium dioxide	D2A
Ethyl 3-Ethoxypropionate	B3, D2B
Silicon Dioxide	Uncontrolled product according to WHMIS classification criteria
Copper Phthalocyanine Compound	Uncontrolled product according to WHMIS classification criteria
Petroleum naphtha, light aromatic	B3, D2B
1,2,4-Trimethylbenzene (contaminant)	B3
Naphthalene (contaminant)	B4, D2A
1,3,5-Trimethylbenzene (contaminant)	B3
Vinyl acetate	B2, D1B, D2A, F

Component	NPRI - National Pollutant Release Inventory
Isophorone	Part 4 Substance
Naphtha (petroleum), heavy aromatic	Part 5 Substance Part 4 Substance
Ethyl 3-Ethoxypropionate	Part 4 Substance
Copper Phthalocyanine Compound	Part 1, Group 1 Substance
Petroleum naphtha, light aromatic	Part 5 Substance
1,2,4-Trimethylbenzene (contaminant)	Part 1, Group 1 Substance; Part 5 Substance Part 5 Substance (except 1,2,4-Trimethyl benzene) Part 4 Substance
Naphthalene (contaminant)	Part 1, Group 1 Substance Part 4 Substance
1,3,5-Trimethylbenzene (contaminant)	Part 5 Substance (except 1,2,4-Trimethyl benzene) Part 4 Substance
Ethyl alcohol	Part 5 Substance Part 4 Substance
Vinyl acetate	Part 4 Substance Part 1, Group 1 Substance; Part 5 Substance

**REACH: Substances of Very High Concern (SVHC): Article 57 of Regulation (EC) No 1907/2006**

Does NOT contain a listed substance

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

**16. OTHER INFORMATION**

**Revision Date** Jul-31-2009

**Revision Summary** 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**