



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 VF112
Product name White
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, Chesire 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
MSDS Information: 1-913-422-1888 ext 2305
MSDS Contact: Regulatory Compliance
email: 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 Causes 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). Aspiration hazard if swallowed - can enter lungs and cause damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	Weight %
Titanium dioxide	13463-67-7	10 - 30
Naphtha (petroleum), heavy aromatic	64742-94-5	10 - 30
Talc	14807-96-6	5 - 10
Diacetone alcohol	123-42-2	5 - 10
Cyclohexanone	108-94-1	5 - 10
Gamma Butyrolactone	96-48-0	5 - 10
Naphthalene (contaminant)	91-20-3	1 - 5
Silicon Dioxide	7631-86-9	1 - 5
Aluminum hydroxide	21645-51-2	1 - 5
1,2,4-Trimethylbenzene (contaminant)	95-63-6	< 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.

Skin Contact	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.
Inhalation	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.
Ingestion	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

Flammable Properties	Combustible liquid and vapor.
Suitable Extinguishing Media	Foam. Carbon dioxide (CO ₂). Dry chemical. Water spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment and Precautions for Firefighters	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.
Specific Hazards Arising from the Chemical	Thermal decomposition can lead to release of irritating gases and vapours. Burning produces obnoxious and toxic fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	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.
Methods for Cleaning Up	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.
Environmental Precautions	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

Handling	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.
Storage	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 ³	TWA: 10 mg/m ³ TWA: 15 mg/m ³	5000 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³ STEL: 20 mg/m ³
Talc	TWA: 2 mg/m ³	TWA: 2 mg/m ³	1000 mg/m ³ containing no asbestos and <1% quartz	TWA: 2 mg/m ³	TWA: 2 mg/m ³

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Ontario TWAEV	Mexico OEL (TWA)
Diacetone alcohol	TWA: 50 ppm	TWA: 50 ppm TWA: 240 mg/m ³	1800 ppm 10% LEL	TWA: 240 mg/m ³ TWA: 50 ppm STEL: 360 mg/m ³ STEL: 75 ppm	TWA: 240 mg/m ³ TWA: 50 ppm STEL: 75 ppm STEL: 360 mg/m ³
Cyclohexanone	TWA: 20 ppm Skin STEL: 50 ppm	TWA: 25 ppm TWA: 100 mg/m ³ Skin TWA: 50 ppm TWA: 200 mg/m ³	700 ppm	TWA: 20 ppm STEL: 50 ppm Skin	TWA: 50 ppm TWA: 200 mg/m ³ STEL: 400 mg/m ³ STEL: 100 ppm
Naphthalene (contaminant)	TWA: 10 ppm Skin STEL: 15 ppm	TWA: 50 mg/m ³ TWA: 10 ppm STEL: 15 ppm STEL: 75 mg/m ³	250 ppm	TWA: 10 ppm TWA: 52 mg/m ³ STEL: 15 ppm STEL: 78 mg/m ³	TWA: 10 ppm TWA: 50 mg/m ³ STEL: 75 mg/m ³ STEL: 15 ppm
Silicon Dioxide			3000 mg/m ³		
Aluminum hydroxide	TWA: 1 mg/m ³				
1,2,4-Trimethylbenzene (contaminant)	TWA: 25 ppm			TWA: 25 ppm TWA: 123 mg/m ³	TWA: 125 mg/m ³ TWA: 25 ppm STEL: 35 ppm STEL: 170 mg/m ³

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

Appearance	Viscous liquid	Physical State	Liquid
Odor	Characteristic	Odor Threshold	No information available
pH	No information available	Autoignition Temperature	No information available
Boiling point/Boiling Range	>149°C / >300°F	Melting Point/Range	No information available
Freezing Point/Range	No information available	Solubility	No information available
Evaporation Rate	No information available	Partition Coefficient (n-octanol/water)	No information available
Vapour Pressure	No information available	Vapour Density	No information available
Flammability (solid, gas)	No information available	Flash Point	52°C / 125°F
Flammability Limits in Air		Method	Setaflash closed cup
Upper	No information available	Photochemically Reactive	Yes
Lower	No information available		
Weight Per Gallon (lbs/gal)	11.765	Specific Gravity	1.412
VOC by weight	44.688	VOC by volume	62.648
VOC lbs/gal (less water)	5.263	VOC grams/liter (less water)	630.627

10. STABILITY AND REACTIVITY

Chemical Stability Stable under normal conditions.

Conditions to Avoid Heat, flames and sparks.

Incompatible Products Strong acids. Strong bases. Strong oxidizing agents. Reducing agents.

Hazardous Decomposition Products Thermal decomposition can lead to release of irritating gases and vapours. Carbon dioxide (CO₂). Carbon monoxide.

Possibility of Hazardous Reactions None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Titanium dioxide	10000 mg/kg (Rat)		
Naphtha (petroleum), heavy aromatic	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	590 mg/m ³ (Rat) 4 h
Diacetone alcohol	4 g/kg (Rat)	13500 mg/kg (Rabbit)	
Cyclohexanone	800 mg/kg (Rat)	948 mg/kg (Rabbit)	10.7 mg/L (Rat) 4 h 8000 ppm (Rat) 4 h
Gamma Butyrolactone	1540 mg/kg (Rat)		2.68 mg/L (Rat) 4 h
Naphthalene (contaminant)	490 mg/kg (Rat)	2500 mg/kg (Rat) 20 g/kg (Rabbit)	340 mg/m ³ (Rat) 1 h
Silicon Dioxide	5000 mg/kg (Rat)	2000 mg/kg (Rabbit)	2.2 mg/L (Rat) 1 h
Aluminum hydroxide	5000 mg/kg (Rat)		
1,2,4-Trimethylbenzene (contaminant)	3400 mg/kg (Rat) 8970 mg/kg (Rat)	3160 mg/kg (Rabbit)	18 g/m ³ (Rat) 4 h

Chronic Toxicity

Component	ACGIH	IARC	NTP	OSHA
Titanium dioxide		Group 2B		X
Cyclohexanone	A3			
Naphthalene (contaminant)		Group 2B	Reasonably Anticipated	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 2B - Possibly Carcinogenic to Humans

Reasonably Anticipated to be a Human 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. Blood, Central Vascular System, Central nervous system, Eyes, Lungs, Liver, Kidney, Respiratory system, Skin.

Target Organ Effects

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
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

Component	Freshwater Algae	Freshwater Fish	Water Flea
Talc		96 Hr LC50 Brachydanio rerio: >100 g/L [semi-static]	
Diacetone alcohol		96 Hr LC50 Lepomis macrochirus: 420 mg/L	48 Hr EC50 water flea: 8750 mg/L
Cyclohexanone	96 Hr EC50 Chlorella vulgaris: 20 mg/L	96 Hr LC50 Pimephales promelas: 8.9 mg/L	48 Hr EC50 water flea: 820 mg/L; 48 Hr EC50 Daphnia magna: 800 mg/L
Gamma Butyrolactone	72 Hr EC50 Scenedesmus subspicatus: 360 mg/L; 96 Hr EC50 Scenedesmus subspicatus: 79 mg/L	96 Hr LC50 Leuciscus idus: 220-460 mg/L [static]	48 Hr EC50 Daphnia magna Straus: >500 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
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
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

Persistence and Degradability No information available
Bioaccumulation No information available
Mobility in Environmental Media No information available

Component	log Pow
Naphtha (petroleum), heavy aromatic	2.9 - 6.1
Diacetone alcohol	1.03
Cyclohexanone	0.86
Gamma Butyrolactone	-0.566

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

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
Naphthalene (contaminant)	91-20-3	1 - 5	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 %
Naphthalene (contaminant)	91-20-3	1 - 5

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 %
Naphthalene (contaminant)	91-20-3	1 - 5

State Right-to-Know

Component	Minnesota	Florida	New Jersey	Pennsylvania	Massachusetts	Rhode Island
Titanium dioxide	Not Listed	Not Listed	X	X	X	X
Naphtha (petroleum), heavy aromatic	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Talc	Not Listed	Not Listed	X	X	X	X
Diacetone alcohol	Not Listed	Not Listed	X	X	X	X
Cyclohexanone	Not Listed	Not Listed	X	X	X	X
Gamma Butyrolactone	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Naphthalene (contaminant)	Not Listed	Not Listed	X	X	X	X
Silicon Dioxide	Not Listed	Not Listed	Not Listed	X	X	Not Listed
Aluminum hydroxide	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

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
Talc	D2A
Diacetone alcohol	B3, D2B
Cyclohexanone	B3, D1B, D2B
Naphthalene (contaminant)	B4, D2A
Silicon Dioxide	Uncontrolled product according to WHMIS classification criteria
Aluminum hydroxide	Uncontrolled product according to WHMIS classification criteria
1,2,4-Trimethylbenzene (contaminant)	B3

Component	NPRI - National Pollutant Release Inventory
Naphtha (petroleum), heavy aromatic	Part 5 Substance Part 4 Substance
Diacetone alcohol	Part 4 Substance
Cyclohexanone	Part 4 Substance
Gamma Butyrolactone	Part 4 Substance
Naphthalene (contaminant)	Part 1, Group 1 Substance Part 4 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

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-30-2009

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