



## 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** S258  
**Product name** Tinting White  
**Product description** System 2 (S2) Series Gloss 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](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** Harmful. Irritant. May cause drowsiness and dizziness.  
**Eyes** Severe eye irritant. The liquid splashed in the eyes may cause irritation and reversible damage.  
**Skin** Harmful in contact with skin. May be absorbed through the skin in harmful amounts. Causes skin irritation. Prolonged skin contact may defat the skin and produce dermatitis.  
**Inhalation** Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component                               | CAS-No     | Weight % |
|---|------------|----------|
| Titanium dioxide                        | 13463-67-7 | 10 - 30  |
| Ethylene glycol monopropyl ether        | 2807-30-9  | 10 - 30  |
| Cyclohexanone                           | 108-94-1   | 10 - 30  |
| Diethylene Glycol Ethyl Ether Acetate   | 112-15-2   | 1 - 5    |
| Ethylene glycol monobutyl ether acetate | 112-07-2   | 1 - 5    |
| Aluminum hydroxide                      | 21645-51-2 | 1 - 5    |
| Ethyl alcohol                           | 64-17-5    | < 0.5    |

### 4. FIRST AID MEASURES

**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.

**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.

**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<sub>2</sub>). 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** Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. 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                               | Weight % | ACGIH TLV                     | OSHA PEL   | Ontario TWAEV                               |
|---|----------|-------------------------------|--|---|
| Titanium dioxide                        | 10 - 30  | TWA: 10 mg/m <sup>3</sup>     | TWA: 10 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup>                                | TWA: 10 mg/m <sup>3</sup>                   |
| Ethylene glycol monopropyl ether        | 10 - 30  |                               |  | TWA: 25 ppm TWA: 110 mg/m <sup>3</sup> Skin |
| Cyclohexanone                           | 10 - 30  | TWA: 20 ppm Skin STEL: 50 ppm | TWA: 25 ppm TWA: 100 mg/m <sup>3</sup> Skin TWA: 50 ppm TWA: 200 mg/m <sup>3</sup> | TWA: 20 ppm STEL: 50 ppm Skin               |
| Ethylene glycol monobutyl ether acetate | 1 - 5    | TWA: 20 ppm                   |  | TWA: 20 ppm                                 |
| Aluminum hydroxide                      | 1 - 5    | TWA: 1 mg/m <sup>3</sup>      |  |   |

| Component     | Weight % | ACGIH TLV     | OSHA PEL                                  | Ontario TWAEV                             |
|---------------|----------|---------------|---|---|
| Ethyl alcohol | < 0.5    | TWA: 1000 ppm | TWA: 1900 mg/m <sup>3</sup> TWA: 1000 ppm | TWA: 1900 mg/m <sup>3</sup> TWA: 1000 ppm |

| Component        | Weight % | NIOSH IDLH             | Mexico OEL (TWA)   |
|------------------|----------|------------------------|--|
| Titanium dioxide | 10 - 30  | 5000 mg/m <sup>3</sup> | TWA: 10 mg/m <sup>3</sup> STEL: 20 mg/m <sup>3</sup>                             |
| Cyclohexanone    | 10 - 30  | 700 ppm                | TWA: 50 ppm TWA: 200 mg/m <sup>3</sup> STEL: 400 mg/m <sup>3</sup> STEL: 100 ppm |
| Ethyl alcohol    | < 0.5    | 3300 ppm 10% LEL       | TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>  |

NIOSH IDLH: Immediately Dangerous to Life or Health

#### 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>                          | Heavier than air                 |
| <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>                                  | Pensky Martens Closed Cup (PMCC) |
| <b>Upper</b>                       | No information available | <b>Photochemically Reactive</b>                | No                               |
| <b>Lower</b>                       | No information available |  |                                  |
| <b>Weight Per Gallon (lbs/gal)</b> | 10.705                   | <b>Specific Gravity</b>                        | 1.28                             |
| <b>VOC by weight</b>               | 46.515                   | <b>VOC by volume</b>                           | 58.923                           |
| <b>VOC lbs/gal</b>                 | 4.984                    | <b>VOC grams/liter</b>                         | 597.269                          |

## 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 (CO<sub>2</sub>). 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 ) |                        |  |
| Ethylene glycol monopropyl ether        | 3089 mg/kg ( Rat )  | 960 µL/kg ( Rabbit )   |  |
| Cyclohexanone                           | 800 mg/kg ( Rat )   | 948 mg/kg ( Rabbit )   | 10.7 mg/L ( Rat ) 4 h 8000 ppm ( Rat ) 4 h |
| Diethylene Glycol Ethyl Ether Acetate   | 11 g/kg ( Rat )     | 15100 µL/kg ( Rabbit ) |  |
| Ethylene glycol monobutyl ether acetate | 1600 mg/kg ( Rat )  | 1480 mg/kg ( Rabbit )  |  |
| Aluminum hydroxide                      | 5000 mg/kg ( Rat )  |                        |  |
| Ethyl alcohol                           | 7060 mg/kg ( Rat )  |                        |  |

### Chronic Toxicity

| Component                               | ACGIH | IARC     | NTP | OSHA |
|---|-------|----------|-----|------|
| Titanium dioxide                        |       | Group 2B |     | X    |
| Cyclohexanone                           | A3    |          |     |      |
| Ethylene glycol monobutyl ether acetate | A3    |          |     |      |
| Ethyl alcohol                           |       | Group 1  |     | X    |

Legend:

ACGIH: (American Conference of Governmental Industrial Hygienists)

IARC: (International Agency for Research on Cancer)

OSHA: (Occupational Safety & Health Administration)

A3 - Animal Carcinogen  
Group 1 - Carcinogenic to Humans  
Group 2B - Possibly Carcinogenic to Humans  
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 nervous system, Eyes, Hematopoietic System, Kidney, Liver, Lungs, Respiratory system, Skin.

**Target Organ Effects**

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

We have no quantitative data concerning the ecological effects of this product. Environmental fate information is derived from consideration of the properties of the ingredients. Should not be released into the environment.

| Component                               | Freshwater Algae                                      | Freshwater Fish                                  | Water Flea  |
|---|---|--|---|
| Cyclohexanone                           | 96 Hr EC50 <i>Chlorella vulgaris</i> : 20 mg/L        | 96 Hr LC50 <i>Pimephales promelas</i> : 8.9 mg/L | 48 Hr EC50 water flea: 820 mg/L; 48 Hr EC50 <i>Daphnia magna</i> : 800 mg/L |
| Ethylene glycol monobutyl ether acetate | 72 Hr EC50 <i>Scenedesmus subspicatus</i> : >500 mg/L |  | 48 Hr EC50 water flea: 37 mg/L  |

| Component     | Freshwater Algae | Freshwater Fish  | Water Flea  |
|---------------|------------------|--|---|
| 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 |

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

| Component                               | log Pow |
|---|---------|
| Cyclohexanone                           | 0.86    |
| Ethylene glycol monobutyl ether acetate | 1.51    |
| Ethyl alcohol                           | -0.32   |

### 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 |
|---|-----------|----------|-----------------------------|
| Diethylene Glycol Ethyl Ether Acetate   | 112-15-2  | 1 - 5    | 1.0                         |
| Ethylene glycol monopropyl ether        | 2807-30-9 | 10 - 30  | 1.0                         |
| Ethylene glycol monobutyl ether acetate | 112-07-2  | 1 - 5    | 1.0                         |

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

This product contains the following HAPs:

| Component                               | CAS-No    | Weight % |
|---|-----------|----------|
| Diethylene Glycol Ethyl Ether Acetate   | 112-15-2  | 1 - 5    |
| Ethylene glycol monopropyl ether        | 2807-30-9 | 10 - 30  |
| Ethylene glycol monobutyl ether acetate | 112-07-2  | 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 % |
|----------------------------|------------|----------|
| Toluene                    | 108-88-3   | < 0.01   |
| Vinyl chloride             | 75-01-4    | < 0.0001 |
| Quartz, crystalline silica | 14808-60-7 | < 0.001  |
| Ethyl alcohol              | 64-17-5    | < 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            |
| Ethylene glycol monopropyl ether        | Not Listed | Not Listed | X          | X            | Not Listed    | Not Listed   |
| Cyclohexanone                           | Not Listed | Not Listed | X          | X            | X             | X            |
| Diethylene Glycol Ethyl Ether Acetate   | Not Listed | Not Listed | X          | X            | Not Listed    | Not Listed   |
| Ethylene glycol monobutyl ether acetate | Not Listed | Not Listed | X          | X            | Not Listed    | Not Listed   |
| Aluminum hydroxide                      | Not Listed | Not Listed | Not Listed | Not Listed   | Not Listed    | Not Listed   |
| Ethyl alcohol                           | 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   |
| Ethylene glycol monopropyl ether        | B3, D1B, D2B  |
| Cyclohexanone                           | B3, D1B, D2B  |
| Diethylene Glycol Ethyl Ether Acetate   | Uncontrolled product according to WHMIS classification criteria |
| Ethylene glycol monobutyl ether acetate | B3  |
| Aluminum hydroxide                      | Uncontrolled product according to WHMIS classification criteria |

| Component                               | NPRI - National Pollutant Release Inventory |
|---|---|
| Ethylene glycol monopropyl ether        | Part 4 Substance                            |
| Cyclohexanone                           | Part 4 Substance                            |
| Diethylene Glycol Ethyl Ether Acetate   | Part 4 Substance Part 5 Substance           |
| Ethylene glycol monobutyl ether acetate | Part 4 Substance Part 5 Substance           |
| Ethyl alcohol                           | Part 5 Substance 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**                      **Flammability**                      **Instability**                      **PPE**  
    2\*                                      2                                      0                                      X

**16. OTHER INFORMATION**

**Revision Date**                      Feb-20-2009  
**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**