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1

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**

**Product identifier**

Product code **3468**  
Product name **Process Blue**  
Product category **3400 Series UV Nameplate Screen Ink**

**Other means of identification**

Synonyms None

**Recommended use of the chemical and restrictions on use**

Recommended use Printing operations

**Details of the supplier of the safety data sheet**

|                                                    |                            |
|----------------------------------------------------|----------------------------|
| UNITED STATES                                      | UNITED KINGDOM             |
| Nazdar Company                                     | Nazdar Limited             |
| 8501 Hedge Lane Terrace                            | Barton Road                |
| Shawnee, KS 66227                                  | Heaton Mersey              |
| Tel: 1-913-422-1888                                | Stockport, England SK4 3EG |
| Tel: 1-800-677-4657                                | Tel: +44 161 442 2111      |
| Fax: 1-913-422-2294                                |                            |
| <a href="http://www.nazdar.com">www.nazdar.com</a> |                            |

**Emergency telephone number**

USA: Chemtrec: 1-800-424-9300  
Outside USA: Chemtrec: 1-703-527-3887  
24 Hour Emergency Phone Number

**2. HAZARDS IDENTIFICATION**

**Classification**

|                                                    |                      |
|----------------------------------------------------|----------------------|
| Serious eye damage/eye irritation                  | Category 2 - (H319)  |
| Skin sensitization                                 | Category 1B - (H317) |
| Specific target organ toxicity (repeated exposure) | Category 1 - (H372)  |
| Chronic aquatic toxicity                           | Category 3 - (H412)  |

**Label elements**



**Signal Word**  
Danger

**Hazard Statements**

H317 - May cause an allergic skin reaction  
H319 - Causes serious eye irritation  
H372 - Causes damage to organs through prolonged or repeated exposure  
H412 - Harmful to aquatic life with long lasting effects

EUH208 - May produce an allergic reaction

P280 - Wear eye protection/ face protection

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P273 - Avoid release to the environment

**Hazards not otherwise classified (HNOC)**

May be harmful if swallowed. May be harmful in contact with skin. Harmful to aquatic life.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixture**

| Component                      | CAS-No       | Weight % | Trade Secret | Note |
|--------------------------------|--------------|----------|--------------|------|
| Vinyl Functional Monomer       | Trade Secret | 10 - 30  | *            |      |
| Glycol Ether Acrylate          | Trade Secret | 10 - 30  | *            |      |
| Acrylated Oligomer             | Trade Secret | 10 - 30  | *            |      |
| Glycol Ether Acrylate          | Trade Secret | 5 - 10   | *            |      |
| Glycol Ether Acrylate          | Trade Secret | 5 - 10   | *            |      |
| Acrylated Monomer              | Trade Secret | 5 - 10   | *            |      |
| Acrylated Monomer              | Trade Secret | 1 - 5    | *            |      |
| Titanium dioxide               | 13463-67-7   | 1 - 5    | *            |      |
| Photoinitiator                 | Trade Secret | 1 - 5    | *            |      |
| Copper Phthalocyanine Compound | Trade Secret | 1 - 5    | *            |      |

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**Description of first aid measures**

**General Advice**

Show this safety data sheet to the doctor in attendance.

**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 if irritation develops and persists.

**Skin Contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation (redness, rash, blistering) develops, get medical attention.

**Inhalation**

Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

**Ingestion**

DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

**Most important symptoms and effects, both acute and delayed**

None under normal use conditions.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**

Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**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.

**Unsuitable Extinguishing Media**

No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions. Hazardous polymerization may take place during a fire due to heat. Closed containers could violently rupture.

#### **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. Cool containers / tanks with water spray. Sealed containers may rupture when heated.

## **6. ACCIDENTAL RELEASE MEASURES**

### **Personal precautions, protective equipment and emergency procedures**

#### **Personal Precautions**

Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

#### **Environmental precautions**

Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways. Local authorities should be advised if significant spillages cannot be contained.

#### **Methods and material for containment and cleaning up**

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

#### **Handling**

Use personal protective equipment as required. Do not eat, drink or smoke when using this product. Ensure adequate ventilation.

### **Conditions for safe storage, including any incompatibilities**

#### **Storage**

Keep at temperatures between 18°-32°C (65°-90°F). 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. Protect from direct sunlight. Keep away from open flames, hot surfaces and sources of ignition.

#### **Incompatible Products**

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

#### **Exposure limits**

| <b>Component</b>               | <b>ACGIH TLV</b>          |
|--------------------------------|---------------------------|
| Titanium dioxide<br>13463-67-7 | TWA: 10 mg/m <sup>3</sup> |

| <b>Component</b>               | <b>OSHA PEL</b>                                                                  |
|--------------------------------|----------------------------------------------------------------------------------|
| Titanium dioxide<br>13463-67-7 | TWA: 10 mg/m <sup>3</sup> (total dust)<br>TWA: 15 mg/m <sup>3</sup> (total dust) |

| <b>Component</b>               | <b>Ontario TWAEV</b>                   |
|--------------------------------|----------------------------------------|
| Titanium dioxide<br>13463-67-7 | TWA: 10 mg/m <sup>3</sup> (total dust) |

| <b>Component</b>               | <b>Mexico OEL (TWA)</b>                                                                  |
|--------------------------------|------------------------------------------------------------------------------------------|
| Titanium dioxide<br>13463-67-7 | TWA/LMPE-PPT: 10 mg/m <sup>3</sup> (as Ti)<br>STEL/LMPE-CT: 20 mg/m <sup>3</sup> (as Ti) |

**Appropriate engineering controls**

**Engineering Measures** Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

**Individual protection measures, such as personal protective equipment**

**Eye/face Protection** Wear safety glasses with side shields (or goggles). If splashes are likely to occur. Wear suitable face shield. Ensure that eyewash stations and safety showers are close to the workstation location.

**Skin Protection** Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

**Respiratory Protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

|                       |                    |                       |                          |
|-----------------------|--------------------|-----------------------|--------------------------|
| <b>Physical State</b> | Liquid             | <b>Appearance</b>     | Colored Liquid           |
| <b>Odor</b>           | Mild Sweet Acrylic | <b>Odor Threshold</b> | No information available |

| <u>Property</u>                        | <u>Values</u>      | <u>Remarks • Method</u>          |
|----------------------------------------|--------------------|----------------------------------|
| pH                                     |                    | No data available                |
| Melting point/freezing point           |                    | No data available                |
| Boiling point/Boiling Range            | > 149 °C / 300 °F  |                                  |
| Flash Point                            | > 94 °C / > 201 °F | Pensky Martens Closed Cup (PMCC) |
| Evaporation rate                       |                    | No data available                |
| Flammability Limit in Air              |                    |                                  |
| Upper flammability limit               |                    | No data available                |
| Lower flammability limit               |                    | No data available                |
| Vapor Pressure                         |                    | No data available                |
| Vapor Density                          |                    | No data available                |
| Specific Gravity                       | 1.14               |                                  |
| Water Solubility                       |                    | No data available                |
| Solubility in other solvents           |                    | No data available                |
| Partition coefficient: n-octanol/water |                    | No data available                |
| Autoignition Temperature               |                    | No data available                |
| Decomposition temperature              |                    | No data available                |
| Kinematic viscosity                    |                    | No data available                |
| Dynamic viscosity                      |                    | No data available                |

**Explosive Properties** No data available

**Oxidizing Properties** No data available

**Other Information**

|                             |      |
|-----------------------------|------|
| Photochemically Reactive    | No   |
| Weight Per Gallon (lbs/gal) | 9.46 |

| VOC by weight %<br>(less water) | VOC by volume %<br>(less water) | VOC lbs/gal<br>(less water) | VOC grams/liter<br>(less water) |
|---------------------------------|---------------------------------|-----------------------------|---------------------------------|
| 0-1                             | 0-1                             | 0-1                         | 0-1                             |

## 10. STABILITY AND REACTIVITY

### Reactivity

No information available.

### Chemical stability

Stable under normal conditions.

### Possibility of Hazardous Reactions

None under normal processing. Do not store for longer periods at temperatures above 93°C (200°F).

### Conditions to avoid

Temperatures above 93 °C / 200 °F. Protect from direct sunlight. Keep away from open flames, hot surfaces and sources of ignition.

### Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. Reducing agent.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon dioxide (CO<sub>2</sub>). Carbon monoxide.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

|                     |                                    |
|---------------------|------------------------------------|
| <b>Inhalation</b>   | There is no data for this product. |
| <b>Eye Contact</b>  | There is no data for this product. |
| <b>Skin Contact</b> | There is no data for this product. |
| <b>Ingestion</b>    | There is no data for this product. |

| Component                      | Oral LD50            |
|--------------------------------|----------------------|
| Glycol Ether Acrylate          | 4660 µL/kg ( Rat )   |
| Acrylated Monomer              | 4890 mg/kg ( Rat )   |
| Titanium dioxide<br>13463-67-7 | >10000 mg/kg ( Rat ) |

| Component             | LD50 Dermal           |
|-----------------------|-----------------------|
| Glycol Ether Acrylate | 2540 µL/kg ( Rabbit ) |
| Acrylated Monomer     | >5 g/kg ( Rabbit )    |

### Information on toxicological effects

**Symptoms** There is no data for this product.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                                  |                                                                                          |
|----------------------------------|------------------------------------------------------------------------------------------|
| <b>Skin corrosion/irritation</b> | There is no data for this product.                                                       |
| <b>Eye damage/irritation</b>     | There is no data for this product.                                                       |
| <b>Irritation</b>                | There is no data for this product.                                                       |
| <b>Corrosivity</b>               | There is no data for this product.                                                       |
| <b>Sensitisation</b>             | There is no data for this product.                                                       |
| <b>Mutagenic Effects</b>         | There is no data for this product.                                                       |
| <b>Reproductive Effects</b>      | There is no data for this product.                                                       |
| <b>STOT - single exposure</b>    | There is no data for this product.                                                       |
| <b>STOT - repeated exposure</b>  | There is no data for this product.                                                       |
| <b>Chronic Toxicity</b>          | There is no data for this product                                                        |
| <b>Aspiration hazard</b>         | There is no data for this product.                                                       |
| <b>Carcinogenicity</b>           | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component                      | IARC     |
|--------------------------------|----------|
| Titanium dioxide<br>13463-67-7 | Group 2B |

| Component                      | OSHA |
|--------------------------------|------|
| Titanium dioxide<br>13463-67-7 | X    |

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

|                 |                     |
|-----------------|---------------------|
| ATEmix (oral)   | 2,449.00 mg/kg      |
| ATEmix (dermal) | 5,177.00 mg/kg mg/l |

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

None known

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Component                      | Fish                                         |
|--------------------------------|----------------------------------------------|
| Copper Phthalocyanine Compound | 48h LC50 Oryzias latipes: >100 mg/L [static] |

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available.

| Component                      | Partition coefficient |
|--------------------------------|-----------------------|
| Copper Phthalocyanine Compound | 6.6                   |

**Other adverse effects**

No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods****Waste Disposal Methods**

Contain and dispose of waste according to local regulations.

**Contaminated Packaging**

Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. TRANSPORT INFORMATION

**DOT**

Proper Shipping Name

Not regulated

Printing Ink

**ICAO / IATA / IMDG / IMO**

Proper Shipping Name

Not Regulated

Printing Ink

## 15. REGULATORY INFORMATION

### International Inventories

All components are listed on the TSCA Inventory. For further information, please contact: Supplier (manufacturer/importer/downstream user/distributor).

### 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 |
|-----------------------|--------------|----------|-----------------------------|
| Glycol Ether Acrylate | Trade Secret | 10 - 30  | 1.0                         |
| Glycol Ether Acrylate | Trade Secret | 5 - 10   | 1.0                         |
| Glycol Ether Acrylate | Trade Secret | 5 - 10   | 1.0                         |

*The above glycol ether acrylate is considered a reactive chemical in ultraviolet curable inks. Once initiated by a high dose of ultraviolet light, this glycol ether acrylate rapidly polymerizes (i.e. hardens) and becomes part of the ink film. The polymerization process of UV curable inks is measured in milliseconds.*

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

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act:

| Component             | CAS-No       | Weight % |
|-----------------------|--------------|----------|
| Glycol Ether Acrylate | Trade Secret | 10 - 30  |
| Glycol Ether Acrylate | Trade Secret | 5 - 10   |
| Glycol Ether Acrylate | Trade Secret | 5 - 10   |

### U.S. State Regulations

| Component                      | Massachusetts Right To Know |
|--------------------------------|-----------------------------|
| Titanium dioxide<br>13463-67-7 | X                           |

| Component                      | Minnesota Right To Know |
|--------------------------------|-------------------------|
| Titanium dioxide<br>13463-67-7 | X                       |

| Component                      | New Jersey Right To Know |
|--------------------------------|--------------------------|
| Glycol Ether Acrylate          | X                        |
| Glycol Ether Acrylate          | X                        |
| Titanium dioxide<br>13463-67-7 | X                        |
| Copper Phthalocyanine Compound | X                        |

| Component                      | Pennsylvania Right To Know |
|--------------------------------|----------------------------|
| Glycol Ether Acrylate          | X                          |
| Glycol Ether Acrylate          | X                          |
| Titanium dioxide<br>13463-67-7 | X                          |
| Copper Phthalocyanine Compound | X                          |

#### **California Prop. 65**

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm

|                  |                            |
|------------------|----------------------------|
| <b>Component</b> | <b>California Prop. 65</b> |
| Titanium dioxide | Carcinogen                 |

*This product contains titanium dioxide in a non-respirable form. Inhalation of titanium dioxide is unlikely to occur from exposure to this product*

**Canada**

No information available

|                                |                                                                                                                                          |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Component</b>               | <b>NPRI - National Pollutant Release Inventory</b>                                                                                       |
| Copper Phthalocyanine Compound | Part 1, Group A Substance total of the pure element and the equivalent weight of the element contained in any compound, alloy or mixture |

**16. OTHER INFORMATION**

|              |               |                     |                   |                            |
|--------------|---------------|---------------------|-------------------|----------------------------|
| <b>HMIS:</b> | <b>Health</b> | <b>Flammability</b> | <b>Reactivity</b> | <b>Personal Protection</b> |
|              | 2             | 1                   | 1                 | X                          |

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average)  
 STEL STEL (Short Term Exposure Limit)  
 Ceiling Maximum limit value

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

A1 - Known Human Carcinogen  
 A2 - Suspected Human Carcinogen  
 A3 - Animal Carcinogen

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

Group 1 - Carcinogenic to Humans  
 Group 2A - Probably Carcinogenic to Humans  
 Group 2B - Possibly Carcinogenic to Humans

**NTP: (National Toxicity Program)**

Known - Known Carcinogen  
 Reasonably Anticipated to be a Human Carcinogen

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

X - Present

**Revision Date** May-30-2015

**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**