SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Disperbyk-111
Product Use Description : Wetting & Dispersing Additive

Company : BYK USA Inc.
524 South Cherry Street
Wallingford CT 06492

Prepared by : J.Nole, Safety; M.McCutcheon, Regulatory
Telephone : (203) 265-2086
Visit our web site : www.byk.com
E-mail address : ehs.byk.usa@altana.com
Emergency telephone number : CHEMTREC 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Form : liquid
Colour : light yellow
Odour : none

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR1910.1200)

Potential Health Effects

Eyes : Contact will probably cause irritation.
Skin : Contact may cause irritation.
Ingestion : Ingestion may irritate the digestive tract.
Inhalation : None expected.
Chronic Exposure : No known chronic health effects.

Aggravated Medical Condition

Primary Routes of Entry : Skin contact
Skin absorption
Inhalation
Eyes
Ingestion

Carcinogenicity:
No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**Environmental Effects**

Environmental Effects : No information available.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature**

Copolymer with acidic groups

**Hazardous components**

HMIRC# 5785 Exemption Granted 20.01.2011
The specific chemical identity/weight percent of proprietary ingredient(s) is a trade secret

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid polyester</td>
<td>-</td>
<td>60.00 - 100.00</td>
</tr>
<tr>
<td>Phosphoric acid (residual)</td>
<td>7664-38-2</td>
<td>1.00 - 5.00</td>
</tr>
</tbody>
</table>

### SECTION 4. FIRST AID MEASURES

**First aid procedures**

- **Inhalation** : Remove to fresh air. Administer artificial respiration if necessary. Get medical aid as soon as possible.
- **Skin contact** : Remove contaminated clothing. Wash thoroughly with soap and water.
- **Eye contact** : Immediately flush with plenty of water for at least 20 minutes. Get medical aid.
- **Ingestion** : Do not induce vomiting. Dilute with 1-2 glasses of water. Get medical aid. Never give anything by mouth to an unconscious person.
Notes to physician
Risks : No information available.

SECTION 5. FIREFIGHTING MEASURES

Flammable properties
Flash point : > 100 °C (> 212.00 °F)
   Method: 49 (Pensky-Martens)
Ignition temperature : > 200 °C (> 392 °F)
   Method: calculated
Suitable extinguishing media : Foam
   Carbon dioxide (CO2)
   Dry chemical
Unsuitable extinguishing media : No information available.
Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Specific hazards during firefighting : Cool closed containers exposed to fire with water spray.
   Will not explode on mechanical impact.
Hazardous decomposition products due to incomplete combustion. : Carbon oxides
   Oxides of phosphorus
   Sulphur oxides
Further information : Keep away from heat and sources of ignition.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Wear protective equipment: goggles, chemically resistant clothing and gloves, and appropriate respirator if in a confined area.
Environmental precautions : Prevent spilled material from entering the ground, water and/or air by using appropriate containment methods.
Methods for containment : Stop leak. Dike and contain spill.
Methods for cleaning up : Pump into salvage tanks and/or absorb with suitable material.
   Use sparkless shovels to remove material.
Additional advice : No further information is available.
SECTION 7. HANDLING AND STORAGE

Handling
Handling : Avoid contact with skin and eyes. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Handle as an industrial chemical. Keep container tightly closed. Keep away from oxidizing agents.

Storage
Advice on common storage : Keep in a dry, cool and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric acid (residual)</td>
<td>7664-38-2</td>
<td>TWA</td>
<td>1 mg/m3</td>
<td>2007-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>3 ppm</td>
<td>2007-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 mg/m3</td>
<td>1997-08-04</td>
<td>OSHA P1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 mg/m3</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>3 mg/m3</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1 mg/m3</td>
<td>2005-09-01</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ST</td>
<td>3 mg/m3</td>
<td>2005-09-01</td>
<td>NIOSH REL</td>
</tr>
</tbody>
</table>

Engineering measures
Engineering measures : Use with local exhaust ventilation.

Personal protective equipment
**Eye protection** : Safety Glasses, Goggles

**Hand protection** : Neoprene gloves

**Skin and body protection** : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Respiratory protection** : Not necessary.

**Hygiene measures** : Clean long legged, long sleeved work clothes. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>light yellow</td>
</tr>
<tr>
<td>Odour</td>
<td>none</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>no data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 100 °C (&gt; 212.00 °F)</td>
</tr>
<tr>
<td></td>
<td>Method: 49 (Pensky-Martens)</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>&gt; 200 °C (&gt; 392 °F)</td>
</tr>
<tr>
<td></td>
<td>Method: calculated</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>no data available</td>
</tr>
<tr>
<td>pH</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>9 °C (48.20 °F)</td>
</tr>
<tr>
<td>Initial boiling point</td>
<td>135 °C (275.00 °F)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 1.0000000 hPa</td>
</tr>
<tr>
<td></td>
<td>at 20 °C (68.00 °F)</td>
</tr>
<tr>
<td></td>
<td>Method: calculated</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Density</td>
<td>1.1600 g/cm³</td>
</tr>
<tr>
<td></td>
<td>at 20 °C (68.00 °F)</td>
</tr>
<tr>
<td></td>
<td>Method: DIN EN ISO 2811-3</td>
</tr>
<tr>
<td>Bulk density</td>
<td>not applicable</td>
</tr>
<tr>
<td>Water solubility</td>
<td>immiscible</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>no data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>at 20 °C (68.00 °F)</td>
</tr>
<tr>
<td></td>
<td>no data available</td>
</tr>
</tbody>
</table>
## SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Conditions to avoid</th>
<th>None known.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials to avoid</td>
<td>Strong oxidizing agents</td>
</tr>
<tr>
<td></td>
<td>Metals</td>
</tr>
<tr>
<td></td>
<td>Gives off hydrogen by reaction with metals.</td>
</tr>
<tr>
<td>Hazardous decomposition products</td>
<td>None expected</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable; polymerization will not occur</td>
</tr>
</tbody>
</table>

## SECTION 11. TOXICOLOGICAL INFORMATION

### Acute oral toxicity (Product)
- LD50 rat
  - Dose: > 5,000,000,000 mg/kg
  - Method: OECD Test Guideline 401

### Acute oral toxicity (Component)
- Component: 7664-38-2 Phosphoric acid (residual)
  - LD50 rat
  - Dose: 1,530 mg/kg

### Acute dermal toxicity (Component)
- Component: 7664-38-2 Phosphoric acid (residual)
  - LD50
  - no data available

### Acute inhalation toxicity (Component)
- Component: 7664-38-2 Phosphoric acid (residual)
  - LC50
  - no data available

### Skin irritation (Product)
- rabbit
  - Classification: No skin irritation
  - Result: No skin irritation
  - Method: OECD Test Guideline 404

### Skin irritation (Component)
- Component: 7664-38-2 Phosphoric acid (residual)
  - rabbit
  - Result: Corrosive to skin

### Eye irritation (Product)
- rabbit
  - Result: Moderate eye irritation
**Material Safety Data Sheet**

**Disperbyk-111**

Version 3  
Revision Date 11/29/2012  
Print Date 11/29/2012

| Eye irritation (Component) | Component: 7664-38-2 Phosphoric acid (residual) rabbit  
Result: Corrosive to eyes |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitisation (Product)</td>
<td>no data available</td>
</tr>
</tbody>
</table>

**SECTION 12. ECOLOGICAL INFORMATION**

| Toxicity to fish (Product) | LC50  
Species: Leuciscus idus (Golden orfe)  
Dose: 770.00 mg/l  
Exposure time: 48.0 h  
active ingredient |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional ecological information (Product)</td>
<td>There is no data available for this product.</td>
</tr>
</tbody>
</table>

**SECTION 13. DISPOSAL CONSIDERATIONS**

Further information: Dispose of in accordance with applicable local/municipal, state/provincial and federal regulations.

**SECTION 14. TRANSPORT INFORMATION**

- Container sizes: 55 gallon drums, 5 or 6-gallon pails, 2oz/16oz samples
- **DOT** Not dangerous goods
- **IATA** Not dangerous goods
- **IMDG_US** Not dangerous goods

**SECTION 15. REGULATORY INFORMATION**

- **HMIS Classification**  
  Health hazard: 2  
  Flammability: 1  
  Reactivity: 0  
  PPI:B
- **National Fire Protection Association (NFPA) Class**  
  IIIB
Emergency Planning Community Right-To-Know (EPCRA)

SARA 302 Components: Not applicable

If listed below, this product contains toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

SARA 313 Components: Not applicable

SARA 311/312 Hazards: Acute Health Hazard

Toxic Substances Control Act (TSCA)

TSCA Status: We certify that all of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements per 40 CFR 720 30(h).

Section 4 / 12(b): Not applicable

Clean Air Act & Related Information

Non-volatile (Wt): 95%
Method: 22 (10min/150°C)
DIN EN ISO 3251

Ozone Depleting Substances: Not applicable.

Non-volatile information is not a specification.

Hazardous Air Pollutants

If not listed above, this product does not contain HAPs at 1% or 0.1% or greater. Refer to Section 3 for HAP weight percentage.

Resource Conservation and Recovery Act

EPA Hazardous Waste Code(s): Not applicable.

State Laws

Massachusetts Right To Know Components: Phosphoric acid (residual) 7664-38-2
## Pennsylvania Right To Know Components
- Phosphoric acid polyester
- Phosphoric acid (residual) 7664-38-2

## New Jersey Right To Know Components
- Phosphoric acid polyester
- Phosphoric acid (residual) 7664-38-2

## New Jersey Trade Secret Registry Number for the product (NJ TSRN)
- 800963-5102

## California Prop. 65 Components
- Not applicable.

CONEG Heavy Metal: We certify that this product does not contain Lead, Mercury, Cadmium or hexavalent chromium in the sum concentration of 100 ppm by weight or greater.

### Canadian Environmental Protection Act

#### Domestic Substances List DSL Status
- We certify that all of the components of this product are listed on the DSL.

#### WHMIS Classification
- D2B

### SECTION 16. OTHER INFORMATION

**Further information**

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.