SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : BYK-R 605
Product Use Description : Rheology 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 brown
Odour : not significant

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 will probably cause irritation.

Ingestion : May irritate the digestive tract and cause same symptoms as inhalation; high dosages may result in unconsciousness.

Inhalation : High concentrations of vapors may be irritating to the respiratory tract. May cause headaches, dizziness, nausea and vomiting. May cause CNS depression (drowsiness, loss of coordination and fatigue).

Chronic Exposure : Absorption of ingredients (solvents) by inhalation and/or repeated skin contact has caused injury to liver, kidney, brain, respiratory system, blood, and/or bone marrow in laboratory animals
Animal studies have shown some components to cause fetotoxic effects at dosage levels at or near maternally toxic levels.
Excessive inhalation of Xylene has caused hearing loss in laboratory animals. Hexane used in conjunction w/Xylene
greatly increased this effect. Chronic skin contact w/Xylene has caused dermatitis. Ingestion of Ethanol can increase effects of overexposure to Xylene.
Isobutanol has shown positive results in an in vitro test for potential mutagenicity.
Ethylbenzene is an IARC Group 2B carcinogen based on animal studies (increased tumors in rats and mice).

Aggravated Medical Condition: May be aggravating to some skin conditions
asthma-type conditions
pre-existing liver and/or kidney disorders

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

Carcinogenicity:

<table>
<thead>
<tr>
<th>IARC</th>
<th>Ethylbenzene</th>
<th>100-41-4</th>
</tr>
</thead>
</table>

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.

<table>
<thead>
<tr>
<th>ACGIH</th>
<th>Ethylbenzene</th>
<th>100-41-4</th>
</tr>
</thead>
</table>

Environmental Effects
Environmental Effects: No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature
Solution of polyhydroxycarboxylic acid amides

Hazardous components
Ethylbenzene is a component of Xylene.
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; aspiration hazard. Dilute with 1-2 glasses of water. Get medical aid. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs.

Notes to physician

Risks: No information available.

SECTION 5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point: 29 °C (84.20 °F)
Method: 48 (Abel-Pensky)

Ignition temperature: 410 °C (770.00 °F)
Method: calculated

Lower explosion limit: 1.00 % (V)

Upper explosion limit: 10.70 % (V)

Suitable extinguishing media: Foam
Carbon dioxide (CO2)
Dry chemical
### Unsuitable extinguishing media
No information available.

### Special protective equipment for fire-fighters
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
- Nitrogen oxides (NOx)
- Sulphur oxides

### Further information
- Keep away from heat and sources of ignition.
- Keep away from oxidizing agents.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions
Eliminate all sources of ignition. Ventilate area if indoors. Wear self-contained breathing apparatus and full protective clothing.

### 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
- Harmful in contact with skin.
- 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.
- Keep away from strong acids.

### Storage
- Keep product and empty container away from heat and sources of ignition.
- Take precautionary measures against static discharges.
- 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>Xylene</td>
<td>1330-20-7</td>
<td>TWA</td>
<td>100 ppm</td>
<td>2007-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>150 ppm</td>
<td>2007-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm 435 mg/m³</td>
<td>1997-08-04</td>
<td>OSHA P1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm 435 mg/m³</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>150 ppm 655 mg/m³</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
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<tr>
<td>Isobutanol</td>
<td>78-83-1</td>
<td>TWA</td>
<td>50 ppm</td>
<td>2007-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>100 ppm 300 mg/m³</td>
<td>1997-08-04</td>
<td>OSHA P1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>50 ppm 150 mg/m³</td>
<td>1989-01-19</td>
<td>OSHA P0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>50 ppm 150 mg/m³</td>
<td>2005-09-01</td>
<td>NIOSH REL</td>
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<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>TWA</td>
<td>100 ppm</td>
<td>2009-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>125 ppm</td>
<td>2009-01-01</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm 435 mg/m³</td>
<td>1997-08-04</td>
<td>OSHA P1</td>
</tr>
</tbody>
</table>
Engineering measures

Engineering measures : Use with local exhaust ventilation.

Personal protective equipment

Eye protection : Safety Glasses
               Goggles

Hand protection : Silver Shield gloves

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

Respiratory protection : Unless air monitoring demonstrates vapor/mist/dust levels are below the PEL/TLV wear a properly fitted respirator (NIOSH approved) or dust mask during exposure.

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

Form : liquid
Colour : light brown
Odour : not significant
Odor Threshold : no data available
Flash point : 29 °C (84.20 °F)
             Method: 48 (Abel-Pensky)
Ignition temperature : 410 °C (770.00 °F)
                      Method: calculated
Lower explosion limit : 1.00 % (V)
Upper explosion limit : 10.70 % (V)
pH : no data available
Freezing point : no data available
Initial boiling point : 106 °C (222.80 °F)
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Vapour pressure</td>
<td>7.00000000 hPa at 20 °C (68.00 °F)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>no data available</td>
</tr>
<tr>
<td>Density</td>
<td>0.9250 g/cm³ at 20 °C (68.00 °F) 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>340.000 mm²/s at 20 °C (68.00 °F)</td>
</tr>
<tr>
<td></td>
<td>228 mm²/s at 40 °C (104.00 °F)</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>no data available</td>
</tr>
</tbody>
</table>

**SECTION 10. STABILITY AND REACTIVITY**

- **Conditions to avoid**: None known.
- **Materials to avoid**: Acids, Strong oxidizing agents
- **Hazardous decomposition products**: None expected
- **Chemical stability**: Stable; polymerization will not occur

**SECTION 11. TOXICOLOGICAL INFORMATION**

- **Acute oral toxicity (Product)**: LD50 rat
  - Dose: > 10,000,000,000 mg/kg
  - Method: OECD Test Guideline 401
- **Active ingredient**: Solvent naphtha, petroleum, light aromatic

- **Acute oral toxicity (Component)**: Component: 64742-95-6 Solvent naphtha, petroleum, light aromatic
  - LD50 rat
  - Dose: > 4,000 mg/kg

- **Component**: 1330-20-7 Xylene
  - LD50 rat
  - Dose: 3,523 mg/kg
Component: 78-83-1 Isobutanol
LD50 rat
Dose: 2,500 mg/kg

Component: 100-41-4 Ethylbenzene
LD50 rat
Dose: 3,500 mg/kg

Acute dermal toxicity (Component):

Component: 64742-95-6 Solvent naphtha, petroleum, light aromatic
LD50 rabbit
Dose: > 3,480 mg/kg

Component: 1330-20-7 Xylene
LD50 rabbit
Dose: 1,700 mg/kg

Component: 78-83-1 Isobutanol
LD50 rabbit
Dose: 2,460 mg/kg

Component: 100-41-4 Ethylbenzene
LD50 rabbit
Dose: 5,510 mg/kg

Acute inhalation toxicity (Component):

Component: 64742-95-6 Solvent naphtha, petroleum, light aromatic
LC50 rat
Dose: 3670 ppm
Exposure time: 4 h

Component: 1330-20-7 Xylene
LC50 rat
Dose: 5000 ppm
Exposure time: 4 h

Component: 78-83-1 Isobutanol
LC50 rat
Dose: > 8000 ppm
Exposure time: 4 h

Component: 100-41-4 Ethylbenzene
LC50
no data available

Skin irritation (Product):
rabbit
Result: No skin irritation
Method: OECD Test Guideline 404
active ingredient

Skin irritation (Component) : Component: 64742-95-6 Solvent naphtha, petroleum, light aromatic rabbit Result: Moderate skin irritation
Component: 1330-20-7 Xylene rabbit Result: Moderate skin irritation
Component: 78-83-1 Isobutanol rabbit Result: Moderate skin irritation
Component: 100-41-4 Ethylbenzene rabbit Result: Moderate skin irritation

Eye irritation (Product) : rabbit Result: No eye irritation Method: OECD Test Guideline 405 active ingredient

Eye irritation (Component) : Component: 64742-95-6 Solvent naphtha, petroleum, light aromatic rabbit Result: Eye irritation
Component: 1330-20-7 Xylene rabbit Result: Eye irritation
Component: 78-83-1 Isobutanol rabbit Result: Eye irritation
Component: 100-41-4 Ethylbenzene rabbit Result: Moderate eye irritation

Sensitisation (Product) : no data available

SECTION 12. ECOLOGICAL INFORMATION

Additional ecological information (Product) : There is no data available for this product.

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
- UN Number: 1993
- Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Xylene, Isobutanol)
- Class: 3
- Packing group: III
- Emergency Response Guidebook Number: 128

IATA
- UN Number: 1993
- Description of the goods: FLAMMABLE LIQUID, N.O.S. (Xylene, Isobutanol)
- Class: 3
- Packing group: III
- ICAO-Labels: 3
- Packing instruction (cargo aircraft): 366
- Packing instruction (passenger aircraft): 355
- Package Instruction (Limited quantity): Y344

IMDG
- UN Number: UN 1993
- Description of the goods: FLAMMABLE LIQUID, N.O.S. (Xylene, Isobutanol)
- Class: 3
- Packing group: III
- IMDG-Labels: 3
- EmSNumber1: F-E
- EmSNumber2: S-E
- Marine pollutant: no

SECTION 15. REGULATORY INFORMATION

HMIS Classification:
- Health hazard: 2
- Chronic Health Hazard: *
- Flammability: 3
- Reactivity: 0
- PPI:B
National Fire Protection Association (NFPA) Class

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 :
- Xylene 1330-20-7 18.9%
- Ethylbenzene 100-41-4 4.7%
- 1,2,4-Trimethylbenzene 95-63-6 6.0%

SARA 311/312 Hazards : Acute Health Hazard
- Chronic Health Hazard
- Fire 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) : p-Xylene (106-42-3)

Clean Air Act & Related Information

Non-volatile (Wt) : 50 - 54 %
- Method: 23 (20min/150°C)
- DIN EN ISO 3251

Ozone Depleting Substances : Not applicable.

Non-volatile information is not a specification.

Hazardous Air Pollutants

- Xylene 1330-20-7
- Ethylbenzene 100-41-4

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) : D001 Ignitable
### State Laws

**Massachusetts Right To Know Components**
- Xylene 1330-20-7
- Isobutanol 78-83-1
- Ethylbenzene 100-41-4

**Pennsylvania Right To Know Components**
- Solvent naphtha, petroleum, light aromatic 64742-95-6
- Xylene 1330-20-7
- Isobutanol 78-83-1
- Ethylbenzene 100-41-4

**New Jersey Right To Know Components**
- Xylene 1330-20-7
- Solvent naphtha, petroleum, light aromatic 64742-95-6
- Isobutanol 78-83-1
- Ethylbenzene 100-41-4

**New Jersey Trade Secret Registry Number for the product (NJ TSRN)**
- 800963-5072

### California Prop. 65 Components
- **WARNING!** This product contains a chemical known to the State of California to cause cancer.
  - Ethylbenzene 100-41-4
  - Benzene 71-43-2
- **WARNING!** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
  - Toluene 108-88-3
  - Benzene 71-43-2

### 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**
- B2
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.