Safety Data Sheet

Issued 10-20-2015
Ball Point Pen Inks – For BK440 and BK 450 Black, Red and Blue Pens

01 Identification of the substance / preparation and of the company

Product: Ball Point Pen BK440 and BK450 Pens
Use: Writing
Company: Pentel of America, LTD.
2715 Columbia Street
Torrance Ca. 90503
Phone: 909.975.2238
Fax: 909.975.2291
Emergency phone: +91-98251-22225 Contact: Michael Storie, TQC Manager
Email: mstorie@pentel.com

02 Composition / Information on ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS NO</th>
<th>Symbol/R-phr</th>
<th>[%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Phenoxy Ethanol</td>
<td>122-99-6</td>
<td>Xn R-22:36</td>
<td>~30%</td>
</tr>
<tr>
<td>Benzyl Alcohol</td>
<td>100-51-6</td>
<td>Xn R-20:22</td>
<td>~15%</td>
</tr>
<tr>
<td>Resin</td>
<td>25054-06-2</td>
<td>N.A.</td>
<td>~35%</td>
</tr>
<tr>
<td>Oleic Acid / Similar</td>
<td>112-80-1</td>
<td>N.A.</td>
<td>~10%</td>
</tr>
<tr>
<td>Solvent Red - 39</td>
<td>65138-66-1</td>
<td>Xn R- 22</td>
<td>~12%</td>
</tr>
<tr>
<td>Solvent Black-46</td>
<td>65113-55-5</td>
<td>Xn R- 22</td>
<td>~20%</td>
</tr>
<tr>
<td>Solvent Orange-3</td>
<td>495-54-5</td>
<td>Xn R- 22</td>
<td>~8%</td>
</tr>
<tr>
<td>Solvent Blue-4</td>
<td>6786-83-0</td>
<td>Xn R- 22</td>
<td>~3%</td>
</tr>
<tr>
<td>Polyvinyl Pyrrolidone</td>
<td>9003-39-8</td>
<td>N.A.</td>
<td>~4%</td>
</tr>
<tr>
<td>4, 4’-Bis(dimethyl amino) 4</td>
<td>561-41-1</td>
<td>N.A.</td>
<td>~10%</td>
</tr>
<tr>
<td>Solvent Violet - 8</td>
<td>52080-58-7</td>
<td>Xn R- 22:41</td>
<td>~5%</td>
</tr>
</tbody>
</table>

03 Hazards identification

Xn Harmful
R-22 Harmful if swallowed
R-38 Irritating to skin
R-41 Risk of serious damage to eyes.

Classification method:
The classification is according to EU-Lists and by company product literature data.

04 First aid measures

General information Change soaked clothing & after an accident see for a medical observation.
Inhalation Ensure supply of fresh air. In the event of symptoms refer for medical treatment
Skin contact In case of contact with skin wash off immediately with soap and water
Eye contact In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.
Ingestion Summon a doctor immediately.

05 Fire-fighting measures

Special protective equipment for firefighters No special measures required.
Additional information Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.
06 Accidental release measures

Personal precautions  
Ensure adequate ventilation. Keep away sources of ignition. High risk of slipping due to leakage/spillage of product.

Environmental precautions  
Do not discharge into the drains/surface waters/groundwater. Prevent spread over a wide area (e.g. by containment or oil barriers)

Methods for cleaning up/taking up  
Take up with absorbent material (e.g. Sand, Dry clay, Vermiculate, Wipe up small spills with cloth). Dispose of absorbed material in accordance with the regulation.

07 Handling and storage

* Handling:  
* Information for safe handling:  
Ensure good ventilation/exhaustion at the workplace. Prevent formation of aerosols.

* Information about fire – and explosion protection:  
No special measures required.

* Storage:  
* Requirements to be met by storerooms and receptacles:  
No special requirements.

* Information about storage in one common storage facility:  
Not required.

* Further information about storage conditions:  
None

08 Exposure controls / personal protection

Ensure adequate ventilation on workstation.

Respiratory protection  
Use Protective Mask.

Hand protection  
Protective gloves should be used.

Eye protection  
Safety glasses to avoid the possibility of splashing in the eyes.

Skin protection  
Avoid content with the skin.

General protective measures  
Do not inhale vapors. Avoid contact with eyes and skin.

Hygiene measures  
At work do not eat, drink, smoke or take drugs. Wash hands before breaks and after work. Use barrier skin cream.
Safety Data Sheet
Ball Point Pen Inks – For BK440 and BK 450 Black, Red and Blue Pens

09 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>Liquid/Paste</td>
</tr>
<tr>
<td>Color</td>
<td>Black, Red, Blue</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
</tr>
<tr>
<td>pH-value @ R. Temp</td>
<td>6 - 8</td>
</tr>
<tr>
<td>Boiling point [°C]</td>
<td>&gt; 190° C</td>
</tr>
<tr>
<td>Flash point [°C]</td>
<td>&gt; 94° C</td>
</tr>
<tr>
<td>Ignition Temp.</td>
<td>&gt; 230° C</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>1.5 Vol.%</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>12 Vol.%</td>
</tr>
<tr>
<td>Density</td>
<td>1.12 +/- 0.3 g/cm³</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Insoluble/Difficult to Mix.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>18125-20,000 ± 1000 cps</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>Not Established</td>
</tr>
<tr>
<td>Melting point [°C]</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No self-ignition</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

* Thermal decomposition / conditions to be avoided:
  No decomposition if used according to specifications.
* Dangerous reactions: No dangerous reactions known.
* Dangerous decomposition products: No dangerous decomposition products known.

11 Toxicological information

* Acute toxicity:

** LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Oral LD50 (mg/kg) (Rat)</th>
<th>Benzyl Alcohol LD 50 (mg/kg) (Rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Phenoxyethanol</td>
<td>1980</td>
<td>1230</td>
</tr>
</tbody>
</table>

Primary irritant effect:
* On the skin: Irritant to skin and mucous membranes.
* On the eye: Strong irritant with the danger of severe eye injury.
* Sensitization: No sensitizing effects known.
* Additional toxicological information:
  The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for preparations as issued in the latest version:
  Harmful
  Irritant

12 Ecological information

General information
Do not allow product to reach ground water course or sewage system, even in small quantity. Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish & plankton in water bodies.
Toxic for water bodies.

13 Disposal considerations

Disposal / Product
Disposal in accordance with the regulations of the local authorities.

Waste no. (recommended)

* European waste catalogue

<table>
<thead>
<tr>
<th>Waste No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>08 00 00</td>
<td>WASTE FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VERNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS</td>
</tr>
<tr>
<td>08 01 00</td>
<td>Wastes from MFSU and removal of paint and varnish</td>
</tr>
<tr>
<td>08 01 13</td>
<td>Sludge's from paint or varnish containing organic solvents or other dangerous substances.</td>
</tr>
</tbody>
</table>

Disposal / Contaminated
Uncontaminated packaging may be taken for recycling & contaminated packing should be disposed as per local regulations.
14 Transport information

**Classification according to** Not classified as dangerous in the meaning of transport regulations.

* Land Transport ADR/RID (cross – border)
  * ADR/RID Class:  

* Maritime transport IMDG:
  * IMDG Class:  
  * Marine pollutant: No

* Air transport ICAO-TI and IATA – DGR:
  * ICAO/IATA Class:  
  * Packaging group: Not applicable

15 Regulatory information

15.1 * Labelling according to EU guidelines:
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

* Code letter and hazard designation of product:

![Xn harmful]

* Hazard –determining components of labeling:
  2-Phenoxyethanol,
  Solvent Orange-3

* Risk phrases:
  22 Harmful if swallowed
  38 Irritating to skin
  41 Risk of serious damage to eyes.
  43 May cause sensitisation by skin contact.

* Safety phrases:
  2 Keep out of the reach of children.
  24 / 25 Avoid contact with skin and eyes.
  26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
  36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
  46 If swallowed, seek medical advice immediately and show this container or label.

15.2 National regulations (gb)

* National regulations:
* Technical instructions (air):

<table>
<thead>
<tr>
<th>Class</th>
<th>Share in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>NK</td>
<td>36.9</td>
</tr>
</tbody>
</table>

15.3 Water hazard class:

Water hazard class 3 (Self – assessment) : extremely hazardous for water.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Note that this information is for the Materials used in the Manufacturing process and is not required for the product produced.