Phoenix Pulp & Paper Public Co., Ltd.

Material Safety Data Sheet (MSDS)

1. Production Identification

<table>
<thead>
<tr>
<th>Product</th>
<th>Manufacturing Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supreme - FSC</td>
<td>Phoenix Pulp &amp; Paper Public Co., Ltd. 99 Moo 3 Tambol Kudnamsai Amphur Nampong Khon Kaen</td>
</tr>
<tr>
<td></td>
<td>THAILAND - 40310 Telephone no. 66-43-373406-8 Internet: <a href="http://www.phoenixpulp.com">www.phoenixpulp.com</a></td>
</tr>
</tbody>
</table>

2. Hazardous Ingredients / Identity Information

<table>
<thead>
<tr>
<th>Name</th>
<th>Percent</th>
<th>Agency</th>
<th>Exposure Limits</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulp (Cellulose)</td>
<td>78 - 85</td>
<td>OSHA</td>
<td>PEL – TWA 15 mg/m³</td>
<td>Total dust Respirable dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA</td>
<td>PEL – TWA 5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Calcium Carbonate</td>
<td>9 - 18</td>
<td>OSHA</td>
<td>PEL – TWA 15 mg/m³</td>
<td>Total dust Respirable dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OSHA</td>
<td>PEL – TWA 5 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Starch</td>
<td>5 - 9</td>
<td>OSHA</td>
<td>PEL – TWA 15 mg/m³</td>
<td>Total dust Respirable dust</td>
</tr>
<tr>
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<td>PEL – TWA 5 mg/m³</td>
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</tr>
</tbody>
</table>
3. Hazard Identification.

**Appearance and Odor**: The product is odorless, writing and printing papers.

**Primary Health Hazards**: The primary health hazard by these products is thought to be due to exposure to dust.

**Primary Route of Exposure**:
- Ingestion - (X)
- Skin - (X)
- Inhalation (√) Dust
- Eye (√) Dust

**Chronic Health Hazards**: Paper (Cellulose) dust is biologically inert and has no effect on the lungs and does not produce any significant organic disease or toxic effect when allowable exposure limits are met.

4. Emergency and First-Aid Procedures

**Ingestion**: Not applicable for product in purchased form.

**Eye Contact**: Dust may mechanically irritate the eyes, resulting in redness and watering. Treat dust as foreign object. Flush with water to remove dust particles. Get medical aid if irritation persists.

**Skin Contact**: Not applicable for product in purchased form.

**Skin Absorption**: Not applicable for product in purchased form.

**Inhalation**: Excess dust concentration may cause unpleasant obstruction in the nasal passage. Remove to fresh air. Get medical help if persistent irritation, severe coughing or breathing difficulty occurs.

**Note to Physician**: No

5. Fire and Explosion Data

**Flash Point (Method Used)**: NAP

**Flammable Limits**:
- LEL: 30,000 mg/m3
- UFL: NAP

**Extinguishing Media**: Water.

**Auto ignition Temperature**: 450°F (232°C)

**Special Firefighting Procedures**: None.

**Unusual Fire and Explosion Hazards**: Depending on moisture content, particle diameter and rate of heating. Cellulose dust may explode in the presence of ignition source. An airborne concentration of 30,000 mg/m3 is often used as the LEL for cellulose pulp.

**NFPA Rating (Scale 0 – 4)**
- Health = 0
- Fire = 1
- Reactivity = 0

6. Accidental Release Measures

**Steps to be taken in Case Material is Released or Spilled**: Not applicable for products in purchased form. Sweep or Vacuum for recovery or disposal.
Other Precautions: Minimize compressed air blow down or other practices that generate dust. Use MSHA approved dust respirator and goggles where ventilation is not possible and exposure limits may be exceeded.

7. Handling and Storage

Precautions to be Taken In Handling and Storage: No special handling precautions are required. Keep in cool, dry place away from open flame and other sources of ignition.

8. Exposure Control Measures

Personal Protective Equipment:

RESPIRATORY PROTECTION – Not applicable for product in purchase form.

PROTECTIVE GLOVES – Not required. However, cloth, canvas, or leather gloves are recommended to minimize potential mechanical irritation from handling product.

EYE PROTECTION – Not applicable for product in purchased form. However, goggles or safety glasses are recommended if the product is used in such a way as to generate dust.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT – Not applicable for product in purchased form.

WORK/HYGIENE PRACTICES – Not applicable for product in purchased form.

Ventilation:

LOCAL EXHAUST – Provide local exhaust as needed so that exposure limits are met.

MECHANICAL (GENERAL) – Provide general ventilation in processing and storage areas so that exposure limits are met.

SPECIAL – None.

OTHER – None.

9. Physical / Chemical Properties

Physical description: The product is odorless writing and printing paper.

Boiling Point ( @ 760 mm Hg ) : NAP

Vapor Pressure ( mm Hg ) : NAP

Vapor Density ( air = 1; 1 atm ) : NAP

Specific Gravity ( H₂O=1 ) : 0.7 - 0.8

Melting Point : NAP

Evaporation Rate ( Butyl acetate = 1 ) : NAP

Solubility in Water ( % by weight ) : Insoluble

% Volatile by Volume [@ 70°F ( 21°C)]: NAP

pH : NAP

Oil-water distribution coefficient : NAP

Odor threshold : ND
10. Stability and Reactivity

**Stability:**  
( ) Unstable  
(X) Stable  

**Conditions to Avoid:** NAP  

**Incompatibility (Materials to Avoid):** Avoid open flame and sparks.  

**Hazardous Decomposition or By-Products:** Combustion products include carbon monoxide, and carbon dioxide.  

**Hazardous Polymerization:**  
( ) May occur  
(X) Will not occur  

**Sensitivity to Mechanical Impact:** NAP  

**Sensitivity to Static Discharge:** NAP

11. Toxicological Information

None available for product in purchased form.

12. Ecological Information

**Environmental Fate:** No information available presently  
**Environmental Toxicity:** NAP

13. Disposal Considerations

**Waste Disposal Method:** Recycle where possible. If disposed or discarded in purchased form, incineration or dry land disposal is acceptable. It is, however, the user’s responsibility to determine at the time of disposal whether your product meets EPA RCRA criteria for hazardous waste. Dispose in accordance with state/local regulations.

14. Transport Information

Not listed and regulated as a hazardous material by the Department of Transportation Thailand.

15. Regulatory Information

No information available at this time.

16. Additional Information

**Date Prepared:** 10/06/2008  
**Date Revised:** Revision No. – 0  
**Prepared By:** Production Support Department  
TIS 18001 Team & Safety Officer  
Phoenix Pulp & Paper Public Co., Ltd.
User's Responsibility: The information contained in this Material Safety Data Sheet is based on the experience of occupational health and safety professionals and comes from sources believed to be accurate or otherwise technically correct. It is the user’s responsibility to determine if this information is suitable for their applications and to follow safety precautions as may be necessary. The user has the responsibility to make sure that this sheet is the most up-to-date issue.

Definition of common terms used:
- LEL: lower explosive limit
- MSHA: Mining Safety and Health Administration
- NAP: Not applicable
- OSHA: Occupational Safety and Health Administration
- PEL: Permissible Exposure Limit
- TWA: Time – Weighted Average
- UFL: Upper Flammable Limit

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(Yongyutt Tangsirijit)
Manager Production Support Dept.