1. IDENTIFICATION

Product Name
Polyken 221, 231

Recommended use of the chemical and restrictions on use
Identified uses
Pressure Sensitive Adhesive

Company Identification
Berry Plastics Corporation
25 Forge Parkway
Franklin, MA  02038

Customer Information Number
(800) 248-7659 (Monday – Friday 8:00 am to 5:00 pm)
msdstechnical@berryplastics.com

Emergency Telephone Number
Chemtrec Number
Within USA and Canada: 1-800-424-9300 CCN22955
Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Issue Date
June 26, 2014

Supersedes Date
March 8, 2010

Safety Data Sheet prepared in accordance with OSHA’s Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

2. HAZARD IDENTIFICATION

Hazard Classification
Acute hazard to the aquatic environment – Category 1 (This classification not adopted by OSHA)

Label Elements
Hazard Symbols

Signal Word: Warning

Hazard Statements
Very toxic to aquatic life.

Precautionary Statements
Prevention
Avoid release to the environment.
Response
Collect spillage.
2. HAZARD IDENTIFICATION

Storage
None

Disposal
Dispose of contents/container in accordance with local regulation.

Other Hazards
None identified.

Specific Concentration Limits
The values listed below represent the percentages of ingredients of unknown toxicity.

- Acute oral toxicity: 20 - 30%
- Acute dermal toxicity: 40 - 50%
- Acute inhalation toxicity: 90 - 100%
- Acute aquatic toxicity: 90 - 100%

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms:
This product is a mixture.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS Number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polymers and Resins</td>
<td>N.A.</td>
<td>25 - 35%</td>
</tr>
<tr>
<td>Polymerized Rosin</td>
<td>N.A.</td>
<td>10 - 20%</td>
</tr>
<tr>
<td>Inorganic Compound(s)</td>
<td>N.A.</td>
<td>1 - 10%</td>
</tr>
<tr>
<td>Zinc Oxide</td>
<td>1314-13-2</td>
<td>1 - 10%</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Description of necessary first-aid measures

Eyes
Immediately flood the eye with plenty of water. Obtain medical attention if symptoms persist.

Skin
Wash skin thoroughly with soap and water. Obtain medical attention if symptoms persist.

Ingestion
Obtain medical attention immediately.

Inhalation
Remove person to fresh air if symptoms occur. Seek medical attention if symptoms persist.

Most important symptoms/effects, acute and delayed
Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

Indication of immediate medical attention and special treatment needed

Notes to Physicians
Treat symptomatically.
5. **FIRE - FIGHTING MEASURES**

**Suitable Extinguishing Media**
Water spray, carbon dioxide and dry chemical.

**Specific hazards arising from the chemical**
May release hazardous vapors during a fire.

**Special Protective Actions for Fire-Fighters**
Wear full protective clothing and self-contained breathing apparatus.

6. **ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**
Wear appropriate protective clothing.

**Environmental Precautions**
Prevent the material from entering drains or watercourses.

**Methods and materials for containment and cleaning up**
Pick up and transfer into suitable containers for recovery or disposal.

7. **HANDLING AND STORAGE**

**Precautions for safe handling**
Wear appropriate protective clothing.

**Conditions for safe storage**
Store away from sources of heat or ignition. Storage area should be: cool - dry - well ventilated - out of direct sunlight - away from sources of ignition(heat, sparks, flames, pilot lights) - away from incompatible materials (see Section 10)

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**
Exposure limits are listed below, if they exist.

**Zinc Oxide**
ACGIH: TLV 2 mg/m³ 8h TWA, respirable fraction, 15 min STEL 10 mg/m³
OSHA: Z-1 PEL 5 mg/m³, zinc oxide fume
OSHA: Z-1 PEL 5 mg/m³, respirable fraction
OSHA: Z-1 PEL 15 mg/m³, total dust

**Appropriate engineering controls**
No specific measures necessary. Good general room ventilation is expected to be adequate to control airborne levels.

**Individual protection measures**
**Respiratory Protection**
Respiratory protection not normally required.
**Skin Protection**
Not required under normal conditions of use.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye/Face Protection
Safety glasses

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid: Polyethylene coated cloth backing with a rubber based pressure sensitive adhesive</td>
</tr>
<tr>
<td>Color</td>
<td>White, silver ,black, or olive drab backing with beige adhesive</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Density (g/yd²)</td>
<td>270 - 280</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting Point (°C/F)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate (BuAc=1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Negligible</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VOC (%)</td>
<td>0</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosive limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosive limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
Data is not available.

Chemical Stability
Stable under normal conditions.

Possibility of hazardous reactions
Hazardous polymerization will not occur.

Conditions to Avoid
Heat, sparks, flames - high temperatures - contact with incompatible materials

Incompatible Materials
Strong acids - bases - oxidizers
10. STABILITY AND REACTIVITY

Hazardous Decomposition Products

11. TOXICOLOGICAL INFORMATION

Acute Toxicity
Available data indicates this product is not expected to be acutely toxic.

Specific Target Organ Toxicity (STOT) – single exposure
Available data indicates this product is not expected to cause target organ effects after a single exposure.

Specific Target Organ Toxicity (STOT) – repeat exposure
Available data indicates this product is not expected to cause target organ effects after repeated exposure.

Serious Eye damage/Irritation
Available data indicates this product is not expected to cause eye irritation.

Skin Corrosion/Irritation
Available data indicates this product is not expected to cause skin irritation.

Respiratory or Skin Sensitization
Available data indicates this product is not expected to cause respiratory sensitization. Polymerized rosin: Not found to be a skin sensitizer in the Guinea Pig Maximization Test (GPMT), and showed potential for mild skin sensitization in the Local Lymph Node Assay (LLNA) test.

Carcinogenicity
Not considered carcinogenic by NTP, IARC, and OSHA.

Germ Cell Mutagenicity
Available data indicates this product is not expected to be mutagenic.

Reproductive Toxicity
Available data indicates this product is not expected to cause reproductive toxicity or birth defects.

Aspiration Hazard
Not an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity
Zinc Oxide:
LC50 Rainbow trout, 96h, 1.1 mg/l
EC50 Daphnia magna, 48h, 0.098 mg/l
Aquatic Chronic - Category 1, Very toxic to aquatic life with long lasting effects (ECHA classification)

Mobility in soil
No relevant studies identified.
12. ECOLOGICAL INFORMATION

Persistence/Degradability
No relevant studies identified.

Bioaccumulative Potential
No relevant studies identified.

Other adverse effects
No relevant studies identified.

13. DISPOSAL CONSIDERATIONS

Disposal Methods
Dispose of in accordance with all applicable local and national regulations.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data
Not Regulated

UN Proper Shipping Name
Not Regulated

UN Class
None

UN Number
None

UN Packaging Group
None

Classification for AIR
Consult current IATA Regulations prior to shipping by air.

Environmental Hazards
Not a marine pollutant

15. REGULATORY INFORMATION

United States TSCA Inventory
All components of this product are in compliance or are exempt from inventory listing requirements of the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

Canada DSL Inventory
All components of this product have not been verified for inclusion or are exempt from listing on the Domestic Substance List (DSL).

WHMIS Classification
None
This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

California Proposition 65
This product contains the following materials which the State of California has found to cause cancer, birth defects or other reproductive harm: None

SARA Title III Sect. 311/312 Categorization
None

SARA Title III Sect. 313
This product contains the following chemicals that are listed in Section 313 at or above de minimis concentrations: Zinc Oxide (1314-13-2)
16. OTHER INFORMATION

NFPA Ratings
NFPA Code for Flammability - 0
NFPA Code for Health - 0
NFPA Code for Reactivity - 0
NFPA Code for Special Hazards – None

HMIS Ratings
HMIS Code for Flammability - 0
HMIS Code for Health - 0
HMIS Code for Physical Hazard - 0
HMIS Code for Personal Protection - See Section 8
*Chronic

Legend
ACGIH: American Conference of Governmental Industrial Hygienists
CAS: Chemical Abstracts Service
ECHA: European Chemicals Agency
IARC: International Agency for Research on Cancer
N/A: Denotes no applicable information found or available
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PEL: Permissible Exposure Limit
SDS: Safety Data Sheet
STEL: Short Term Exposure Limit
TLV: Threshold Limit Value

Information Source and References
This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.

Prepared By: EnviroNet LLC.

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