## KEYWAX WX1014 RUBBER WAX CONCENTRATE

### DESCRIPTION
KEYWAX WX1014 is a blend of 15% polyisobutylene rubber in a paraffin wax with a melting point of approximately 133°F (56°C). KEYWAX WX1014 eliminates the need for heavy duty rubber mixing equipment and prolonged mixing times when adding polyisobutylene rubber to wax. Polyisobutylene rubber improves most properties of wax coatings, particularly adhesion, flexibility and strength.

### ADVANTAGES
- Pre-dissolved polyisobutylene rubber concentrate in paraffin wax
- Simplified processing with Keywax - *Just cut it back with your wax!*
- Better adhesion & strength
- Improved flexibility

### PHYSICAL PROPERTIES (Typical)
- **Appearance**: White to pale yellow waxy material
- **Rubber Content, Type**: 15%, Polyisobutylene
- **Antioxidant Content, Type**: 0.01% Food Grade BHT
- **Viscosity @ 300°F (150°C)**: 40,000 cP
  - Brookfield RVT #29BS, 20 rpm

### DILUENT AND CLEANING PROCEDURE
Dilute with molten wax to desired viscosity. KEYWAX WX1014 will release cleanly from release liners. It must be scraped from other surfaces.

### HANDLING & STORAGE (Typical)
Store below 125°F (52°C) to prevent blocking.
The product's storage life is typically 12 months.

### PRECAUTIONS
**PLEASE READ MATERIAL SAFETY DATA SHEET BEFORE USING**

### PACKAGING
Slabs, approximately 12 lbs. (5.45 kilos) each, packaged in pallet boxes.

### GENERAL INFORMATION
Key Polymer can custom manufacture rubber wax concentrates with other rubber grades, antioxidants, waxes and food grade additives as specified by the user.

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DCO 1540
August 22, 2006
Keywax WX1014
Rubber Wax Concentrate Viscosity vs Temperature

Viscosity, cP

Temperature, C
KEYWAX FDA Classifications

KEYWAX Rubber/Wax Concentrates are dispersions of butyl or polyisobutylene synthetic rubber in paraffin or microcrystalline wax. They offer the formulator of hot melt adhesives and coatings a convenient means of incorporating rubbery polymers into wax. KEYWAX Rubber/Wax Concentrates are supplied at the maximum concentration which can then be blended with additional wax using simple mixing equipment.

The ingredients used in KEYWAX Rubber/Wax Concentrates are regulated by code of Federal regulations 21 Food and Drugs. The information provided here is useful for selecting KEYWAX Rubber/Wax Concentrates to be used in FDA regulated food packaging applications. The use of KEYWAX Rubber/Wax Concentrates is governed by general and specific FDA regulations which pertain to particular end products and additive substances. Some regulations provide a limit on the maximum quantity of an additive, or the quality of an additive. There may also be extraction requirements for some finished materials or articles. The appropriate regulations should be obtained and reviewed in detail prior to use of all products for FDA regulated applications.

It should be noted that the Food and Drug Administration does not actually approve any rubber wax compounds. Rather it publishes lists of permissible ingredients, concentrations and extraction prerequisites. It is the responsibility of the user to ensure that FDA regulated compounds are formulated according to these guidelines, and are processed under conditions of good manufacturing practice.

KEYWAX Rubber/Wax Concentrates are rubber reinforced waxes and all the ingredients used are listed in Federal Regulations 21 Food and Drugs chapter 178.3850 as Reinforced Wax. Noteworthy too, the individual ingredients of KEYWAX Rubber/Wax Concentrates are also listed in other Federal Regulations 21 Food and Drugs chapter covering direct and indirect additives for food as follows: Butyl Rubber per 177.1420 – Isobutylene Polymers; Polyisobutylene rubber per 172.615 – Chewing gum base and 177.1420 – Isobutylene Polymers; Microcrystalline and Paraffin Wax per 172.886 and 178.3710 – Petroleum wax; and BHT per 172.115 – BHT, 172.615 – Chewing gum base, 178.2010 – Antioxidants and 178.3710 – Petroleum Wax.

DCO 1575
Rev AA 10-20-2006
The table shows **KEYWAX Rubber/Wax Concentrates** characterized as a reinforced wax and indirect food additive for packaging cheese and cheese products per 178.3850 and in the context of their application as indirect food additives as adhesives per 175.105 and components of coatings per 175.300 and in their context of application as indirect food additives as components of paper and paperboard per 176.170 and 176.180.

<table>
<thead>
<tr>
<th>FDA</th>
<th>Scope</th>
<th>21 CFR Section Excerpt</th>
<th><strong>KEYWAX Rubber / Wax Concentrates</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>21 CFR Section 178.3850</td>
<td>Reinforced Wax</td>
<td>Reinforced wax may be safely used as an article or component of articles intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food subject to the provisions of this section: It is used as a ... component of packaging materials for cheese and cheese products.</td>
<td>√ Polyisobutylene &amp; Butyl Rubbers and Paraffin and Microcrystalline Waxes and BHT are listed.</td>
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<tr>
<td>21 CFR Section 175.105</td>
<td>Adhesives</td>
<td>Adhesives may be safely used as components of articles intended for use in packaging, transporting, or holding food in accordance with the following prescribed conditions: (1) The adhesive is prepared from one or more of the optional substances in paragraph (C) of this section, subject to any prescribed conditions (2) ...</td>
<td>√ Polyisobutylene &amp; Butyl Rubbers and Paraffin and Microcrystalline Waxes and BHT are listed in paragraph (C) of this section.</td>
</tr>
<tr>
<td>21 CFR Section 175.300</td>
<td>Resinous &amp; Polymeric Coatings</td>
<td>Resinous and polymeric coatings may be safely used as the food-contact surface of articles intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food.</td>
<td>√ Polyisobutylene &amp; Butyl Rubbers and BHT are listed. 175.300 b1 b2 lists GRAS thus Microcrystalline and Paraffin Waxes per 172.886.</td>
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<tr>
<td>21 CFR Section 176.170</td>
<td>Paper &amp; Paperboard Components in Contact with Aqueous and Fatty Foods</td>
<td>The substances listed in this section may be safely used as components of the uncoated or coated food-contact surface of paper and paperboard intended for use in producing, manufacturing, packaging, processing, preparing, treating, packing, transporting, or holding aqueous or fatty food.</td>
<td>√ Microcrystalline &amp; Paraffin Waxes &amp; BHT are listed. 176.170 a1 lists GRAS thus Polyisobutylene Rubber per 172.615. 176.170 a2 lists GRAS in packaging thus Butyl Rubber per 177.1420.</td>
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<tr>
<td>21 CFR Section 176.180</td>
<td>Paper &amp; Paperboard Components in Contact with Dry Foods</td>
<td>The substances listed in this section may be safely used as components of the uncoated or coated food-contact surface of paper and paperboard intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding dry food with the surface containing no free fat or oil.</td>
<td>√ Polyisobutylene &amp; Butyl Rubbers and Paraffin and Microcrystalline Waxes are listed. 176.180 b1 lists 176.170 and 170 to 189 thus BHT.</td>
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</table>
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KEY POLYMER CORP.
LAWRENCE, MA 01843

REV AAA
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