

# MATERIAL SAFETY DATA SHEET

## UNBLEACHED SOFTWOOD KRAFT PULP <sup>1</sup>

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION	
<b>Product name</b>	: Unbleached Softwood Kraft Pulp (UKP)
<b>Brand Names</b>	: Celco Light Colour, Celco Low Kappa (Fiber cement grade).
<b>Company Identification</b>	: Celulosa Arauco y Constitución, S.A., Licancel Mill / Constitucion Mill Camino a Iloca Km. 3, Licantén - VII Región, Chile / Avenida Mac-Iver 505, Constitución – VII Región, Chile
<b>Telephone</b>	: 56 – 75 – 2205000 / 56 – 71 – 2200800
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<b>Emergency Telephone Number</b>	: 56 – 75 – 2205155 (Chile)
SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS	
<b>Chemical name</b>	: Cellulose
<b>Composition</b>	: >85 % of cellulose
<b>Formula</b>	: (C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> ) <sub>n</sub>
<b>Molecular Weight</b>	: (162) <sub>n</sub>
<b>Synonyms</b>	: Unbleached Softwood Kraft Pulp, Brown pulp.
<b>CAS number</b>	: 65996-61-4
<b>NU number</b>	: Not applicable
<b>General aspects</b>	: Pulp sheets are assembled in bales and tied up with metal wires. Bales are tied up by eight into "units" using metal wires.
<b>Use</b>	: Paper manufacture, packaging and construction materials.
SECTION 3. HAZARD IDENTIFICATION	
<b>Hazard Classification</b>	: Not applicable.
<b>Primary Health Hazards</b>	: The primary health hazard is due to exposure to dust.
<b>Human health hazards-acute</b>	
<b>Inhalation</b>	: Not applicable for product in purchased form. Cellulose dust may aggravate pre-existing respiratory conditions or allergies. Excessive dust concentrations may cause unpleasant deposit or obstruction in the nasal passages.
<b>Skin contact</b>	: Not applicable for product in purchased form.
<b>Eye contact</b>	: Not applicable for product in purchased form. Dust may mechanically irritate the eyes, resulting in redness or watering.
<b>Ingestion</b>	: None
<b>Human health hazards-chronic</b>	
Cellulose dust is considered a biologically inert dust that has little or no effects on the lungs and does not produce significant organic disease or toxic effect when allowable exposure limits are met.	

<sup>1</sup> Elaboration HDS : February 2006.

Revision : March 2017.

Based in NCh2245.Of.2015, National Institute of Normalization (INN)-Chile, and EEC directive 91/155

#### SECTION 4. FIRST AID MEASURES

<b>Inhalation</b>	: Remove victim to fresh air and restore normal breathing. Get medical assistance if persistent irritation, severe coughing or breathing difficulty occurs.
<b>Skin contact</b>	: Not applicable for product in purchased form.
<b>Eyes contact</b>	: Flush dust particles from eyes with water and get medical assistance if irritation develops or persists.
<b>Ingestion</b>	: Not applicable for product in purchased form.
<b>Note to physician</b>	: None.

#### SECTION 5. FIRE FIGHTING MEASURES

<b>Fire and Explosion data</b>	
<b>Flammability</b>	: May ignite upon exposure to open flame or at high temperature.
<b>Flash point (method used)</b>	: None.
<b>Lower explosion limit</b>	: See below "Unusual Fire and Explosion Hazards".
<b>Upper explosion limit</b>	: None.
<b>Preventive measures</b>	: Store the product in a dry location with appropriate ventilation, keeping away from open flames or sparks.
<b>Extinguishing media</b>	: Water, Carbon dioxide, PQS, foam or dry chemicals.
<b>Hazardous combustion products</b>	: Carbon dioxide, carbon monoxide and other products resulting from incomplete cellulose combustion.
<b>Unusual Fire Explosion Hazards:</b>	: Depending on moisture content, particle diameter, and rate of heating, cellulose dust may explode in the presence of an ignition source. An airborne concentration of 30,000 mg/m <sup>3</sup> is often used as the LEL for cellulose pulp.
<b>Personal protection for fire fighting</b>	: Wear respiratory protection to prevent inhalation of smoke and fumes. Wear protective clothing and gloves to prevent burns and skin contact.

#### SECTION 6. ACCIDENTAL RELEASE MEASURES

<b>Personal protection</b>	: Use personal protective equipment recommended in section 8 (exposure controls/personal protection).
<b>Environmental precautions</b>	: Not applicable.
<b>Methods for cleaning up</b>	: Soak up spill, collect preferably using mechanical devices, and dispose residues in container. Dispose of material in compliance with national regulations. Use leather gloves when manipulating sheets of the baled product.
<b>Other Precautions</b>	: Minimize compressed air blowdown or other practices that generate high dust levels.

#### SECTION 7. HANDLING AND STORAGE

<b>Handling</b>	: Wiring should be inspected before lifting a unit. The units should never be lifted using a single hook. It is mandatory to wear eye protection while the use of cutters. Also for unit handling, protections should be provided for hands, wrists, forearms and foot.
<b>Storage conditions</b>	: Storage the product in a dry, cool and well ventilated warehouse. Long periods of storage may cause product to absorb moisture, changing shape and modifying its optical properties.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Personal protective equipment

**Respiratory** : Not applicable for the product in purchased form. In case of exposure to high dust levels, use respiratory protection. A NIOSH/MSHA-approved respirator is recommended when allowable exposure limits may be exceeded.

**Eyes** : Not applicable for the product in purchased form. Safety glasses are recommended if the product is to be used in such a way that generates high dust levels.

**Hands** : Sheets of baled product may have sharp edges. Use leather gloves when handling.

**Other protective clothing or equipment:** : Not applicable for the product in purchased form. Outer garments may be used if working in extremely dusty areas.

### 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.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state** : Solid material

**Appearance** : Brown odourless cellulose sheets

**Composition** : 99.6 % Organic content in dry base

**pH (hot extract)** : Not applicable for the product in purchased form.

**Specific Gravity (H<sub>2</sub>O=1)** : 0.6

**Solubility in water (% by weight)** : < 1.0

**Ignition Point** : 350 °C

**Limit of inflammability** : Not applicable for the product in purchased form.

**Autoignition Temperature** : 232 °C (450 °F)

**Fire and explosion risk** : Risk of fire when maintaining close to the source of ignition

**Vapor Pressure to 20°C** : Not applicable for the product.

**Vapor Density** : Not applicable for the product.

## SECTION 10. STABILITY AND REACTIVITY

**Chemical stability** : Stable under normal conditions of use and storage.

**Incompatibility** : Avoid direct contact with water (product deterioration) strong oxidants (sodium chlorate, hydrogen peroxide, etc) and with flames or sparks.

**Hazardous decomposition products** : None, except combustion products (see point 5)

**Hazardous polymerization** : Not applicable for the product.

## SECTION 11. TOXICOLOGICAL INFORMATION

**Short-term toxicity** : Do not present degrees of toxicity

**Long-term toxicity** : Do not present some grade of toxicity

**Local or systemic effects** : None

**Sensitization** : Not expected to cause sensitization

**Carcinogenicity** : Not listed as carcinogenic

**Mutagenicity** : No known effects

**Reproductive toxicity** : No known effects

Cellulose LC50 (rats, inhalation) = 5,800 mg/m<sup>3</sup>/4 hours. Source: *Registry of Toxic Effects of Chemical Substances (RTECS)*, National Institute for Occupational Safety and Health (provided by Canadian Centre for Occupational Health and Safety, CCINFO May 1995).

## SECTION 12. ECOLOGICAL INFORMATION

<b>Chemical instability</b>	: None
<b>Environmental fate</b>	: The product naturally biodegrades when exposed to the environment.
<b>Effects on environment</b>	: No known effects.

## SECTION 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal</b>	: Depending of the case, product should be recycled as much as possible; otherwise deposit in landfill or incinerate according to local regulation. Cellulose is not listed under any sections of the Resource Conservation and Recovery Act (RCRA) or Canadian National Pollution Release Inventory (NPRI). Follow all applicable federal, state, provincial and local regulations. It is, however, the user's responsibility to determine at the time of disposal whether your product meets RCRA criteria for hazardous waste.
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## SECTION 14. TRANSPORT INFORMATION

<b>Terrestrial for road or train</b>	: Adapted
<b>Seaway</b>	: Adapted
<b>Air route</b>	: Adapted
<b>Lake waterway</b>	: Adapted
<b>Number UN</b>	: Not Applicable

Not regulated as hazardous material by the U.S. Department of Transportation. Not listed as hazardous material in the Canadian Transportation of Dangerous Goods (TDG) regulations.

## SECTION 15. REGULATORY INFORMATION

### Applicable international standards

<b>TSCA<sup>2</sup></b>	: All ingredients are on the TSCA inventory
<b>DSL<sup>3</sup></b>	: All ingredients listed of the Canadian Domestic Substance List.
<b>REACH Regulation<sup>4</sup></b>	Not applicable
<b>WHMIS<sup>5</sup> Classification</b>	: Not classified.
<b>National applicable standards</b>	: Specific ground rules on the product do not exist
<b>Check mark in label</b>	: Do not apply.

## SECTION 16. OTHER INFORMATION

Data consigned in this bulletin were obtained from reliable sources of information. Opinions in this fill-out form belong to qualified professionals. The given information it is the known to the date related to this topic.

Considering that, the use of this information and of products is out of the supplier's control, the company does not assume responsibility for these concepts. It is user's obligation to identify safe conditions for the use of the product.

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<sup>2</sup> Toxic Substance Control Act

<sup>3</sup> Domestic Substances List

<sup>4</sup> Registration, Evaluation, Authorization and Restriction of Chemical substances. Regulation (CE) N° 1907/2006

<sup>5</sup> Workplace Hazardous Materials Information System