



Safety Data Sheet

NatraLock[®] and PharmaLock[™] Laminated Paperboard

1. Identification

TRADE NAME or GRADES: NatraLock[®] Resist, NatraLock[®] Ultra Seal, NatraLock[®] Resist+, NatraLock[®] Protect, PharmaLock[™] Endurance, PharmaLock[™] Easy Seal, PharmaLock[™] Easy Seal+.

SYNONYMS: None.

CHEMICAL NAME/CLASS: Cellulose Paperboard.

MANUFACTURER'S NAME: WestRock

ADDRESS: 504 Thrasher Street Norcross, GA 30071

EMERGENCY PHONE: (800) 424-9300 (CHEMTREC)

BUSINESS PHONE: 770-448-2193

2. Hazard(s) Identification

Signal Word(s): **WARNING**

NOTE: This product is not hazardous in the form in which it is shipped by the manufacturer but may become hazardous as the result of downstream activities (e.g. cutting, processing) that reduces its particle size resulting in potential hazards as described below.

Classification	Hazard Statement(s)	Pictogram
Combustible Dust (US OSHA Defined Hazard)*	If converted to small particles during further processing, handling, or by other means, may form combustible dust concentrations in air	None

* EU/GHS Hazard- Not a GHS listed hazard but dustiness may contribute to hazards as described.

Precautionary Statement(s):

Prevention Statements: P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Response Statements: Not applicable.

Ingredients of Unknown Acute Toxicity (>1%): N/A

3. Composition and Information on Ingredients

Component	CAS#	EC#	Wt %
Cellulose (C ₆ H ₁₀ O ₅) _n	65996-61-4	265-995-8	60-85
Kaolin Clays (Al ₂ O ₇ Si ₂)	1332-58-7	310-194-1	1-10
Starch (C ₆ H ₁₀ O ₅) _n	9005-25-8	232-679-6	1-6
Titanium Dioxide (TiO ₂)	13463-67-7	236-675-5	0-2
Calcium Carbonate (CaCO ₃)	1317-65-3	215-279-6	0-6
Synthetic Latex Binders	Proprietary	Proprietary	1-5
Polyethylene (PE) coatings and films* (C ₂ H ₄) _n H ₂	9002-88-4	None	1-5
Hot Melt adhesives*	Proprietary	Proprietary	Varies
Polyethylene Terephthalate (PET)*	25038-59-9	None	Varies

*NOTE: Configuration varies depending on the product chosen.

4. First Aid Measures

Ingestion: Not likely to occur for product during normal use.

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

Skin Contact: Not anticipated for product in purchased form, wash with mild soap and water.

Skin Absorption: Product is not absorbed through the skin.

Inhalation: Remove to fresh air. Get medical help if persistent irritation, severe coughing or breathing difficulty occurs.

Acute Symptoms/Effects- Product dust can cause eye irritation and obstruction in the nasal passages.

Delayed Symptoms/Effects – No delayed effects expected. See section 11 for chronic effects.

5. Fire-fighting Measures

Extinguishing Media and Restrictions: Water or other extinguishing agents appropriate for fighting surrounding fires.

Specific Hazards, Anticipated Combustion Products: Combustion products include carbon monoxide, carbon dioxide and fine particulate in the form of smoke.

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

Special Firefighting Equipment/Procedures: As in any fire wear approved self contained breathing apparatus and appropriate protective clothing.

Unusual Fire and Explosion Hazards: Pulp Cellulose processing (e.g. fiberization) may result in the release of cellulose fibers. Cellulose paperboard as supplied and shipped is highly unlikely to release sufficient cellulose dust to constitute a combustible dust explosion hazard. Depending on airborne concentration, moisture content, particle diameter, surface area and exposure to an ignition source, airborne cellulose dust may ignite and burn with explosive force in a contained area causing rupture. Cellulose dust may similarly deflagrate (combustion without detonation like a supersonic explosion) if ignited in an open or loosely contained area. Pulp cellulose, a specific form of cellulose, is reported by NFPA as having a *Kst value of 62 bar. m/s. According to guidance in the OSHA

combustible dust publication “OSHA 3371-08 2009” pulp cellulose dust would be classified as a Class ST1 combustible dust: (*K_{st} dry = > 0 and < 200 bar. m/s). Caution should be taken in the

5. Fire Fighting Measures (cont’d.)

processing, shipping, handling and use of these materials, particularly if they are in a dry state and dust is produced. Reference NFPA 652 “Standard on the Fundamentals of Combustible Dust”.

*K_{st} the maximum rate of pressure rise is used to calculate the K_{st} value; an internationally recognized index used to classify dust explosibility.

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: Sweep or vacuum up for recovery and disposal. Avoid creating dusty conditions whenever feasible. Maintain good housekeeping to avoid accumulation of cellulose dust on exposed surfaces. Use personal protective equipment as outlined in section 8 where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort.

Other Precautions: Minimize compressed air blowdown or other practices that generate high dust levels.

7. Handling and Storage

Precautions to be Taken In Handling and Storage:

Minimize dust generation and accumulation. Keep in cool, dry place away from open flame and other sources of ignition. Maintain good housekeeping to avoid accumulation of cellulose dust on exposed surfaces. Cellulose dust may pose a combustible dust hazard.

Intended use of paperboard (with or without tear-resistant film) with heat sealant, for use in manufacturing product packaging: Maintain heat sealing process equipment temperatures at or below 375°F (190°C) and a contact time of 3-5 seconds maximum to reach target adhesive activation temperature (160 to 180°F). Avoid excessive temperatures and prolonged contact times to prevent thermal decomposition or degradation. Heating product above recommended processing temperatures may release decomposition products that can irritate eyes, nose, throat and respiratory tract. If generation of dust is unavoidable, prevent eye or inhalation exposure by wearing appropriate personal protective equipment.

Because of the size of the rolls, physical hazards are the predominant hazards. Safety shoes should be worn when moving rolls by hand or hand tools. Rolls should be stored on flat, clean and even surfaces to prevent tipping over.

Store in cool, clean and dry location. Store away from heat source to avoid adhesive blocking, Do not store in direct sunlight. All product material should be stored away from open flames.

8. Exposure Control Measures/Personal Protection

Exposure Limits/Guidelines:

Name	CAS#	Agency	Exposure Limits	Comments
Cellulose	65996-61-4	OSHA	PEL-TWA 15 mg/m ³ (PNOR) ¹	Total dust
		OSHA	PEL-TWA 5 mg/m ³ (PNOR) ¹	Respirable dust
		ACGIH	TLV®-TWA 10 mg/m ³	Total dust

8. Exposure Control Measures/Personal Protection (cont'd.)

Starch	9005-25-8	OSHA OSHA ACGIH	PEL-TWA 15 mg/m ³ PEL-TWA 5 mg/m ³ TLV®-TWA 10 mg/m ³	Total dust Respirable dust fraction Total dust
Kaolin Clays	1332-58-7	OSHA ACGIH ACGIH	PEL-TWA 15 mg/m ³ PEL-TWA 5 mg/m ³ TLV®-TWA 2 mg/m ³	Total Dust Respirable fraction Particulate matter containing no asbestos and <1% crystalline Silica.
Calcium Carbonate	1317-65-3	OSHA OSHA	PEL-TWA 15 mg/m ³ PEL-TWA 5 mg/m ³	Total dust Respirable fraction
Titanium Dioxide	13463-67-7	OSHA ACGIH	PEL-TWA 15 mg/m ³ TLV®-TWA 10 mg/m ³	Total dust Total dust
Polyethylene And Polyethylene Terephthalate (PET)	9002-88-4 and 25038-59-9	OSHA OSHA ACGIH ACGIH	PEL-TWA 15 mg/m ³ (PNOR) ¹ PEL-TWA 5 mg/m ³ (PNOR) ¹ TLV®-TWA 10 mg/m ³ (PNOS) ² TLV®-TWA 3 mg/m ³ (PNOS) ²	Total dust Respirable dust fraction Inhalable particulate Respirable particulate

¹OSHA particulate not otherwise regulated (PNOR)

²ACGIH particulate not otherwise specified (PNOS)

Personal Protective Equipment:

RESPIRATORY PROTECTION – Use filtering face piece respirator (“dust mask”) tested and approved under appropriate government standards such as NIOSH (US), CSA (Canada), CEN (EU), or JIS (Japan) where ventilation is not possible and exposure limits may be exceeded or for additional worker comfort or symptom relief when fiberization of the pulp occurs. Use respiratory protection in accordance with jurisdictional regulatory requirements similar to the OSHA respiratory protection standard 29CFR 1910.134 following a determination of risk from potential exposures following mechanical processing.

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

EYE PROTECTION – Approved goggles or tight fitting safety glasses are recommended when excessive exposures to dust may occur (e.g. during clean up) and when eye irritation may occur.

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

Outer garments may be desirable in extremely dusty areas.

WORK/HYGIENE PRACTICES – Follow good hygienic and housekeeping practices. Clean up areas where cellulose dust settles to avoid excessive accumulation of this combustible material. Minimize compressed air blowdown or other practices that generate high airborne-dust concentrations.

8. Exposure Control Measures/Personal Protection (cont'd.)

Ventilation:

LOCAL EXHAUST – Provide local exhaust as needed so that exposure limits are met. Use with adequate ventilation to ensure exposure levels are maintained below the limits provided (see table in section 8). Use local exhaust ventilation, and process enclosure if necessary, to control airborne dust. Ventilation to control dust should be considered where potential explosive concentrations and ignition sources are present. The design and operation of any exhaust system should consider the possibility of explosive concentrations of cellulose dust within the system. See “SPECIAL” section below.

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

SPECIAL – Ensure that exhaust ventilation and material transport systems involved in handling this product contain explosion relief vents or suppression systems designed and operated in accordance with applicable standards if the operating conditions justify their use.

9. Physical/Chemical Physical/Chemical Properties

Physical Appearance: Paper sheets or rolls.

Boiling Point (@ 760 mm Hg): Not applicable

Evaporation Rate (Butyl Acetate = 1): Not applicable

Freezing: Not applicable

Melting Point: Not applicable

Flash Point: Not available

Flammability: Not available

Auto-ignition Temperature: 450°F (232°C) for cellulose, 645°F (341°C) for polyolefins

Lower / Upper Explosive Limits: Not available

Decomposition Temperature: Not available

Solubility in Water (% by weight): Not available

Odor Threshold: Not available

Vapor Density (air = 1; 1 atm): Not applicable

Vapor Pressure (mm Hg): Not applicable

Viscosity: Not applicable

% Volatile by Volume [@ 70°F (21°C)]: Not applicable

Partition Coefficient (n-octonal/water): Not applicable

pH: Not applicable

10. Stability and Reactivity

Stability: Unstable Stable

Conditions to Avoid: Avoid open flame, sparks and other sources of ignition.

Incompatibility (Materials to Avoid): Not applicable.

Hazardous Decomposition or By-Products: Combustion products include carbon monoxide, carbon dioxide and fine particulate in the form of smoke.

Hazardous Polymerization: May occur Will not occur

Sensitivity to Mechanical Impact: Not applicable

Sensitivity to Static Discharge: Not applicable

11. Toxicological Information

Likely Route(s) of Exposure:

Inhalation and eyes.

Signs and Symptoms of Exposure:

Acute Health Hazards: Not applicable for product in purchased form. Dust may be a mechanical irritant to the eyes and cause obstruction in the nasal passages.

Chronic Health Hazards: Cellulose (pulp) dust has not been shown to produce significant disease or toxic effects when exposure limits are met. Cellulose is poorly soluble and has a low order of toxicity. The polymer portion and additives are also considered to have a low order of toxicity.

Carcinogenicity Listing(s):

IARC: Listed by IARC - Titanium dioxide component, Group 2B - possibly carcinogenic to humans. Classification is based on the physical characteristics of "unbound particles of respirable size".

These products would not contain unbound particles of titanium dioxide.

NTP: Listed by NTP - No

OSHA: Listed by OSHA – No

Toxicity Data: No specific information available for product in purchased form. Individual component information is listed below.

Components:

Cellulose: LC₅₀ (rats, inhalation) = 5,800 mg/m³/4 hours.

Polyolefins: LD₅₀ (rats, ingestion) = > 5,000 mg/kg estimated.

Titanium dioxide - Oral LD₅₀ Rat: >10,000 mg/kg.

Calcium carbonate - Oral LD₅₀ Rat: 6450 mg/kg.

Skin Corrosion/Irritation: Data is not available.

Serious Eye Damage/Irritation: Data is not available.

Respiratory or Skin Sensitization: Data is not available.

Aspiration Hazard: Not applicable.

Reproductive effects: Data is not available.

Teratogenic effects: Data is not available.

Mutagenic effects: Data is not available.

Target Organs: Eyes and respiratory system.

12. Ecological Information

Ecotoxicity: All components of this product are considered to be practically non toxic to the aquatic environment.

Biopersistence and Degradability: Cellulose fiber slowly biodegrades in water (half life range 1 month – 1 year in freshwater and coastal seawater). Cellulose fiber persists in arid soil (landfills). Polymer coating may not be biodegradable.

Bioaccumulation: Not expected to bioaccumulate.

Soil Mobility: No information available.

Other Adverse Effects: N/A

13. Disposal Considerations

Waste Disposal Method: Recycling centers are available in nearly every major and most small cities within the US and Canada that can take waste at no charge. If not recycled in its purchased form due to polymer coatings, incineration or dry land disposal is acceptable in most jurisdictions. Follow all applicable federal, state, provincial and local regulations. It is the user's responsibility to determine proper disposal methods.

14. Transport Information

Mode: (Air, Land, water) Not regulated as a hazardous material by the U.S. Department of Transportation. Not listed as a hazardous material in Canadian Transportation of Dangerous Goods (TDG) regulations. Not listed as a hazardous material for IATA, and IMDG. Not listed as dangerous goods by the European Agreement concerning the international carriage of dangerous goods by road (ADR).

Proper Shipping Name: Not applicable
Hazard Class: Not applicable
UN/NA ID Number: Not applicable
Packing Group: Not applicable
DOT labels required: Not applicable

15. Regulatory Information

TSCA: All ingredients of this product are either listed on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30.

CERCLA: This product does not contain ingredients which are subject to the reporting requirements of CERCLA.

DSL: All ingredients are listed on the Canadian Domestic Substance List.

European REACH: Cellulose is exempted because of listing in Annex IV of regulation (EC) No. 1907/2006.

ENCS: Cellulose is not listed or is exempt from the Japanese Existing and New Chemical Substances List as regulated by the Ministry of International Trade and Industry.

OSHA: This product, as shipped, is not regulated as a OSHA hazardous chemical, however, product dust is a regulated hazard under the OSHA Hazard Communication Standard (29 CFR 1910.1200) when it becomes mechanically processed and airborne.

STATE RIGHT-TO-KNOW:

California Proposition 65 - This product contains chemicals known to the State of California to cause cancer--titanium dioxide (airborne unbound particles of respirable size).

NOTE: However, this chemical is bound in a polymer matrix and is not anticipated to be potentially released. The user should determine whether emissions resulting from its site specific use, handling and ventilation design for this product could exceed the safe harbor levels which would require a WARNING.

Additionally, California's listing was based on the IARC Group 2B classification of titanium dioxide which included studies that showed lung cancer in experimental animals. Relevant human exposures have not shown an association between titanium dioxide exposures and cancer.

SARA 313 Information: This product does not contain any chemical ingredients that exceed the threshold reporting levels established by SARA Title III, section 313 and 40 CFR section 372.

SARA 311/312 Hazard Category: This product has been reviewed according the EPA "Hazard Categories: promulgated under SARA Title III, Sections 311 and 312 and is considered, under applicable definitions, to meet the following categories:

An immediate (acute) health hazard	No
A delayed (chronic) health hazard	No
A corrosive hazard	No
A fire hazard	No
A reactivity hazard	No
A sudden release hazard	No

Date Prepared: 02/21/2017

Date Revised: Not applicable

Prepared By: WestRock Safety and Health Department.

WestRock SDS available on: www.WestRock.com

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www.westrock.com

16. Other Information

Disclaimer:

The information and data herein are believed to be accurate and have been compiled by WestRock Safety and Occupational Health professionals from external sources believed to be reliable. WestRock provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose and use in compliance with all applicable laws and standards. WestRock will not be liable for claims relating to any party's use of or reliance on information and data contained herein.

ACGIH®	= American Conference of Governmental Industrial Hygienists
C	= Ceiling Limit
CAS#	= Chemical Abstracts System Number
CERCLA	= Comprehensive Environmental Response, Compensation, and Liability Act
DOT	= U. S. Department of Transportation
DSL	= Canada-Domestic Substance List
EC50	= Effective concentration that inhibits the endpoint to 50% of control population
EC#	= European Commission Number
ENCS	= Japanese Existing and New Chemical Substances List
EPA	= U.S. Environmental Protection Agency
IARC	= International Agency for Research on Cancer
IATA	= International Air Transport Association
IMDG	= International Maritime Dangerous Goods
LC50	= Concentration in air resulting in death to 50% of experimental animals
LCLo	= Lowest concentration in air resulting in death
LD50	= Administered dose resulting in death to 50% of experimental animals
LDLo	= Lowest dose resulting in death
LEL	= Lower Explosive Limit
LFL	= Lower Flammable Limit
MSHA	= Mine Safety and Health Administration
N/A	= Not Applicable
NIOSH	= National Institute for Occupational Safety and Health
NFPA	= National Fire Protection Association
NPRI	= Canada- National Pollution Release Inventory
NTP	= National Toxicology Program
OSHA	= Occupational Safety and Health Administration
PEL	= Permissible Exposure Limit
PNOR	= Particulate Not Otherwise Regulated
PNOS	= Particulate Not Otherwise Stated
RCRA	= Resource Conservation and Recovery Act
REACH	= Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL	= Short-Term Exposure Limit (15 minutes)
STP	= Standard Temperature and Pressure
TCLo	= Lowest concentration in air resulting in a toxic effect
TDG	= Canadian Transportation of Dangerous Goods
TDLo	= Lowest dose resulting in a toxic effect
TLV®	= Threshold Limit Value
TSCA	= Toxic Substance Control Act
TWA	= Time-Weighted Average (8 hours)
UFL	= Upper Flammable Limit
WHMIS	= Canada-Workplace Hazardous Materials Information System

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WARNING

May Form Combustible Dust Concentrations in Air if Small Particles Are Formed During Processing or Handling

Keep dust away from all ignition sources including heat, sparks and flames.

Prevent dust accumulations to minimize explosion hazard.

**WestRock
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