

Section 1: IDENTIFICATION

Product Name:	Resolute Cellulose Filaments
Synonyms:	Cellulose filaments (CF); Cellulose fibrils (CF); Nanofibrillated cellulose (NFC); Microfibrillated cellulose (MFC).
Product Use:	Strengthening additive for pulp, paper, tissue, concrete, mortars, polymers, elastomers, coatings, composites, nonwovens, packaging, biomaterials, and other advanced materials; and rheology-modifying additive for pulp & paper products processing, nonwovens processing, coatings & chemicals formulating, suspended-solids handling & transporting, and other specialty chemicals and industrial applications.
Restrictions on Use:	Not available.
Manufacturer/Supplier:	Resolute FP Canada Inc. 3750, rue Champlian Saguenay, QC, G7X 1M1 Canada
Phone Number:	1-800-361-2888
Emergency Phone:	1-800-361-2888
Date of Preparation of SDS:	March 2, 2023

Section 2: HAZARD(S) IDENTIFICATION

GHS INFORMATION

This product is not hazardous in the form in which it is shipped by the manufacturer but health and/or physical hazards may be created by downstream activities that reduce its particle size. Those downstream hazards are described below.

Classification: Not hazardous according to OSHA criteria (29 CFR 1910.1200).
Not hazardous according to WHMIS 2015 criteria.

Combustible Dust, Category 1 *

* The material is not provided in dry form and does not present a combustible dust hazard in the form in which it is provided, but subsequent downstream drying and handling of the material could result in dust formation.

LABEL ELEMENTS

Hazard None.

Pictogram(s):

Signal Word: Warning

Hazard Statements: May form combustible dust concentrations in air.

Precautionary Statements

Prevention: Not applicable.

Response: Not applicable.

Storage: Not applicable.

Disposal: Not applicable.

Hazards Not Otherwise Classified: Not applicable.

Ingredients with Unknown Toxicity: None.

This material is not considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

This material is not considered hazardous by the Hazardous Products Regulations.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Pulp, cellulose	Pulp, cellulose	65996-61-4	5 - 95

Section 4: FIRST-AID MEASURES

Inhalation: Not a normal route of exposure unless dust is generated. If dust is inhaled: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or doctor.

Acute and delayed symptoms and effects: Not a normal route of exposure unless dust is generated. Dust may cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Eye Contact: Not a normal route of exposure unless dust is generated. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.

Acute and delayed symptoms and effects: Not a normal route of exposure unless dust is generated. Dust may cause mechanical eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact: Not a normal route of exposure unless dust is generated. If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell.

Acute and delayed symptoms and effects: Not a normal route of exposure unless dust is generated. Dust may cause mechanical skin irritation. Signs/symptoms may include localized redness, swelling, and itching.

Ingestion: Not a normal route of exposure unless dust is generated. If dust is swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Acute and delayed symptoms and effects: Not a normal route of exposure unless dust is generated. Swallowing dust may cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

General Advice: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Note to Physicians: Symptoms may not appear immediately.

Section 5: FIRE-FIGHTING MEASURES

FLAMMABILITY AND EXPLOSION INFORMATION

Not flammable or combustible by OSHA/WHMIS criteria. Material will burn if involved in a fire. May form combustible dust concentrations in air.

Sensitivity to Mechanical Impact: This material is not sensitive to mechanical impact.

Sensitivity to Static Discharge: This material is not sensitive to static discharge.

MEANS OF EXTINCTION

Suitable Extinguishing Media: Small Fire: Dry chemical, CO₂, water spray or regular foam.

Large Fire: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk.

Unsuitable Extinguishing Media: Not available.

Products of Combustion: Oxides of carbon.

Protection of Firefighters: Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

Section 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures: Stay upwind. Keep out of low areas. Ventilate closed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

Personal Precautions: Do not touch or walk through spilled material. Use personal protection recommended in Section 8. Keep away from heat, sparks and flame. Prevent dust accumulation (to minimize explosion hazard).

Environmental Precautions: Keep out of drains, sewers, ditches, and waterways.

Methods for Containment: Do not flush to sewer or allow to enter waterways.

Methods for Clean-Up: Sweep up and shovel into suitable containers for disposal. Use explosion-proof equipment. Dust can be a fire or explosion hazard. Cleaning methods (e.g. compressed air) which can generate potentially combustible dust clouds should not be used.

Other Information: See Section 13 for disposal considerations.

Section 7: HANDLING AND STORAGE

Handling:

The material is not provided in dry form and does not present a combustible dust hazard in the form in which it is provided, but subsequent downstream drying and handling of the material could result in dust formation. Minimize dust generation and accumulation. Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654). Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. To avoid fire or explosion, ground and bond container and receiving equipment (and ground personnel) before transferring material. Do not swallow. See Section 8 for information on Personal Protective Equipment.

Storage:

The material is not provided in dry form and does not present a combustible dust hazard in the form in which it is provided, but subsequent downstream drying and handling of the material could result in dust formation. See Section 10 for information on Incompatible Materials. Keep out of the reach of children. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from incompatible materials.

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines
Component**

Pulp, cellulose [CAS No. 65996-61-4]

ACGIH: 10 mg/m³ (TWA) (Inhalable.); 3 mg/m³ (TWA) (Respirable.); For Particles (Insoluble or Poorly Soluble) Not Otherwise Specified

OSHA: 15 mg/m³ (Total dust) (TWA), 5 mg/m³ (Respirable fraction) (TWA); For Particulates Not Otherwise Regulated (PNOR).

TWA: Time-Weighted Average

Engineering Controls:

It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use explosion-proof electrical, ventilating, and lighting equipment.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection:

Wear safety glasses. Indirect vented, dust-tight goggles are

required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3:20 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

Hand Protection:	Wear protective gloves. Consult manufacturer specifications for further information.
Skin and Body Protection:	Wear protective clothing.
Respiratory Protection:	Not applicable for product in purchased form. If dust is generated: If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-18, with particulate filter, or self-contained breathing apparatus must be used.
General Hygiene Considerations:	Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Gel, paste, damp crumbs or film.
Colour:	White.
Odour:	Odourless.
Odour Threshold:	Not available.
Physical State:	Semi-solid (gel or paste) to solid.
pH:	Not available.
Melting Point / Freezing Point:	Not available.
Initial Boiling Point:	Not available.
Boiling Range:	Not available.
Flash Point:	Not available.
Evaporation Rate:	Not available.
Flammability (solid, gas):	See Section 5. May form combustible dust concentrations in air.
Lower Flammability Limit:	Not available.
Upper Flammability Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.

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Relative Density: Not available.

Solubilities: Insoluble in water.

Partition Coefficient: n-Octanol/Water: Not available.

Auto-ignition Temperature: 232 °C (449.6 °F)

Decomposition Temperature: Not available.

Viscosity: Not available.

Percent Volatile, wt. %: Not available.

VOC content, wt. %: Not available.

Density: 1.5 g/cm³

Coefficient of Water/Oil Distribution: Not available.

Section 10: STABILITY AND REACTIVITY

Reactivity: Contact with incompatible materials. Sources of ignition. Exposure to heat.

Chemical Stability: Stable under normal storage conditions.

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Contact with incompatible materials. Sources of ignition. Exposure to heat. Accumulation of dust.

Incompatible Materials: Strong acids. Strong oxidizers.

Hazardous Decomposition Products: Not available.

Section 11: TOXICOLOGICAL INFORMATION

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD ₅₀ oral	LD ₅₀ dermal	LC ₅₀
Pulp, cellulose	65996-61-4	Not available.	Not available.	5800 mg/m ³ (rat); 4H

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Target Organs: If dust is generated: Skin. Eyes. Gastrointestinal tract. Respiratory system.

Symptoms (including delayed and immediate effects)

- Inhalation:** Dust may cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
- Eye:** Dust may cause mechanical eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin:** Dust may cause mechanical skin irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** Swallowing dust may cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated By Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: If dust is generated: Skin. Eyes. Gastrointestinal tract. Respiratory system.

Chronic Effects: Not expected to cause any adverse effects unless dust is generated. Prolonged or repeated contact with dust may dry skin and cause irritation.

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens above reportable thresholds as listed by ACGIH, IARC, OSHA, or NTP.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects

Teratogenicity: Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Instructions: Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: TRANSPORT INFORMATION

U.S. Department of Transportation (DOT)

Proper Shipping Name: Not regulated.

Class: Not applicable.

UN Number: Not applicable.

Packing Group: Not applicable.

Placard(s): Not applicable.

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: Not regulated.

Class: Not applicable.

UN Number: Not applicable.

Packing Group: Not applicable.

Placard(s): Not applicable.

Section 15: REGULATORY INFORMATION

Chemical Inventories

US (TSCA)

The components of this product are in compliance with the chemical notification requirements of TSCA.

Canada (DSL)

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

Federal Regulations

United States

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III

No components are listed.

State Regulations

Massachusetts

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

No components are listed.



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New Jersey

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

No components are listed.

Pennsylvania

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

No components are listed.

California

California Prop 65: This product does not contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16: OTHER INFORMATION

Disclaimer:

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

Date of Preparation of SDS: March 2, 2023

Version: 1.0

GHS SDS Prepared by: Deerfoot Consulting Inc.

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