



CHEMICAL GROUP – RESIN DIVISION

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MATERIAL SAFETY DATA SHEET

SECTION 1: MATERIAL IDENTIFICATION AND USE

**Material name: MF415 Melamine Formaldehyde Resin
Spray Dried Powder**

Manufacturer: Tembec BTL SR Inc. Tembec Chemical Group Tembec Canada
Address: 2112 Sylvan Ave. Toledo Ohio 43606 USA

Telephone #: Product Information: 419-244-5856
Emergency Contact: CHEMTREC: 800-424-9300
INTERNATIONAL: 202-483-8618 (COLLECT)
***Note: Call emergency numbers only in event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals.**

Chemical Name: Melamine Formaldehyde Resins; Amino Resins

Product Codes: MF415; 415

CAS Registry No.: Melamine Resins; 9003 -08-1 Formaldehyde; 50-00-0

Molecular Weight: Not Available

Material Uses - Wood adhesives, UF resin fortifiers, coatings

NFPA Ratings: health: 1 Flammability: 1 Reactivity: 0 Protection: 0
0 weak → 4 severe

NPCA-HMIS Ratings: Health: 1 Flammability: 1 Reactivity: 0 Protection: 0
0 weak → 4 severe

SECTION 2: EXPOSURE HAZARDS INFORMATION

Appearance and Odor: White free flowing powder that will form a crust on the surface by absorbing moisture from the air. Has a slight formaldehyde, chemical odor, which can be irritating to the nose

Primary Routes of Entry and exposure: Eyes, Inhalation, Skin contact

Inhalation – Dust or vapors can cause irritation. Inhalation may aggravate colds, allergies, asthma, emphysema and psoriasis. Material vapors maybe carcinogenic. See chronic hazards this section.

Skin Contact – Repeated skin contact can cause sensitization and dermatitis due to Formaldehyde

Eye Contact – If powder gets into eyes it can cause severe irritation.



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Ingestion - Ingestion of material is not expected to occur during the normal use of this product. If ingested it may cause stomach and intestinal irritation, vomiting, diarrhea, sweating, weakness, and headache. Avoid swallowing if a large amount of material gets into mouth.

CHRONIC HAZARD: Formaldehyde is listed as a probable carcinogen by IARC and OSHA and a suspected carcinogen by NTP. Evidence is based upon animal testing and data on human is inadequate. Formaldehyde vapors have been found to be carcinogenic to animals and are considered possible carcinogenic to humans by inhalation. While the amount of formaldehyde in this product is small < 1% exposure should be minimized or avoided and recommended personal protection measures should be followed.

IN ALL CASES WHERE SYMPTOMS AND EXPOSURE EFFECTS PERSISTS GETS MEDICAL ATTENTION.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Melamine Formaldehyde Resin:

Concentration 96 – 99%

CAS No.: 9003-08-1

Formaldehyde:

Concentration: <1%

CAS No. : 50-00-0

SECTION 4: FIRST AID MEASURES

Eye Contact: Flush eyes with water for 5 minutes. Get prompt medical attention.

Skin Contact: Wash effected areas for 15 minutes with soap and water while removing contaminated clothing. If skin problems occur get medical attention. Launder clothing before using them again.

Inhalation: Move to fresh air. Use artificial respiration if needed. Get medical attention.

Ingestion: Rinse mouth. Drink large quantities of water and induce vomiting. Do not give water or induce vomiting with a drowsy, convulsive, or unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flammability: not flammable under normal conditions

Means of Fire Extinguishings: Removal of heat (water spray) and displacement of oxygen for combustion.

Special Procedures: NIOSH approved self contained breathing apparatus. Complete skin protection. Treat as ordinary combustible powder. Possible dust explosion if dispersed in air in large quantities.

Flash Point, °C, and method: >200°F by Closed Cup



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Upper Explosion Limit, % volume: not available

Lower Explosion Limit, % volume: not available

Explosion Data: not available

Auto ignition Temperature: not available

Hazardous Combustible Products: Carbon Dioxide-CO₂, Carbon Monoxide-CO, Oxide of Nitrogen, Formaldehyde

Rate of Burning: Not Available

Extinguishing Media: Water Fog, CO₂, foam, dry chemical

Sensitivity to static discharge: Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill and leak procedures: see section 8 for type of protective equipment needed. Remove ignition sources. Provide adequate protective equipment and ventilation. Dike or surround spill with clean up material to prevent contamination of sewers, streams, ponds, or lakes by material. It is best to plan to collect spill up dry using brooms, dust pans and shovels. Collect material for reclaim and place in covered waste containers. Avoid generating dust. The material has some water solubility and wash water may have to be collected as a waste if used. Floors may become slippery with just the dry powder. The reportable quantity for formaldehyde is 100 pounds. 11,000 lbs. of this material contains 100 lbs. of non reacted formaldehyde. Dispose of waste material as required by your local state and federal regulations.

Containers leaks: Leaks can be slowed by plugs. Powder will often prevent tape or glue from sticking to the surface of the container. If possible place container on side with leak facing up to stop leak. Clean leak area with dry cloth. Try to use plug with wide tape or glue and paper to patch leak. Or if leaking container is a resin bag will it fit into a large plastic bag, garbage bag, and be contained in that. Tie off plastic bag to seal it. Clean up spilled material and dispose of as waste. If the container is badly damaged transfer the resin to a suitable container for reclaim and use.

SECTION 7: HANDLING AND STORAGE

Storage and handling: See section 8 for types of protection equipment needed. Avoid eye contact and generating airborne dust. Provide adequate protective equipment and ventilation. At the material handling areas provide local exhaust to mechanical dust collection systems. Clean up any dust accumulations. Remove sources of ignition. Store in a cool (68°F) dry place elevated above floor with no contact against walls to allow air motion around containers to prevent water condensation on the material. Avoid direct sunlight, heat sources, open flames, ignition sources, and incompatible substances.

This resin is a thermoset material meaning it is cured by heat. Summertime heat and sunlight causing hot warehouses have greatly decreased the shelf life of this material.



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SECTION 8: EXPOSURE CONTROL PERSONAL PROTECTION

Exposure Limit Guidelines To material Components:

Free Formaldehyde: CAS# 50 - 00 - 0 < 0.9%

Carcinogenicity: OSHA, IARC Yes, Listed as Group 1 carcinogen

OSHA Action Level: 0.5 ppm TWA (8 hours)

Worker Exposure: 0.75 ppm TWA (8 hours)

STEL: 2.0 ppm (15 minutes)

ACGIH TLV: 0.3 ppm

Melamine Formaldehyde Resin Powder CAS# 9003-08-1

Carcinogenicity (see free formaldehyde) Concern as airborne dust exposure.

OSHA PEL/TWA: 15 (total dust mg/m³) / 5 (Respirable dust mg/m³)

ACGIH TLV: 10 (total dust mg/m³) / 3 (Respirable dust mg/m³)

Exposure Control and Personal Protection:

At material handling areas and operations provide local exhaust and dust collection systems to control dust levels in the air and limit worker exposure.

Eyes – Use dust proof goggles if dust is generated.

Skin – Skin protection is not required under conditions of normal use. Protective gloves (polychloroprene-nitrile rubber recommended), long sleeve shirts and long leg pants should be worn. Protective barrier clothing, boots and/or head covering as needed to prevent dust exposure. Wear a face shield if face contact is likely. All resin contaminated clothing should be laundered before reuse.

Respiratory Protection - Not required under conditions of normal use and when ventilation is adequate. Use NIOSH / MSHA approved masks and respirators if airborne dust is generated.

Other- access to eye wash station and safety shower.

9: PHYSICAL AND CHEMICAL PROPERTIES:

Color: White

Odor: Slight formaldehyde slight irritating

Odor Threshold: Not available

Physical State: Solid as Powder

pH (50% solution in water) 8 – 10

Freezing Point: Not Applicable

Melt Point: 105 – 115°C (221 – 239°F)

Boiling Point: Does not melt to true liquid state thermoset curing material

Flash Point: < 140°F (Closed Cup)

Evaporation Rate: Does not sublime; not applicable

Flammability: Not available

Upper Flammability Limit:: Not available

LoWer Flammability Limit:: Not available



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Vapor Pressure: Not available
Vapor Density: Not Applicable
Specific Gravity: not available
Auto ignition Temperature: not available
Percent volatile: 1 – 2 % as moisture
Volatile Organic Compound Content, wt %: 0
Solubility in water: Slightly soluble
Coefficient of oil/water distribution: not available.

10: STABILITY AND REACTIVITY

Stability: Stable

Hazardous Polymerization: Does not occur

Incompatibilities: Strong oxidizing agents.

Conditions To Avoid: Heat, ignition sources, open flames, storage at elevated temperatures for prolonged periods of time. Contact with incompatible substances.

Hazardous Decomposition Products: Carbon Dioxide – CO₂, Carbon Monoxide CO, Oxides of Nitrogen, formaldehyde

11: TOXICOLOGICAL INFORMATION

Toxicological information on melamine formaldehyde resin itself was not found but studies have been done on formaldehyde. The unbound formaldehyde content of material is small but action maybe needed to prevent overexposure to *formaldehyde* during the use of the material by the customer.

General Information: Formaldehyde is irritating to the eyes and mucous membranes. Formaldehyde is a known skin sensitizer. Repeated and prolonged skin contact with this product may lead to skin rashes due to its low unreacted formaldehyde content. Formaldehyde can also sensitize the respiratory tracts leading to chest tightness and coughing.

Eye- may cause severe eye irritation or injury. Formaldehyde – EYE Rabbit, 50 µg (24hours); severe irritation.

Skin- Prolonged single exposure can produce severe skin irritation or injury. Formaldehyde – DERMAL LD₅₀: Rabbit, 270 mg/kg

Inhalation – This product may be toxic by inhalation. Severe over exposure may cause serious burns of the entire respiratory tract. Severe over exposure may cause lung damage, choking, unconsciousness, or death. Formaldehyde: VAPOR

(LC₅₀) Rat 203 mg/m³ (LC₅₀) Cat, 400 mg/m³ (2 hrs)

Ingestion – Formaldehyde is orally toxic and may be harmful or fatal if swallowed. Expect the gastrointestinal tract to be irritated by this material if it is swallowed.

Formaldehyde: Oral (LD₅₀): Rat 5628 mg/kg (LD_{LO}): Human 143 mg/kg

CHRONIC HAZARD: Formaldehyde is listed as a probable carcinogen by IARC and OSHA and a suspected carcinogen by NTP. Evidence is based upon animal testing and data on human is inadequate. Formaldehyde vapors have been found to be carcinogenic to animals and are considered



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possible carcinogenic to humans by inhalation. While the amount of formaldehyde in this product is small < 1% exposure should be minimized or avoided and recommended personal protection measures should be followed.

12: ECOLOGICAL INFORMATION

The evaluation of available toxicity data for fish, aquatic invertebrates and aquatic plants indicates that the potential hazard of melamine formaldehyde resin to aquatic organisms is low.

Biodegradability of the material is considered to be poor.

13: DISPOSAL CONSIDERATIONS

The information on RCRA waste classification and disposal methodology provided below applies only to the Tembec BTL SR inc. product as supplied. If the material has been altered, contaminated, or has exceeded its recommended shelf life the guidance may not be applicable. Hazardous waste classification under federal regulations (40 CFR Part 261) is dependent upon whether a material is RCRA listed hazardous waste or has any of four RCRA hazardous waste characteristics. Refer to 40CFR Part 261.33 to determine if a given material is to be disposed of as a RCRA listed hazardous waste. RCRA Hazardous waste characteristics: There are four characteristics defined in 40CFR 261.21-61.24: Ignitability, Corrosivity, reactivity, and toxicity. To determine ignitability see section 9 of this MSDS (flashpoint). For corrosivity, see section 9 and 14 (pH and DOT), for reactivity see section 10 (incompatible materials), for toxicity see section 11. Federal regulations are subject to change. State and local regulations may differ from or be more stringent than the federal regulations and may also apply to alternate disposal as waste. It is the responsibility of the user to check local and state waste regulations as to the waste classification for this material and the proper method to be used for its disposal.

14. TRANSPORTATION INFORMATION:

DOT Non Hazardous

Chemical of concern: formaldehyde CAS # 50-00-0 Reportable Quantities (RQ): 100 lbs.

Resin content: < 0.9% Pounds Resin to get RQ: 11,000 lbs.

Harmonized Tariff System #: 390920 0000

Corrosivity: None

Synthetic materials Plastic Pellets and Powders

15: REGULATORY INFORMATION:

United States (USA): All components of this material are included on the TSCA inventory in compliance with the Toxic Substance Control Act. No reactions have occurred that make a secondary substance or chemical that is not listed on TSCA.

Canada: Components of this product have been reported to environment Canada in accordance with sections 66 and/ or 81 of the Canadian Environmental Protection Act.

European Union (EU): All components of this product are included in the European Inventory of Existing Chemical Substances (EINECS) in compliance with Council Directives 67/548/EEC.



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Australia: All components of this product have not yet been included in the Australian inventory of Chemical Substances (AICS) or assessed by Worksafe Australia.

China: All components of this product are not included in the China Inventory.

Japan: All components of this product are included on the Japanese (ENCS) inventory or are not required to be listed on the Japanese inventory.

Korea: All components of this product are not included on the Korean (ECL) inventory.

Philippines: All components of this product are not included on the Philippines (PICCS) inventory.

Other Regulatory Information:

The following components of this product may be subjected to reporting requirements pursuant to section 313 of the CERCLA (40 CFR 372) Section 12b of TSCA or may be subject to release reporting requirements (40 CFR 307, 40 CFR 411, etc) see section 13 for information on waste classification and waste disposal of this product.

<u>Component/ CAS #</u>	<u>%</u>	<u>Reportable Quantity</u>	
Formaldehyde 50-00-0	0 – 0.9	100 lbs.	Equals 11,000 of this material

16. OTHER INFORMATION

Abbreviations:

ACGIH – American Conference of Governmental Industrial Hygienists

TWA – Time Weight Average; average total exposure over 8 hours allowed to a hazardous material

STEL - Short Term Exposure Limit; maximum exposure allowed over 15 minutes to a hazardous material

CAS # - chem. Abstracts number used to identify the compound

CERCLA – Comprehensive Environmental Response Compensation and Liability Act

IARC – International Association Research of Cancer

NIOSH-National Institute for Occupational Safety and Health

NTP-National Toxicology Program

OSHA- Occupational Safety and Health Administration

PEL – Permissible exposure limit

Ppm – parts per million

RCRA – Resources Conservation Recovery Act

RQ – Reportable Quantity

TSCA – Toxic Substance Control Act

TLV – Threshold Limit Value

WHMIS – Workplace Hazardous materials Information System (Canada)



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PREPARATION INFORMATION AND DATE	
Prepared by: Andy Fairchild, Technical Dep't	Technical Group, Tembec Chemical Group – Resin Division
Date approved: 6 November 2009	
<p>Sources: Government Regulations, recognized safety practices, technical experience, knowledge of the product, scientific, technical and general literature. The data and information contained herein is believed to be accurate and complete to best of our knowledge at Tembec Chemical Group. No warranty or representation for which Tembec Chemical Group assumes legal responsibility is implied. The information refers only to the controlled product described herein and does not relate to use of the product with any other materials and processes. Tembec Chemical Group encourages our customers to consider, investigate, and verify information for their uses. Tembec Chemical Group assumes no responsibility for damage to property or equipment or injury to recipient or third party persons as a result of misuse or handling of this quality product. Customers are encouraged to conduct appropriate testing before use of product. The user must assure that use of information contained herein is done according to local, provincial, state and federal regulations and laws.</p>	