

Material Safety Data Sheet

Material Name: UF BONDED WOOD PRODUCTS

ID: GP-030

*** Section 1 - Chemical Product and Company Identification ***

Chemical Name: UREA-FORMALDEHYDE BONDED WOOD PRODUCTS:
Hardwood Plywood (Veneer Core, Particleboard Core, Fiber-Ply® core, MDF Core)
Medium Density Fiberboard (MDF)
MDF Paneling
Particleboard (Underlayment, Industrial, Mobile Home Decking and Door Core)
Plywood Paneling

Trade Name: See Section 16 for List of Products

Product Use: Building Materials - Industrial or Decorative

Manufacturer Information

Georgia Pacific Corporation
133 Peachtree Street NE
Atlanta, GA 30303

800-284-5347 Technical Information
404-652-5119 MSDS Request

800-424-9300 CHEMTREC

Description

Particleboard, MDF and MDF paneling are manufactured from wood particles or fibers bonded together with urea-formaldehyde resin. Plywood paneling is manufactured from wood plies bonded together with urea-formaldehyde resin. Hardwood plywood is manufactured from wood veneers, particleboard or MDF bonded to wood faced veneers with urea-formaldehyde resin.

*** Section 2 - Composition / Information on Hazardous Ingredients ***

CAS #	Component	Percent
50-00-0	Formaldehyde	<0.1
None	Wood dust, all soft and hard woods	NA

Component Information/Information on Non-Hazardous Components

Sawing, sanding or machining wood products can produce wood dust. See Section 8 for exposure limits.

*** Section 3 - Hazards Identification ***

Emergency Overview

Sawing, sanding or machining wood products can produce wood dust which can cause an explosion hazard. Wood dust and/or formaldehyde may cause upper respiratory tract, eye and skin irritation. This product may release small quantities of formaldehyde. Emissions decrease quickly over time as the board ages.

Potential Health Effects: Eyes

Formaldehyde and wood dust may cause temporary irritation to the eyes. Symptoms include itching, burning, redness and tearing.

Potential Health Effects: Skin

Formaldehyde and various species of wood dust may cause allergic contact dermatitis in sensitized individuals. If an allergy preexists or develops, it may be necessary to remove the sensitized worker from further exposure to formaldehyde bonded wood products or wood dust.

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Potential Health Effects: Ingestion

Not applicable under normal conditions of use.

Potential Health Effects: Inhalation

Formaldehyde may cause temporary irritation to the nose and throat. Wood dust may cause nasal dryness, irritation, coughing, headache and sinusitis. Exposure may result in allergic responses in sensitive individuals.

Medical Conditions Aggravated by Exposure

Formaldehyde or wood dust may aggravate preexisting skin, eye and respiratory conditions or allergies.

HMS Ratings: Health: 1 Fire: 0 Physical Hazard: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

First Aid: Skin

For skin contact, wash immediately with soap and water. If irritation persists, get medical attention.

First Aid: Ingestion

Not applicable under normal conditions of use.

First Aid: Inhalation

If inhaled, immediately remove the affected person to fresh air. If persistent irritation, severe coughing or breathing difficulty occurs, get medical attention.

*** Section 5 - Fire Fighting Measures ***

Flash Point

Not Applicable

Auto Ignition

400° - 500°F (204° - 260°C) for wood

General Fire Hazards

Sawing, sanding or machining wood products can produce wood dust as a by-product. Wood dust is a strong to severe explosion hazard if a dust "cloud" contacts an ignition source. An airborne concentration of 40 grams of dust per cubic meter of air is often used as the lower explosion limit (LEL) for wood dust.

Hazardous Combustion Products

Thermal-oxidative degradation, or burning, of wood can produce irritating and potentially toxic fumes and gases including carbon monoxide, aldehydes and organic acids.

Extinguishing Media

Water. Partially burned dust is especially hazardous if dispersed into the air. Remove burned or wet dust to open area after fire is extinguished.

Fire Fighting Equipment/Instructions

Partially burned dust is especially hazardous if dispersed into the air. Wet down wood dust to reduce likelihood of ignition or dispersion. Remove burned or wet dust to open, secure area after fire is extinguished.

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NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures

Not applicable for product in purchased form.

Clean-Up Procedures

Sweep or vacuum dust for recovery or disposal. Wet down accumulated wood dust to reduce the likelihood of ignition or dispersion of dust into the air. Use with adequate ventilation. Do not inhale dusts during cleanup. Use NIOSH/OSHA approved respirator where ventilation is not possible and exposure limits could be exceeded.

*** Section 7 - Handling and Storage ***

Handling Procedures

Provide adequate ventilation to reduce the possible build up of formaldehyde gas, particularly when high temperatures occur. Avoid frequent or prolonged inhalation of wood dust. Protect eyes from flying particles. Change protective clothing and gloves when signs of contamination appear. Avoid getting this material into contact with your skin and eyes. Wash thoroughly after handling.

Storage Procedures

UF bonded wood products have interior bond durability with limited moisture resistance and, therefore, should not be stored where exposure to water or high humidity occurs. Wood products are combustible and should not be subjected to temperatures exceeding the auto ignition temperature. Wet down wood dust generated by sawing, sanding, or machining to reduce the likelihood of ignition or dispersion of dust into the air.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines

A: General Product Information

The OSHA limits for wood dust were vacated in 1992. The present OSHA exposure limits governing wood dust are 15 mg/m³ (Total Dust) and 5 mg/m³ (Respirable Fraction).

B: Component Exposure Limits

Formaldehyde (50-00-0)

ACGIH: 0.3 ppm Ceiling

OSHA: 0.75 ppm TWA; 2 ppm STEL; 0.5 ppm Action Level (Irritant and potential cancer hazard - see 29 CFR 1910.1048)

Wood dust, all soft and hard woods (None)

ACGIH 1 mg/m³ (Inhalable)

OSHA: 5 mg/m³ (Total Dust)

Engineering Controls

Due to the explosive potential of wood dust when suspended in air, precautions should be taken during sawing, sanding, or machining of wood products to prevent sparks or other ignition sources in ventilation equipment. Use of totally enclosed motors is recommended. Provide local exhaust as necessary to meet OSHA requirements for both formaldehyde and wood dust exposure.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Goggles or safety glasses are recommended when sawing, sanding or machining this product.

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Personal Protective Equipment: Skin

Gloves and outer garments may be needed to reduce skin contact when sawing, sanding or machining this product. Wash exposed area thoroughly after working with the wood, before eating, drinking, toileting and use of tobacco products.

Personal Protective Equipment: Respiratory

Use NIOSH/OSHA approved respirator where ventilation is not possible and permissible exposure limits for formaldehyde and/or wood dust may be exceeded.

Personal Protective Equipment: General

Follow good hygienic and housekeeping practices. Clean up areas where dust settles to avoid excessive accumulation of the combustible material. Minimize generation of airborne-dust concentrations.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Color dependent upon wood species	Odor:	Odor dependent upon wood species
Physical State:	Solid	pH:	Not Applicable
Vapor Pressure:	Not Applicable	Vapor Density:	Not Applicable
Boiling Point:	Not Applicable	Melting Point:	Not Applicable
Solubility (H2O):	Insoluble	Specific Gravity:	<1.0

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This product is stable under ordinary conditions of use.

Chemical Stability: Conditions to Avoid

Avoid ignition sources where dust is produced. Wood dust generated from sawing, sanding or machining is extremely combustible. Store in a cool, dry, well-ventilated area.

Incompatibility

Avoid contact with oxidizing agents and dry oils.

Hazardous Decomposition

Thermal-oxidative degradation, or burning, of wood can produce irritating and potentially toxic fumes and gases including carbon monoxide, aldehydes and organic acids.

Hazardous Polymerization

Will not occur.

*** Section 11 - Toxicological Information ***

Acute and Chronic Toxicity

A: General Product Information

Not available for product in purchased form. Additional data can be found for individual components listed in Section 2.

B: Component Analysis - LD50/LC50

Formaldehyde (50-00-0)

Inhalation LC50 Mouse: 454 mg/m³/4H; Oral LD50 Rat: 100 mg/kg; Oral LD50 Mouse: 42 mg/kg; Dermal LD50 Rabbit: 270 µL/kg

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Carcinogenicity

A: General Product Information

Not available for product in purchased form. IARC, OSHA, NTP, ACGIH and NIOSH list individual components.

B: Component Carcinogenicity

Formaldehyde (50-00-0)

ACGIH: A2 - Suspected Human Carcinogen

OSHA: 0.75 ppm TWA; 2 ppm STEL; 0.5 ppm Action Level (Irritant and potential cancer hazard - see 29 CFR 1910.1048)

NTP: Reasonably Anticipated To Be A Carcinogen (Possible Select Carcinogen)

IARC: Monograph 88, 2004 (Group 1 (carcinogenic to humans))

Wood dust, all soft and hard woods (None)

ACGIH: A1 – Confirmed Human Carcinogen (Certain hard woods as beech and oak)

NTP: Known Carcinogen (Select Carcinogen)

IARC: Monograph 62, 1995 (Group 1 (carcinogenic to humans))

Other Toxicological Information

FORMALDEHYDE: Exposure to formaldehyde may cause temporary irritation to the nose and throat and may lead to respiratory disorders. However, in a thorough review of sensory/respiratory irritation studies of formaldehyde from the standpoint of occupational exposure, an expert panel has observed exposures up to concentrations of 0.3 ppm failed to produce irritation. In general, irritation will not be reported until concentrations reach 0.5 - 1 ppm. Respiratory disorder studies have concluded the threshold for long-term chronic pulmonary effects is between 0.4 and 3 ppm and chronic obstructive pulmonary disease is 2 ppm. Additionally, persons with asthma responded no differently than healthy individuals at concentrations as high as 3 ppm. Pre-existing respiratory disorders may be aggravated by exposure.

The International Agency for Research on Cancer (IARC) classifies formaldehyde as a carcinogen. This classification is based on the increased occurrence of a rare cancer of the nasopharyngeal cavity. IARC determined that there was insufficient evidence of other cancers including cancer of the oral cavity, oro- and hypopharynx, larynx, lung, sinonasal cavity, pancreas, brain and leukemia. The National Toxicology Program (NTP) includes formaldehyde in its Annual Report on Carcinogens. OSHA regulates formaldehyde as a potential carcinogen for exposures at or exceeding 0.5 ppm.

WOOD DUST: Wood dust generated from sawing, sanding or machining may cause nasal dryness, irritation, coughing and sinusitis. IARC and NTP classify wood dust as a carcinogen. This classification is based on the increased occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. The evaluation noted insufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

Not available for product in purchased form. Additional data can be found for individual components listed in Section 2.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Formaldehyde (50-00-0)

Test & Species

96 Hr LC50 fathead minnow

24.1 mg/L

Conditions

flow-through

96 Hr LC50 bluegill

0.10 mg/L

flow-through

5 min EC50 Photobacterium
phosphoreum

9.0 mg/L

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15 min EC50 Photobacterium phosphoreum	7.26 mg/L
25 min EC50 Photobacterium phosphoreum	6.81 mg/L
96 Hr EC50 water flea	20 mg/L

Environmental Fate

Not available for product in purchased form.

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

General Product Information

This product is not considered hazardous waste under Federal Hazardous Waste Regulations 40 CFR 261. If, however, product is altered by processing, use, or contamination, waste must be tested using methods described in 40 CFR 261 to determine whether product meets criteria for hazardous waste.

Disposal Instructions

If disposed of or discarded in its purchased form, ordinary trash collection is acceptable. It is, however, the user's responsibility to determine at the time of disposal whether your product meets RCRA criteria for hazardous waste. Follow applicable, federal, state, and local regulations.

*** Section 14 - Transportation Information ***

International Transportation Regulations

This product is not regulated as a hazardous material by the United States (DOT) or Canadian (TDG) transportation regulations.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

OSHA: Wood products are not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, formaldehyde emissions and wood dust generated by sawing, sanding or machining this product may be hazardous.

HUD: The Department of Housing and Urban Development (HUD) regulation 24 CFR 3280 provides for third-party certification of particleboard, MDF and interior plywood manufactured with urea-formaldehyde resin for formaldehyde emissions. The maximum allowable level for particleboard used as flooring materials (manufactured home decking and underlayment) is 0.2 ppm at a loading rate of 0.13 square foot/cubic foot. The maximum allowable level for prefinished interior plywood paneling is 0.2 ppm at a loading rate of 0.29 square foot/cubic foot. The maximum allowable level for other uses of particleboard and hardwood plywood is 0.3 ppm at a loading rate of 0.13 square foot/cubic foot. The maximum allowable level for MDF is 0.3 ppm at a loading rate of 0.08 square foot/cubic foot. In all cases, certification is made in accordance with FTM-2-1985 (ASTM E1333-90), Large Scale Test Method for Determining Formaldehyde Emissions from Wood Products. Particleboard underlayment, industrial particleboard, particleboard mobile home decking, hardwood plywood, MDF and plywood paneling manufactured by Georgia Pacific are certified to meet this HUD standard. MDF paneling manufactured by Georgia Pacific, although not recommended for use as full wall paneling in manufactured housing, meets the HUD medium density fiberboard emission requirement of 0.3 ppm at a loading rate of 0.08 square feet/cubic foot and also at a 0.13 square foot/cubic foot loading rate.

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B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Formaldehyde (50-00-0)

SARA 302: 500 lb TPQ

CERCLA: 100 lb final RQ; 45.4 kg final RQ

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Formaldehyde	50-00-0	Yes	Yes	Yes	Yes	Yes	Yes
Wood dust, all soft and hard woods	None	No	No	Yes	No	No	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Formaldehyde	50-00-0	Yes	DSL	EINECS

*** Section 16 - Other Information ***

Other Information

Trade Names of Products

Hardwood Plywood: A-1, Artisan™, Cabinet Grade, Craftsman®, Fiber-Ply®, Permagard® UV, Select Eugene® and Select Savannah®

Medium Density Fiberboard (MDF): Duramine™, Industrapanel®, Synergite®, Synerlite®, Superior, Superior Plus

MDF Paneling: Mount Vernon™, StyleLine™, Clutter Cutter™

Particleboard: CabCor®, Duramine™, FinesFace® FiberCor® MultiFiber®, FF FiberCore®, MicroFine® MultiFiber®, Novoply®, Microfine® Novoply®, Novoshelf®, Novodeck®, Novospan™ Novoflor®, Novostep®, Novowood®

Plywood Paneling: Bedford Village®, Bridgeport®, Estate®, High Ridge®, Hillside®, Hillside® Mismatched, McKenzie®, and Timber Ridge®.

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MSDS History

Effective Date: 03/01/2005

Supercedes Date: 06/01/2001

Section(s) Changed Since Last Revision: 2, 8, 11, and 16

Disclaimer

IMPORTANT: The information and data herein are believed to be accurate and have been compiled from sources believed to be reliable. It is offered for your consideration, investigation and verification. Buyer assumes all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Georgia Pacific and its subsidiaries make no warranty of any kind, expressed or implied, concerning the accuracy or completeness of the information and data herein. The implied warranties of merchantability and fitness for a particular purpose are specifically excluded. Georgia Pacific and its subsidiaries will not be liable for claims relating to any party's use of or reliance on information and data contained herein regardless of whether it is claimed that the information and data are inaccurate, incomplete or otherwise misleading.

Key/Legend

ACGIH	American Conference of Governmental Industrial Hygienists
ANSI	American National Standards Institute
C	Ceiling Limit
CAS	Chemical Abstract Services Number
CERCLA	Comprehensive Environmental Response Compensation and Liability Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DOT	Department of Transportation
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
HCS	Hazard Communication Standard
HMIS	Hazardous Material Identification System
IARC	International Agency for Research on Cancer
LC _{LO}	Lowest lethal concentration of a substance
LC ₅₀	Concentration of a material expected to kill 50% of an animal text group
LD _{LO}	Lowest lethal does of a material
LD ₅₀	Dose of a material expected to kill 50% of an animal text group
NA	Not Applicable
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit (OSHA)
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value (ACGIH)
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average

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WOOD PRODUCTS

CAUTION!

SAWING, SANDING OR MACHINING WOOD PRODUCTS CAN PRODUCE WOOD DUST WHICH CAN CAUSE A FLAMMABLE OR EXPLOSIVE HAZARD.

WOOD DUST AND FORMALDEHYDE MAY CAUSE LUNG, UPPER RESPIRATORY TRACT, EYE AND SKIN IRRITATION. SOME WOOD SPECIES MAY CAUSE DERMATITIS AND/OR RESPIRATORY ALLERGIC EFFECTS. EXPOSURE TO WOOD DUST OR FORMALDEHYDE MAY CAUSE CANCER.

THIS PRODUCT MAY RELEASE SMALL QUANTITIES OF FORMALDEHYDE IN GASEOUS FORM.

PRECAUTIONS

Avoid dust contact with ignition source.
Avoid frequent or prolonged inhalation of wood dust.
Protect eyes from flying particles.
Avoid dust contact with skin and wash exposed areas.

FIRST AID

If inhaled, remove to fresh air. In case of contact, flush eyes and skin with water. If irritation persists, call a physician.

HANDLING AND STORAGE

Avoid frequent or prolonged inhalation of wood dust. Protect eyes from flying particles. Avoid contact with skin and wash exposed areas thoroughly. Change protective clothing and gloves when sign of contamination appear.

Wood products are combustible and, therefore, should not be subjected to temperatures exceeding the autoignition temperature. Wet down wood dust generated by sawing, sanding, or machining to reduce the likelihood of ignition or dispersion of dust into the air.

For additional information, see the Georgia-Pacific Material Safety Data Sheet for this product.

Product Safety and Health Information
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This is the end of MSDS # GP30