

1. Product and Company Identification

Material name Medium Density Fiberboard (MDF)
Version # 01
Revision date 12-10-2010
Product use Furniture, Cabinets, Construction
Synonym(s) UltraStock, Solidium
Manufacturer information Temple-Inland
 303 S. Temple Drive
 Diboll, Texas 75941
 Emergency Telephone: 936-829-5511
 (M - F, 8AM - 5PM CST)

2. Hazards Identification

Physical state Solid.
Appearance Light to dark colored solid.
Emergency overview WARNING!

 May form combustible dust concentrations in air (during processing).
 Under normal handling, the product is expected to pose low health hazards as the ingredients are firmly embedded in a wood matrix. Dusts generating from sawing, sanding, or machining of this product may pose the health hazards described in this MSDS.

OSHA regulatory status This product is hazardous according to OSHA 29 CFR 1910.1200.

Potential health effects

- Eyes Skin** Direct contact with eyes may cause temporary irritation.
- Inhalation** Wood dust: Certain species may cause allergic dermatitis to certain individuals.
 Wood dust: May cause nasal dryness, irritation and mucostasis. Coughing, wheezing, sneezing, sinusitis and prolonged colds have also been reported. Depending on wood species may cause respiratory sensitization and/or irritation.
- Ingestion** Expected to be a low ingestion hazard.

Potential environmental effects Not expected to be harmful to aquatic organisms.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Formaldehyde	50-00-0	<1 ppm
Synthetic binder	not applicable	proprietary
Wood dust (and/or ligno-cellulosic fibers)	not applicable	proprietary

Composition comments All concentrations are in percent by weight unless otherwise indicated.

4. First Aid Measures

First aid procedures

- Eye contact** Flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if symptoms persist.
- Skin contact** Wash with soap and water. Get medical attention if symptoms occur.
- Inhalation** If symptomatic, move to fresh air. Get medical attention if symptoms persist.
- Ingestion** Not applicable.

5. Fire Fighting Measures

Flammable properties

This product does not present a fire or explosion hazard. Sawing, drilling, sanding, or machining this product could result in the creation of wood dust and or lingo-cellulosic fibers/dust. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. According to data contained in NFPA Standards, 0.04 ounce of wood flour per cubic foot of air is the minimum explosive concentration.

Extinguishing media

Suitable extinguishing media

Extinguish with foam, carbon dioxide, dry powder or water fog.

Fire fighting equipment/instructions

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Hazardous combustion products

Burning of wood can produce irritating fumes and gases including carbon monoxide and carbon dioxide.

6. Accidental Release Measures

Personal precautions

Wear appropriate personal protective equipment (See Section 8).

Methods for cleaning up

Sweep or scoop up and remove. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Nonsparking tools should be used.

7. Handling and Storage

Handling

Minimize dust generation and accumulation.

Storage

Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

8. Exposure Controls / Personal Protection

Occupational exposure limits

ACGIH

Components	Type	Value	Form
Wood dust (and/or ligno-cellulosic fibers) (not applicable)	TWA	1 mg/m ³	Inhalable fraction

U.S. - OSHA

Components	Type	Value	Form
Wood dust (and/or ligno-cellulosic fibers) (not applicable)	TWA	15 mg/m ³	Total dust.
		5 mg/m ³	Respirable fraction.

Canada - Alberta

Components	Type	Value	Form
Wood dust (and/or ligno-cellulosic fibers) (not applicable)	TWA	1 mg/m ³	Total dust

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Wood dust (and/or ligno-cellulosic fibers) (not applicable)	TWA	1 mg/m ³	Dust.

Canada. Ontario OELs. (Ministry of Labor - Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Wood dust (and/or ligno-cellulosic fibers) (not applicable)	STEL	10 mg/m ³	Dust.
	TWA	1 mg/m ³	Dust.

Canada - Quebec

Components	Type	Value	Form
Wood dust (and/or ligno-cellulosic fibers) (not applicable)	STEL	5 mg/m ³	Total dust.

Mexico. Occupational Exposure Limit Values

Components	Type	Value	Form
Wood dust (and/or ligno-cellulosic fibers) (not applicable)	STEL	10 mg/m ³	Dust.
	TWA	1 mg/m ³	Dust.

Exposure guidelines

Additional Occupational Exposure Limit information for Wood Dust:
 California OELs: 8hr TWA: 5 mg/m³; 15-minute STEL 10 mg/m³.
 Oregon OELs: 8hr TWA: 10 mg/m³.
 Tennessee OELs: TWA: 5 mg/m³; STEL: 10 mg/m³.

Engineering controls

Ensure adequate ventilation, especially in confined areas. 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 only appropriately classified electrical equipment and powered industrial trucks.

Personal protective equipment**Eye / face protection**

Wear safety glasses with side shields (or goggles).

Skin protection

It is good industrial hygiene practice to minimize skin contact.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA 29 CFR 1910.134. Respirator type: High-efficiency particulate respirator.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties**Appearance**

Light to dark colored solid.

Color

Various. Dependent on wood species and time since board was manufactured and if any dye is present.

Odor

Various. Dependent on wood species and time since board was manufactured.

Odor threshold

Not available.

Physical state

Solid.

Form

Board.

pH

Not applicable.

Melting point

Not available.

Freezing point

Not available.

Boiling point

Not applicable.

Flash point

Not applicable.

Evaporation rate

Not applicable.

Flammability limits in air, upper, % by volume

Not available.

Flammability limits in air, lower, % by volume	Not available.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Specific gravity	< 1
Solubility (water)	Insoluble.
Partition coefficient (n-octanol/water)	No data available.
Auto-ignition temperature	425 - 475 °F (218.3 - 246.1 °C)
Decomposition temperature	Not available.
Viscosity	Not applicable.

10. Chemical Stability & Reactivity Information

Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Ignition sources. Minimize dust generation and accumulation.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	At elevated temperatures: Aliphatic aldehydes. Organic acids. Polycyclic aromatic hydrocarbons (PAHs).
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Acute effects The dust, which may be generated during manual or mechanical cutting, drilling, sanding, or other abrading processes and the smoke generated by heating or cutting, may cause temporary irritation of the eyes and respiratory tract. Allergic skin and lung reactions have been reported with exposure to various wood dusts due to the chemicals presented in wood and cured resin.

Sensitization Depending on wood species, dust may cause skin and/or respiratory sensitization.

ACGIH Sensitizer

Wood dust (and/or ligno-cellulosic fibers) (CAS not applicable) Sensitizer.

Chronic effects Long-term inhalation of wood dust, above exposure limits, can cause nasal lesions, bleeding, and nasal cancer.

Carcinogenicity Due to the form of the product, exposure to the potentially carcinogenic components is not expected. Potentially carcinogenic components are typically only present in trace amounts. ACGIH classifies Oak and Beech wood dusts as category A1 (confirmed human carcinogen). Birch, mahogany, teak and walnut wood dusts are classified as category A2 (suspected human carcinogen). All other species of wood dust are classified as category A4 (not classifiable as a human carcinogen).

ACGIH Carcinogens

Wood dust (and/or ligno-cellulosic fibers) (CAS not applicable) A1 Confirmed human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Wood dust (and/or ligno-cellulosic fibers) (CAS not applicable) 1 Carcinogenic to humans.

US NTP Report on Carcinogens: Known carcinogen

Wood dust (and/or ligno-cellulosic fibers) (CAS not applicable) Known carcinogen.

12. Ecological Information

Ecotoxicity	Not expected to be harmful to aquatic organisms.
Persistence and degradability	No data available.
Bioaccumulation / Accumulation	No data available.
Partition coefficient (n-octanol/water)	No data available.

Mobility in environmental media No data available.

13. Disposal Considerations

Disposal instructions Material should be recycled if possible. Dispose of contents/container in accordance with local/regional/national/international regulations.

14. Transport Information

DOT

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

TDG

Not regulated as dangerous goods.

15. Regulatory Information

US federal regulations This product is hazardous according to OSHA 29 CFR 1910.1200.

CERCLA (Superfund) reportable quantity (lbs)

None

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

Section 302 extremely hazardous substance No

Section 311 hazardous chemical No

Drug Enforcement Agency (DEA) Not controlled

WHMIS status Controlled

WHMIS classification D2A - Other Toxic Effects-VERY TOXIC

WHMIS labeling



Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	No
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations WARNING: This product contains chemicals known to the State of California to cause cancer.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Formaldehyde (CAS 50-00-0) Listed.

Wood dust (and/or ligno-cellulosic fibers) (CAS not applicable) Listed.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

Formaldehyde (CAS 50-00-0) Listed: January 1, 1988 Carcinogenic.

Wood dust (and/or ligno-cellulosic fibers) (CAS not applicable) Listed: December 18, 2009 Carcinogenic.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Wood dust (and/or ligno-cellulosic fibers) (CAS not applicable) Listed.

Mexico regulations This safety data sheet was prepared in accordance with the Official Mexican Standard (NOM-018-STPS-2000).
This product is dangerous according to Mexican regulations.

16. Other Information

Further information

HMIS® is a registered trade and service mark of the NPCA.
A HMIS® Health rating including an * indicates a chronic hazard.

HMIS® ratings

Health: 1*
Flammability: 1
Physical hazard: 0

NFPA ratings

Health: 0
Flammability: 1
Instability: 0

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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