Section 1 - Identification Product and preparation information

Date revised: 2004-05-28

Tradename:	Tafipan
Synonym:	Particleboard
Chemical Name:	Urea-Formaldehyde Bonded Wood
Product usage:	Furniture
Chemical Family:	Mixture
Formula:	Cellulose, Wood

Section II - Hazardous ingredient

CHEMICAL IDENTITY	CAS NUMBER	PERCENT BY WEIGHT
Formaldehyde	50-00-0	<0.1%
Wood	none	85-95%

Section III - Physical/Chemical Characteristics

Physical state (room temperature)	Solid
Odor and appearance	Light to dark colored granular solid. Color and odor are dependent on the wood species and time since wood particles were generated.
Odor threshold	N/A
Boiling point	N/A
Freezing point	N/A
Percent volatile by volume	N/A
Specific gravity	Variable (Dependent on wood species and moisture content.)
Evaporation rate	N/A
Vapor pressure	N/A
Vapor density	N/A
pH	N/A
Solubility in H_2O (% by Wt.)	<0.1%

Section IV Fire and explosion hazard data

Condition of flammability	Open Flame
Extinguishing media	Water, Dry Chemical,CO_2, Sand
Hazardous combustion products	CO,CO_2,NH_3,Aliphatic Idehydes, Rosin Acids, Terpenes
Special fire fighting procedures	Use water to wet down wood dust to reduce the likelihood of ignition or dispersion of dust into the air. Firefighters should wear Chemical Cartridge Respirators approved for Formaldehyde and Organic Vapors.

Flash point	N/A
Auto-ignition temperature	Variable (typically 400-500 F)
Unusual fire and explosion hazards	Particleboard does not present any unusual explosion hazard; however, wood dust as a result of sanding, sawing or similar operations may present a strong to severe explosion hazard if a dust cloud contacts an ignition source.
Explosive Limits in Air	40 grams/m^3 (LEL)

Section V - Emergency and first aid procedures

Eye contact	Flush with water to remove dust particle. Get medical attention if irritation persists.
Skin Contact	Wash affected area with soap and water. Get medical advice if rash or persistent irritation or dermatitis occurs.
Inhalation	Remove to fresh air. Seek medical attention if persistent irritation, severe coughing or breathing difficulty occurs.
Ingestion	N/A

Section VI - Toxicological properties

Route of entry	Skin contact [X] Skin absorption [ ] Eye contact [X] Inhalation [X] Ingestion [ ]
Effects of acute exposure	**Formaldehyde** - vapor can cause severe irritation to nose, throat and windpipe. Tingling in the nose and back of throat occurs at about 2-3 ppm. Irritation of the eye may occurs at about 0.2 ppm for Formaldehyde vapor. Tingling of the eye occurs in most people at 2-3 ppm and tears from at 4-5 ppm. Profuse and intolerable tearing occurs about 10 ppm. **Wood dust** - may cause irritation to the eyes, mouth, throat and skin. It may also cause nasal dryness, irritation and obstruction. Various species of wood dust can elicit allergic contact dermatitis in sensitized individuals.
Effects of chronic exposure	**Formaldehyde** - 2A Carcinogen, suspected of carcinogenic potential for humans based on limited epidemiological evidence and on results of carcinogenic testing in animal studies. Chronic exposure may cause respiratory irritation, chronic obstruction of the airways and impaired lung function. **Wood dust** - depending on species, may cause dermatitis on prolonged, repetitive contact, may cause respiratory sensitization after prolonged exposure to

elevated dust levels. IARC classifies wood dust as a carcinogen to humans (Group 1). This classification is based primarily on IARC's evaluation of increased risk in the occurrence of adenocarcinomas of the nasal cavities and paranasal sinuses associated with exposure to wood dust. IRAC did not find sufficient evidence to associate cancers of the oropharynx, hypopharynx, lung, lymphatic and hematopoietic systems, stomach, colon or rectum with exposure to wood dust.

Chemical component	**Ontario TWAEV**	**ACGIH TLV**	**OSHA PEL**	**ACTION LEVEL**	**OSHA STEL**	**OSHA TWA**
Formaldehyde	1 ppm	0,3 ppm	0,75 ppm	0,5 ppm (OSHA)	2 ppm	1 ppm
Wood Dust	5 mg/m^3	5 mg/m^3	5 mg/m^3	NAV	5 mg/m^3	NAV

[1]See important footnote below.

Irritancy — Both Formaldehyde and wood dust may cause irritation of skin, eyes, throat and nose.

Sensitization — Some reports suggest that formaldehyde may cause respiratory sensitization, such as asthma, and that pre-existing respiratory disorders may be aggravated by exposure.

Carcinogenicity — **Formamaldehyde** - IARC has classified Formaldehyde as 2A Carcinogen. California's Safe Drinking Water and Toxic Enforcement Act of 1986, commonly known as "Proposition 65" (Cal. Health and Safety Code SS 25249.5 - 25249.13) has recognized Formaldehyde as a chemical known to the state to cause cancer. **Wood dust** - IRAC classifies wood dust as a carcinogen to humans (Group 1).

Reproductive toxicity — There is one Soviet Report of menstrual disorders and secondary sterility in women exposed to Formaldehyde and some other chemicals.

Teratogencity — No human effect information known to Tafisa. No effects seen in animal studies.

Mutagenicity — Insufficient human or animal effect information. Positive effects seen in bacterial tests, and in isolated human and animal cells.

[1] In AFL-CIO v OSHA 965 F. 2d 962 (11 th Cir. 1992), the court overturned OSHA's 1989 Air Contaminants Rule, including the specific PELs for wood dust that OSHA had established at that time. The 1989 PELs were: TWA - 5,0 mg/m^3: STEL (15 MIN,) - 10,0 mg/m^3 (ALL SOFT AND HARD WOODS, EXCEPT WESTERN RED CEDAR): WESTERN RED CEDAR: TWA - 2,5 mg/m^3.

Wood dust is now officially regulated as an organic dust under the Particulate Not Otherwise Regulated (PNOR) or Inert or Nuisance Dust categories at PELs noted under Health Effects Information section of this MSDS. However A NUMBER OF STATE HAVE INCORPORATED PROVISIONS OF THE 1989 STANDARD IN THEIR STATE PLANS, ADDITIONALLY, OSHA HAS ANNOUNCED THAT IT MAY CITE COMPANIES UNDER THE OSHA ACT GENERAL DUTY CLAUSE UNDER APPROPRIATE CIRCUMSTANCES FOR NON-COMPLIANCE WITH THE 1989 PELs.

Toxicologically synergistic products None known to Tafisa.

Section VII - Reactivity Data

Stability	Stable, temperature may increase the rate of emission of formaldehyde from Particleboard.
Condition to avoid	High temperatures, high humidity, low air exchange. For wood dust, avoid contact with oxidizing agents and drying oils. Avoid open flame. Products may ignite at temperatures in excess of 400 F.
Incompatible substances	Strong Acids, alkalis Oxidizing Agents.
Hazardous decomposition	Thermal decomposition products include carbon monoxide, carbon dioxide, aliphatic Aldehydes, rosin acids, Terpenes, polycyclic aromatic hydrocarbons and organic acids.
Hazardous Polymerization	N/A

Section VIII -Preventive measures - Personal protective equipment:

Respiratory Protection	Not applicable for product in purchased form. A NIOSH/MSHA approved mask is recommended when the allowable exposure limits may be exceeded. Exemple: During cutting or sanding the product.
Hand protection:	Not required. Cloth, canvas, or leather gloves are recommended.
Eye Protection	Not applicable for product in purchased form. Safety glasses are recommended for machining the product.
Body Protection	Not applicable for product in purchased form. Outer garments maybe desirable when machining.
Work/Hygienic Practices	If sanding or cutting the product follows good hygienic and housekeeping practices. Clean up areas where dust settles to avoid excessive accumulation of this combustible material. Minimize blowdown or other practices which blowdown or other practices which generate high airborne dust concentration.

GENERALLY APPLICABLE CONTROL MEASURES

Local Exhaust	If sanding or cutting the product: provide local exhaust as needed so that exposure limits are met.
Mechanical (General)	Provide general ventilation in processing and storage areas as needed so that exposure limits are met.
Special	Self contained breathing apparatus (SCBA) recommended when fighting fire.
Special shipping requirements	Avoid contact with water.
User's responsibility	The information contained in this Material Safety Data Sheet is based on the experience of the occupational health and safety professionals and comes from sources

believed to be accurate or otherwise technically correct. It is the users responsibility to determine if this information is suitable for their applications and to follow safety precautions as may be necessary. The user has the responsibility to make sure that this sheet is the most up-to-date issue. We will not be liable for any damages, losses, or injuries which may result from the reliance on any information contained herein. We also do not give any warranties regarding the accuracy of the information contained herein.

Additional information

OSHA Occupational Safety and health Administration

ACGIH American Conference of Government Industrial Hygienists

IARC International Agency for Research on Cancer

PEL Permissible Exposure Limit

TWA Time-weighed average (8 hours)

TLV Threshold Limit Value

STEL Short-term Exposure Limit (15 min.)

LEL Lower Explosion Limit

UEL Upper Explosion Limit

Disclaimer

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