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MATERIAL SAFETY DATA SHEET (MSDS)
Medium Density Fiberboard - MDF/HDF
CARB 93120 phase 2 compliant & TSCA Title VI Compliant for formaldehyde

Ver. 03 - 2022

Hazard Ingredients

Under some conditions the following hazardous material may be released from MDF and/or products manufactured from same. Wood dust may also be developed from machining of various wood products.

Ingredient Name	(CAS #)	ACGIH / TLV	OSHA / PEL
Formaldehyde *	50-00-0	Ceiling 0.3 ppm	TWA 0.75 ppm STEL 2.0 ppm
Wood Dust	NAP	TWA 5 mg/m^3	TWA 5 mg/m^3
		STEL 10 mg/m^3	STEL 10 mg/m^3

* The thermal heating process cures the resin and just small amount of Formaldehyde may be found on the final product. This amount reduces dramatically over time. Final product contains less than 0.015% of free formaldehyde in weight. As per final product certification release formaldehyde is lower than 0.13 ppm for HDF and 0,11 ppm for MDF.

NOTE:

OSHA = Occupational Safety & Health Administration.
ACGIH = American Conference of Governmental Industrial Hygienists.
PEL = Permissible Exposure Limit.
TWA = Time-Weighted Average.
TLV = Threshold Limit Value.
STEL = Short-Term Exposure Limit.
NAP = Not applicable properties.
CAS # = Chemical Abstract Society Number.

Physical / Chemical Characteristics

Appearance and odor	Straw Yellow to Light Brown. No Distinctive Odor
Specific gravity (H_2O = 1)	Variable but generally under 1.
Boiling point	NAP
Melting point	NAP
Vapor pressure	NAP
Vapor density	NAP
Solubility in water	NAP
Evaporation rate	NAP

Fire and Explosion Hazard Data

Flash point (method used)	NAP
Extinguishing media	Water Spray, CO2 and Sand
Auto-Ignition temperature	218 - 246 oC
Flammable limits in air	Formaldehyde LEL = 7% and UEL 73%
Special fire fighting procedures	Fire fighting procedures for wood are well known
Unusual fire e exposition hazards	ry and warm environments or the presence of an ignition source may cause od dust to explode. According to NFPA (National Forest Product Association) 40 g/m3 is the minimum wood dust concentration for explosion.

Reactivity Data

Stability	Stable
Incompatibility	Strong Oxidizing agents, drying oils and strong acids
Hazardous decomposition	Toxic fumes and gases like carbon dioxide (CO2), olefinic e paraffinic compounds, trace amount of organic acids, ketones and alcohols
Hazardous polymerization	Will not occur

Health Hazard Data

Sings and Symptoms of Exposure

1. Formaldehyde

Acute Exposure
May cause temporary irritation of eyes, skin, and respiratory system.
May cause sensitization

Chronic Exposure
Rats exposed to 14 ppm developed nasal cancer
EPA, IARC and NTP has classified it as probable human carcinogen

2. Wood Dust

Acute Exposure
Skin Contact: causes irritation and sensitization
Dermatitis has been reported in humans Rats exposed to 14 ppm developed nasal cancer. Nature of wood and origin of dust has to be taken in consideration.
Eye Contacts: causes eye irritation. Conjutivity has been reported in humans. Nature of wood and origin of dust has to be taken in consideration.
Inhalation: causes irritation and sensibilization. May cause some difficulties on breathing such as bronchitis, nasal discharge, respiratory track obstruction and more. May sensitive the respiratory system and cause asthmatic symptoms and signs.

Chronic Exposure
Exposure to dust may cause asthmatic symptoms and signs Chronicles exposure to some species of wood and sensitivity of some workers may cause outbreak of some allergies that can Irritancy to skin, respiratory system and eyes Sensitization of skin and respiratory system.

Emergency First Aids Procedures

Inhalation
Remove to fresh air. If persistent irritation breathing difficulties or rash occurs, seek medical advise.

Eyes
Remove to fresh air. Flush eyes immediately with clear water for 10'.
If irritation persists, get medical attention

Skin
Remove to fresh air. Wash skin with mild soap or detergent and water, or flush affected area for few minutes. If a rash or persistent irritation occurs get a medical advice before return to work where wood dust is present.

NOTE:

EPA = Environment Protection Agency
IARC = International Agency for Research and Cancer
NTP = National Toxicology Program

Precautions for Safe Handling and Use

Precautions to be taken in handling and storing	Provide adequate ventilation to reduce possible build-up of formaldehyde gás particularly when high temperatures occurs
Steps to be taken in case material is released or spilled	See above for formaldehyde. Sweep and vacuum spills of dust for recovery or disposal; avoid creating dust conditions
Waste disposal method	Incinerate or landfill in accordance with local, provincial, federal or state regulation

Control Measures

Ventilation	Recommended
Local exhaust	Necessary to remove wood dust
Mechanical	Ventilate to ensure removal of wood dust and formaldehyde under ACGIH - TLV
Special	Self-contained breathing apparatus (SCBA) recommended when suppressing fire
Respiratory protection	NIOSH approved respirator
Protective gloves	Recommended to avoid mechanical irritation when handling the panels
Eye protection	Safety glasses or goggles are highly recommended when cutting or sanding the panels
Work/hygienic practices	Good housekeeping practices to avoid excessive accumulation of wood dust

Disclaimer

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