



## DESCRIPTION

This door contains a hardwood veneer face (occasionally a decorative softwood face) bonded to wood components such as wood, long strand lumber, particle board, or medium density fiberboard (MDF) using urea-formaldehyde or polyvinyl acetate resin.

## POTENTIAL AIRBORNE RELEASES

The product may release small quantities of formaldehyde (CAS No. 50-00-0) in gaseous form. Emissions decrease through time as the panels age. Manual or mechanical cutting or abrasion processes performed on the product can result in generation of wood dust.

## PHYSICAL DATA

### Boiling Point

Not applicable

### Specific Gravity (H<sub>2</sub>O = 1)

<1

### Vapor Density

Not applicable

### % Volatile by Volume

0

### Melting Point

Not applicable

### Vapor Pressure

Not applicable

### Solubility in H<sub>2</sub>O (% by weight)

<0.1%

### Evaporation Rate (Butyl Acetate = 1)

Not applicable

### pH

Not applicable

### Appearance and Odor

Light to dark color. Color and odor are dependent upon wood species.

## FIRE AND EXPLOSION DATA

### Flash Point

Not applicable

### Autoignition Temperature

Not available (will depend upon duration of exposure to heat source and other variables).

### **Explosive Limits in Airs**

See below under "Unusual Fire and Explosion Hazards."

### **Extinguishing Media**

Water, Carbon Dioxide, Sand

### **Special Fire Fighting Procedures**

None

\* This fact sheet is for products that have not been finished (coated, laminated or overlaid) or treated (for example, with preservative or fire retardant).

### **Unusual Fire and Explosion Hazards**

Sawing, sanding or machining can produce wood dust as a by-product which may present an 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 LEL for wood dust.

## **REACTIVITY DATA**

### **Conditions Contributing to Instability**

Stable under normal conditions

### **Incompatibility**

Avoid contact with oxidizing agents. Avoid open flame. Product may ignite in excess of 400°F.

### **Hazardous Decomposition Products**

Thermal and/or thermal oxidative decomposition can produce irritating and toxic fumes and gases, including carbon monoxide, hydrogen cyanide, aldehydes, organic acids, and polynuclear aromatic compounds.

### **Hazardous Polymerization**

Not applicable

## **HEALTH EFFECTS INFORMATION**

### **Exposure Limits:**

#### **Formaldehyde**

OSHA PEL-TWA: 0.75 ppm

OSHA PEL-STEL: 2 ppm

ACGIH TLV - CEILING: 0.3 ppm

#### **Wood Dust**

OSHA PEL-TWA: 15.0 mg/m<sup>3</sup> (total dust); 5.0 mg/m<sup>3</sup> (respirable fraction)<sup>1</sup>

#### **Wood Dust (Softwood)**

ACGIH TLV - TWA 5.0 mg/m<sup>3</sup>

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<sup>1</sup> In AFL-CIO v. OSHA 965 F. 2d 962 (11<sup>th</sup> 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<sup>3</sup>; STEL (15 min.) - 10.0 mg/m<sup>3</sup> (all soft and hard woods, except Western Red Cedar); Western Red Cedar: TWA - 2.5 mg/m<sup>3</sup>.

ACGIH TLV - STEL (15 min.): 10.0mg/m<sup>3</sup>

### **Wood Dust (Certain hardwoods such as Beech and Oak)**

ACGIH TLV - TWA: 1.0 mg/m<sup>3</sup>

#### **Eye Contact**

Gaseous formaldehyde may cause temporary irritation or a burning sensation. Wood dust can cause mechanical irritation.

#### **Skin Contact**

Both formaldehyde and various species of wood dust may evoke allergic contact dermatitis in sensitized individuals.

#### **Ingestion**

No likely to occur

#### **Inhalation:**

##### **Gaseous Formaldehyde**

May cause temporary irritation to eyes, nose and throat. Some reports suggest that formaldehyde may cause respiratory sensitization such as asthma, and that pre-existing respiratory disorders may be aggravated by exposure.

Formaldehyde is listed by the International Agency for Research on Cancer (IARC) as a probably human carcinogen. The National Toxicology Program (NTP) includes formaldehyde in the Annual Report on Carcinogens. Formaldehyde is regulated by OSHA as a potential cancer agent.

In studies involving rats, formaldehyde has been shown to cause nasal cancer after long term exposure to very high concentrations (14+ ppm), far above those normally found in the workplace using this product.

The National Cancer Institute (NCI) conducted an epidemiological study of industrial workers exposed to formaldehyde (published June 1986). The NCI concluded that the data provides little evidence that mortality from cancer is associated with formaldehyde exposure at the levels experienced by workers in the study.

##### **Wood Dust**

May cause nasal dryness, irritation and obstruction. Coughing, wheezing and sneezing; sinusitis and prolonged colds have also been reported.

Depending on species, may cause respiratory sensitization and/or irritation. 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. IARC 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.

### **PRECAUTIONS, SAFE HANDLING & GENERALLY APPLICABLE CONTROL MEASURES**

#### **Formaldehyde**

Provide adequate ventilation to reduce the possible build-up of formaldehyde gas, particularly when high temperatures occur.

## Wood Dust

Avoid dusty conditions and provide good ventilation.

## GENERALLY APPLICABLE CONTROL MEASURES

### Ventilation

Provide adequate general and local exhaust ventilation to keep airborne containment concentration levels below the OSHA PELs.

### Personal Protective Equipment

Wear goggles or safety glasses when manufacturing or machining the product. Wear NIOSH/MSHA approved respirator when the allowable exposure limits may be exceeded. Other protective equipment such as gloves and outer garments may be needed depending on dust conditions.

## EMERGENCY AND FIRST AID PROCEDURES

### Eyes

Flush eyes with large amounts of water. Remove to fresh air. If irritation persists, get medical attention.

### Skin

Wash affected areas with soap and water. Get medical advice if rash or persistent irritation or dermatitis occurs.

### Inhalation

Remove to fresh air. Get medical advice of persistent irritation, severe coughing or breathing difficulty occurs.

### Ingestion

Not applicable



### Stile & Rail Doors, Door Frames, Veneered Components, Plywood

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### Flush Doors

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