

**Chapter 10 - Material Safety Data Sheets (MSDS)**

July 2003

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## Tekno NA's Safety Recommendations

### When Working With Wood and Wood Dust

This section is provided to help mitigate, through education, the potential dangers in using wood, particularly when creating sawdust and then breathing or coming in contact with that dust.

#### Wood Dust

- 1) Wood dust will:
  - a) Burn easily when exposed to an open flame or is heated sufficiently.
  - b) Explode when suspended in the air in sufficient quantities and/or if it comes in contact with an ignition source.
  - c) Ignite through spontaneous combustion if it is mixed with oils.
- 2) Wood dust is a potential carcinogen with an increased risk of contracting nasal cancer after repeated and long-term exposure.
- 3) Wood dust is the medium by which potentially irritant chemicals found in wood can cause allergic contact dermatitis and adverse respiratory reactions. Once finished, wood is basically inert.

#### Allergic Reaction

Most woods, domestic as well as imported, contain chemical compounds which some individuals find irritating during cutting or sanding. While wood alone is not hazardous, skin contact with or the inhalation of wood dust can be. Dust is the usual means to convey the potentially irritating compounds found in most woods. Installers, because of their repeated exposure to sanding and sawdust, need to be aware of the possibility of allergic reaction. Your flooring, once coated with a finish, is basically inert.

#### The allergic reaction symptoms come in two forms:

- It can be respiratory, causing sneezing and/or breathing problems.
- It can be in the form of a skin irritant, causing itching and, in rare cases, stronger allergic reactions such as painful rashes.



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### Tekno NA's Safety Recommendations

As an individual becomes sensitized to a wood over time, these reactions can get stronger. Despite years of working in close (and, we might add, dusty), contact with these woods, no one at Tekno NA has experienced any allergic reactions to date. However, one case has come to our recent attention in which a famous installer did have a severe reaction. This individual had been using exotic woods in elaborate pattern work extensively over the last thirty years and had obviously been previously sensitized as a result. He experienced serious contact dermatitis, breaking out in painful rashes after installing a Bolivian Rosewood floor. So it can happen!

In general, preventative measures such as having good dust collection attached to your sanders, wearing long sleeve shirts and hats to avoid skin exposure, and showering after being exposed to dust will minimize the skin irritant potential. Wearing a good dust respirator will mitigate the respiratory dangers.

However, those who wish to test their skin's allergic reactive potential prior to working with large quantities of dust may perform a skin patch test. Take a small quantity of fine dust from the wood being used and place it under a round Band-Aid on the inside of your forearm. Leave in place for 24 hours and then remove. If any serious skin irritation is present - **DO NOT** proceed. We recommend this test be performed prior to using any woods that we have noted as having a high potential for allergic reaction in very dusty conditions. On the following page is a chart, which lists the woods known to have allergic reaction potential.

See charts on the following pages for Known Woods with Allergic Potential.

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**Tekno NA's Allergic Reaction Potential Charts**

- D = Contact Dermatitis
- R = Respiratory disorders have been reported

| Common Domestic Flooring Woods<br>Known to Cause Irritation |                    |   |
|---|--------------------|---|
| Species   | Allergic Potential |   |
|   | D                  | R |
| Ash   |                    | X |
| Cedar, White & Red  | X                  | X |
| Cherry  | X                  |   |
| Fir   | X                  | X |
| Maple   | X                  |   |
| Oak, White & Red  | X                  |   |
| Redwood   | X                  | X |
| Walnut  | X                  | X |

| Common Imported Flooring Woods<br>Known to Cause Irritation |                    |   |
|---|--------------------|---|
| Species   | Allergic Potential |   |
|   | D                  | R |
| Cherry, African (makore)                                    | X                  | X |
| Ebony, all types  | X                  |   |
| Iroko/Kambala   | X                  | X |
| Rosewood (all dalbergias)                                   | X                  |   |
| Teak  | X                  | X |
| Walnut, African (mansonia)                                  | X                  | X |

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**Tekno NA's Allergic Reaction Potential Charts**

- D = Contact Dermatitis
- R = Respiratory disorders have been reported

| <b>Common Imported Flooring Woods<br/>Which Sometimes Cause Irritations</b> |                           |          |
|---|---------------------------|----------|
| <b>Species</b>  | <b>Allergic Potential</b> |          |
|   | <b>D</b>                  | <b>R</b> |
| Afrormosia  | X                         | X        |
| Angelique   | X                         | X        |
| Aniegre   | X                         | X        |
| Ash, Mountain   | X                         |          |
| Bubinga   | X                         |          |
| Cumaru/Brazilian Teak   | X                         |          |
| Cypress, Australian   |                           | X        |
| Doussie   | X                         | X        |
| Gum, Spotted  | X                         |          |
| Gum, Sydney Blue  | X                         |          |
| Imbuia  | X                         | X        |
| Mahogany, African   | X                         | X        |
| Mahogany, Honduran  | X                         | X        |
| Mahogany, Philippine  | X                         | X        |
| Mahogany, Santos  |                           | X        |
| Sapele  | X                         |          |
| Oak, Silky  | X                         |          |
| Oak, Tasmanian  | X                         |          |
| Padauk  | X                         | X        |
| Ramin   | X                         | X        |
| Rosewood, Asian   | X                         | X        |
| Satin Wood  | X                         |          |
| Teak, Brazilian (tatajuba)  | X                         |          |
| Walnut, Brazilian/Patagonian  | X                         |          |
| Wenge   | X                         | X        |
| Zebrawood   |                           | X        |



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## Material Safety Data: Wood Dust

### SECTION I: PRODUCT IDENTIFICATION

**Product Name and Synonyms:** Wood dust; Sawdust

**Cas Name and Number:** N/A

**Chemical Family:** Can be found as component of wood, wood chips, and planer shavings.

**Chemical Formula:** N/A

**Manufacturer's Name and Address:**

Tekno North America  
1810 Underwood Blvd.  
Delran, NJ 08075

**Emergency Telephone Number:** (856) 764-2501

### SECTION II: HAZARDOUS INGREDIENTS

**ACGIH TWA:**

**ACGIH STEL:**

**OSHA PEL:**

**Component %:** (Weight./Volume) (Units) Units Units

Wood dust 100% 1 mg/m<sup>3</sup>\* No current PEL

5 mg/m<sup>3</sup>\*\* 10 mg/m<sup>3</sup>\*\* for organic dusts, including wood dust.

\* - hardwoods

\*\* - softwoods

### SECTION III - PHYSICAL PROPERTIES

**Appearance and Odor:** A granular or finely powdered solid in varying colors/odors dependent on wood type.

**Molecular Weight:** N/A

**Boiling Point** (Degrees Fahrenheit): N/A

**Melting Point** (Degrees Fahrenheit): N/A

**Vapor Pressure** (MM. OF MERCURY): N/A

**Specific Gravity** (Water = 1): Varying by wood type but generally between .5 to 1

**Vapor Density** (AIR = 1): N/A

**Percent Volatile** (by weight): N/A

**Ph:** N/A

**Solubility in Water:** Insoluble

**Evaporation Rate** (BUTYL Acetate = 1): N/A



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### Material Safety Data: Wood Dust

#### SECTION IV - FIRE AND EXPLOSION DATA

**Flash Point:** N/A

**Fire Extinguishing Media:** Determined by surrounding fire. Use a water spray to wet down wood dust to reduce likelihood of ignition or dispersion of dust into the air. Remove burned or wet dust to safe open area after fire is out.

**Flammable Units (Percent by Volume):**

Lower: Variable\*\* White pine flour/dust- ca. 0.035 oz/ft3

Upper: Not available

\*\*Values depend on wood type, particle size, level of moisture in wood, time and rate of heating, etc.

(Typically, white pine auto ignition would be at about 390 – 500 degrees F.)

**Special Fire Fighting Procedures & Equipment:** None

**Unusual Explosion and Fire Hazards:** Wood dust is a strong to severe explosion hazard if a dust cloud contacts an ignition source. Partially burned dust is especially hazardous if dispersed in air. 212 degrees F has been suggested as the upper temperature limit for continuous exposure for wood without risk of ignition. Wood dust may require a still lower temperature.) For example: white pine flour/dust as a cloud in air requires 0.040 j. min. energy for ignition and can produce an explosion pressure of 113 psig max.

#### SECTION V - REACTIVITY DATA

**Stability:** Stable

**Conditions To Avoid:** N/A

**Incompatibility (Materials To Avoid):** Oxidizing agents and drying oils.

**Hazardous Decomposition Products:** Thermal-oxidative degradation of wood produces irritating and toxic fumes and gases, including CO, aldehydes and organic acids.

**Hazardous Polymerization:** Will Not Occur

**Conditions To Avoid:** Wood dust is extremely combustible. Keep in a cool, dry place away from ignition sources.

#### SECTION VI - HEALTH HAZARD INFORMATION

**Effects Of Overexposure:** Avoid prolonged or repeated breathing of wood dust in air. Repeated exposures (even below 5 mg/m3) to certain wood dusts (see attached list), can produce allergic responses in sensitive individuals. Avoid repeated or prolonged contact with the skin, which can also cause allergic responses. If allergic responses, such as dermatitis, asthma, or bronchitis develop, it may be necessary to remove the sensitized worker from further exposure to wood dust (and also to wood-based products like turpentine and rosin).

**Probable Routes of Exposure:** Inhalation, skin.

**Emergency and First Aid Procedures:**

Ingestion: N/A

Inhalation: Remove to fresh air.

If persistent irritation, severe coughing, breathing difficulties, or rash occur, get medical advice before returning to work with wood dust.

**Eye Contact:** Flush with water to remove dust particles from the eye. If irritation persists, get medical attention.

**Skin Contact:** If a rash, persistent irritation or dermatitis occurs, get medical advice before returning to work where wood dust is present. If a splinter enters the skin, remove with tweezers.



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## Material Safety Data: Wood Dust

### SECTION VII - TOXICITY DATA

**Oral:** Not available.

**Dermal:** The chronic effects of skin contact with wood dust are not fully known, and may vary from one wood to another.

**Inhalation:** Not available.

**Carcinogenicity:** Not listed as a carcinogen by IARG, WTP, ACGIH or OSHA.

**Other Pertinent Data:** Certain species of woods (see attached list), are known to cause skin, eye and URT irritation along with allergenic responses and asthma. Exposure to wood dust has been statistically associated with nasal cancer in British furniture workers. (CODATA Bulletin, November 1978)

### SECTION VIII - SPECIAL PROTECTION INFORMATION

**Personal Protective Equipment:** \*

Protective Gloves:

Recommended to reduce skin contact, except where moving machinery parts expose fingers to hazards.

Eye Protection: Safety glasses.

Respiratory Protection (Specify type): Approved dust respirator, under dusting conditions.

\*Protective equipment may be warranted at lower dust exposure levels, depending on species of wood.

Other Protective Equipment: Recommend the use of clean body-covering work clothing to reduce exposure of skin to wood dust.

**Ventilation:**

Local Exhaust: To meet TLV requirements. Due to the explosive potential of wood dust when suspended in air, precautions should be taken to prevent sparks or other ignition sources in ventilation equipment. Use of totally enclosed motors is recommended.

Mechanical (General): N/A

Special: N/A

Other: N/A

### SECTION IX - SPILL, LEAK, AND DISPOSAL PROCEDURES

**Steps to Be Taken In Case Material Is Released or Spilled:** Sweep up or vacuum up spills for recovery or disposal, avoiding dusting conditions. Provide good ventilation. Place recovered wood dust in a covered metal container for prompt disposal.

**Waste Disposal Methods:** Dispose in a landfill or incinerate in accordance with local, state and federal laws.

**Clean Water Act Requirements:** N/A

**Resource Conservation and Recovery Act (RCRA) Requirements:** N/A



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### Material Safety Data: Wood Dust

#### SECTION X - REGULATORY INFORMATION

**FDA:** Pulp is listed as "generally recognized as safe" (GRAS) for use in food packaging materials and in paper and paperboard in contact with food (21 CFR 186.1673).

Methylcellulose (USF) is listed as GRAS when used in accordance with good manufacturing practice (GMP) as long as the methoxy content is not less than 27.5% and not more than 31.5% on a dry-weight basis (21 CFR 182.1480).

Cellulose pulp is approved for use as a component of resin-bonded filters used in producing, manufacturing, processing and preparing food (21 CFR 177.2260(d)(1)).

**USDA:** USDA self-certification (9 CFR 317.20): is FDA-approved.

**CPSC:** N/A

**TSCA:** Not listed on TSCA inventory.

**DOT:** Proper Shipping Name: Sawdust

**Hazard Class:** ORM-C

**Label Required:** None

**Identification Number:** None

**Other Pertinent Information:** Sawdust must be kept clean, dry and free from oil.

#### SECTION XI - SPECIAL PRECAUTIONS & COMMENTS

##### Precautions To Be Taken In Handling and Storing:

- Avoid hot, humid storage or contact with drying oils (spontaneous combustion is possible).
- Partially burned or scorched wood dust can be hazardous to store.
- Avoid generation of explosive levels of wood dust in the air.
- Follow good housekeeping practices; clean up areas where wood dust settles to avoid excessive accumulation of this combustible material.
- Follow good hygienic practices. Wash frequently; wear clean work clothing.

**Other Precautions:** N/A

**Registrations/Certifications:** N/A

**Effective Date:** 9/01/93

##### Supercedes:

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