WOOD DUST EXPOSURE CONTROL PLAN

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Wood Dust Exposure Control Plan

Purpose

SD61 is committed to protecting the health and well-being of employees, students, and visitors. This Exposure Control Plan is designed to minimize employee, student, contractor, and visitor exposure to wood dust, to eliminate fire and explosion hazards due to the accumulation of wood dust, and to ensure compliance with applicable WorkSafeBC regulations.

This Exposure Control Plan applies to any areas or tasks at SD61 where there is the potential for the generation or accumulation of wood dust. This Exposure Control Plan outlines the measures that are necessary to minimize exposure to wood dust at SD61.

Definitions

Carcinogen

A substance or a mixture of substances which is identified as a carcinogen in section 5.57(1), or
(a) causes an increased incidence of benign or malignant neoplasms, or
(b) substantially decreases the latency period between exposure and onset of neoplasms in humans, or
(c) results in the induction of tumors at a site other than the site of administration in one or more experimental mammalian species as a result of any oral, respiratory, or dermal exposure, or any other exposure, or
(d) is metabolized into one or more potential occupational carcinogens by mammals

Allergen

A substance capable of inducing allergy or specific hypersensitivity.

Applicable Legislation and Reference Materials

WorkSafeBC Worker's Compensation Act Part 3 Division 3 - General Duties of Employers, Workers and Others

WorkSafeBC *OHS Regulation* Guideline Part 4 - Work Area Requirements

WorkSafeBC *OHS Regulation* Guideline Part 5 - Table of Exposure Limits for Chemicals and Biological Substances

SD61 Safe Job Procedure Manual Page 31 – Communication with Prime Contractor

SD61 Safe Job Procedure Manual 56- 69 - Respirator General Rules

SD61 Safe Job Procedure Manual 45-53 - Personal Protective Equipment

Heads Up for Safety for Middle Secondary Shop Classes. (Grades 6-12)

Combustible Wood Dust - Hazard Recognition and Risk Controls - WorksafeBC Video

Roles & Responsibilities

Employer

- Providing employees with the information, instruction, training and supervision necessary to ensure their health and safety in carrying out their work and to ensure the health and safety of others at the workplace
- Comply with relevant federal, provincial, and WorkSafeBC Regulations and support the implementation of this Exposure Control Plan

Facilities Maintenance

- Ensure that engineering controls (extraction system) are effective and properly maintained
- Conduct planned maintenance (PM) following task-specific work procedures to ensure the safe removal of accumulated wood dust from machinery, equipment and building surfaces

Contractors

Contractors are responsible for ensuring the safety of their employees and SD61 employees and must ensure that the employees under their supervision are trained in their work procedures and provided with the appropriate tools and equipment to ensure that they and any other people nearby are not exposed to wood dust over the course of their work. Contractors are responsible for the development of safe work procedures for any wood dust generating tasks or work being performed in the areas where there is wood dust generation. If, at any time during their work on SD61 property, the contractor suspects that wood dust poses an exposure hazard to their employees or others they must cease work immediately and consult with their SD61 Project Contact. Work must not be recommended until a risk assessment has been performed and the risk of exposure has been mitigated.

SD61 Project Contact

- Ensure that the contractor follows SD61 project safety procedures
- Conduct sufficient safety inspections during projects

Joint Health and Safety Committee

- Conduct regular inspections to identify and correct areas of wood dust accumulation to ensure that controls are functional and to prevent the development of hazardous conditions
- Participate in the annual review of the Wood Dust Exposure Control Plan

School Administration

- Ensure that teachers and other employees supervising or working in the shop have attended training on the hazards of working with wood (physical and biological hazards of the process and those due to exposure to wood dust)
- Ensure that instructors and supervisors have attended train-the trainer sessions so that they can fit test their students, where necessary
- Investigate any reports of unsafe conditions or acts with the JHSC, if practicable, and implement corrective measures without undue delay
- Consult with, or report to the site Joint OHS Committee when necessary

Teacher/Supervisor

Teachers/Supervisors are required to ensure the health and safety of all workers and/or students under their direct supervision. This includes ensuring students and staff have the information, instruction, training, and supervision necessary to ensure their health and safety and the health and safety of others at the workplace.

Teachers/Supervisors are responsible for ensuring that the employees and/or students under their supervision are provided with the appropriate tools and equipment to ensure that they are not exposed to wood dust over the course of their work. Supervisors are specifically responsible for:

- Development of safe work procedures for any wood dust generating tasks
- Education of employees and students regarding health hazards associated with wood dust, the control measures (including this Exposure Control Plan), and safe work procedures
- Maintenance of records of related instruction and training
- Conducting inspections and maintain sufficient supervision to ensure PPE provided is used, extraction system is effectively operated, and safe work procedures are followed
- Conduct regular inspections to identify and correct areas of wood dust accumulation to ensure that controls are functional and to prevent the development of hazardous conditions
- Supervision of the employees/students in the performance of their duties

SD61 Employees

- Participate in associated training, use controls, and adhere to task specific work procedures
- Report any unsafe conditions or acts to Supervisors/Teacher
- Cease work immediately and report to Supervisor/ Teacher if, at any time during their work on SD61 property, they suspect that wood dust poses an exposure hazard

Risk Identification, Assessment & Control Risk Identification

Risk Assessment

Risk assessments and mitigation controls shall be completed by the Teacher through regular inspection and monitoring of those areas where there is the potential for the generation or accumulation of wood dust. These areas are identified on the “Wood Dust Cleaning /Inspection List” in Appendix A. The degree of risk will depend on the probability, the extent, the number of people and the consequences of exposure to wood dust for a specific area or task.

Control Measures

Wood dust has been classified as an ALARA substance, for which exposure must be kept as low as reasonably achievable. The following control measures must be used to eliminate or minimize the risk of exposure to wood dust for SD61 employees, students, contractors and visitors. The use of control measures should be prioritized with Elimination and Substitution being the best control, then Engineering Controls and Administrative Controls. Personal Protective Equipment (PPE) should be used in situations where other controls are not practicable or where the other controls are not adequate in eliminating concerns of exposure to wood dust.

- ***Elimination & Substitution***
  - Whenever practical, toxic wood should be substituted with non-toxic wood.
- ***Engineering Controls***
  - Engineering controls such as local exhaust ventilation with dust collection must be used to control hazard of wood dust exposure. Extraction units must be effective in removing the dust at the source and must be positioned in such a way that they do not pull the substances past workers' breathing zone. Note: Recirculation is only permitted for non-allergenic softwood dust, provided that its concentration in the discharged air is less than 10% of the 8-hour TWA limit.
- ***Administrative Controls***
  - Conducting regular inspections of areas where there is the potential for the generation or accumulation of wood dust
  - Education of employees and students regarding the hazards of, and the control measures to prevent, exposure to wood dust.
  - Regularly cleaning up work areas and adhering to PM schedules.
- ***Personal Protective Equipment***
  - Safety Glasses with side shields must be worn for all wood processing tasks.
  - An N95 dust mask is required when work is being performed indoors, where there is no local exhaust ventilation, or the ventilation is insufficient to protect employees/students from inhaling wood dust during wood processing.
    - NOTE: Toxic and allergenic wood types are not permitted in schools
  - Hearing protection such as ear plugs or earmuffs are mandatory when operating machines, electric tools and equipment. Other personal protective equipment (PPE) such as hard hats, aprons or coveralls may be required depending on work activities.
  - Training on PPE use, maintenance, and limitations must be provided by the Supervisor/Teacher.

Education & Training

Supervisors are required to provide training on the hazards of wood dust, the assigned control measures, work procedures, and personal protective equipment for employees and students who are working in areas or involved in tasks that have the potential for the generation or accumulation of wood dust.

Hazards of Wood Dust

All wood dust is designated by the International Agency for Research on Cancer (IARC) as a class 1 carcinogen. IARC class 1 designations apply to substances that are confirmed human carcinogens. Wood dust types of special note include Western Red Cedar (ACGIH sensitizer - a substance which when inhaled can trigger an irreversible allergic reaction in the respiratory system), Oak and Beech (ACGIH A1 - confirmed human carcinogen) and Birch, Mahogany, Teak and Walnut (ACGIH A2 - suspected human carcinogen). These wood types are not to be used in schools. Exposure to several species is also known to cause asthma and allergic reactions. A list of allergenic species of wood dust is provided in Appendix C. These wood types should be substituted with non-allergenic wood species.

Wood dust enters the body by inhalation into the lungs and respiratory tract. Hardwoods are generally considered more toxic than softwoods as the dust particles are smaller and more easily inhaled. For some kinds of wood, skin contact may lead to allergic reactions. An excessive accumulation of wood dust can also pose fire, explosion and tripping hazards.

Written Work Procedures

Written safe work procedures for minimizing accumulation of wood dust are available for students, teachers, and custodians. These procedures shall provide the students, teachers and custodians with task-specific work direction for clean-up and disposal of wood dust that addresses both the hazards that may exist and the necessary controls and/or procedures to mitigate the risk. These are provided in this exposure control plan (page 9-12).

Workplace Controls

Ventilation

Local exhaust ventilation must be installed, used and maintained for all stationary equipment that generates wood dust. Extraction units must be effective in removing the dust at the source and must be positioned in such a way that they do not pull the substances past workers' breathing zone. Air can be re-circulated within the work environment only in the case where allergenic and toxic wood dust is not present or with a written acceptance by WSBC. Testing shall be performed to ensure that local exhaust ventilation is efficient. Portable extraction units shall be used wherever feasible for non-stationary equipment being operated indoors.

Personal Protective Equipment

N-95 respirators shall be worn when employees or students perform tasks in or around equipment that generates wood dust without effective ventilation to protect operators from inhaling the contaminants. Coveralls/aprons are required to protect the employees and students from contaminating their clothing with wood dust and are a requirement while working in any areas, or performing tasks, where wood dust is being generated. The use of hard hats, work boots, safety eyewear, and other PPE needs to be addressed in the written work procedures and be assigned based upon the results of the risk assessment.

Housekeeping

Work areas must be cleaned regularly by the users of the area and through regular Planned Maintenance (PM) to ensure that wood dust does not accumulate to any significant levels in machinery, equipment, building surfaces, and the ventilation systems. Refer to Appendix A - Wood Dust Cleaning/Inspection List for the cleaning, inspection and maintenance schedule and to the Safe job Procedures provided in this exposure control plan (page 9-12).

Whenever feasible, vacuums, equipped with HEPA filters shall be used to clean wood dust off surfaces. Alternatively, extraction units used to remove wood dust from the indoor environment through filter bags outside of the building may be used to clean equipment and surfaces. Wood dust may be wiped with dampened cloths or picked up with static dusters. Pressurized air shall not be used to clear dust off from any machinery or surfaces, nor shall any method that disturbs and aerosolizes the dust.

NOTE: Take electrical safety into account when wiping down wood dust from equipment

Hygiene

Employees, students, and contractors working in areas, or at tasks, where the hands and face may be contaminated with wood dust should wash their hands and face upon completion of work, prior to eating, drinking, smoking, and leaving. Clothing and footwear should be changed before going home. PPE must be safely and appropriately decontaminated and stored after use.

Health Monitoring

Employees and students are required to promptly report respiratory tract and/or dermal symptoms which can be linked to exposure to wood dust to SD61 First Aid Attendant and their Supervisor for further investigation. Health symptoms that may be attributed to exposure to wood dust include irritation (eyes, respiratory tract, and skin), allergic reactions, deficits to pulmonary function and cancer.

Documentation

All documentation that is related to the training, instruction and written work procedures must be maintained for a minimum of 3 years. Annual fit testing records for N95 mask must be retained as well.

Program Review

This exposure control plan will be reviewed annually for the following:

- The effectiveness of control measures and work procedures used.
- First aid reports and any reported exposure related health issues.
- Documentation for training and education.

The annual review will be done in consultation with the Joint Occupational Health and Safety Committee.

Workshop General House Keeping and Safety Procedures

DO:

- Minimize fire hazards by keeping the workplace free of flammable or combustible materials and waste.
- Ensure all electrical devices and there are cords are in excellent condition and fully plugged in to eliminate potential sperking.
- Make sure that exits and aisles are clear of obstructions to allow easy evacuation of the building.
- Place all trash and scrap in proper containers.
- Keep oily rags in covered metal containers.
- Dispose of hazardous materials in approved marked containers.
- Store equipment and materials in their assigned location.
- Clean air vents and filters to maintain ventilation efficiency. This is a maintenance requirement as filters get full of dust**.** Students should clean around the air vents before class has ended
- Make sure that boxes, drums, and piles are located on a firm foundation and are properly stored.
- Clean up tools and unused materials after finishing a class or before class is dismissed
- Clean up spills promptly according to procedures, using personal protective equipment (PPE) where necessary.
- Report hazards such as uneven boards, cracks, or burnt-out lights. Fix immediately.
- Bundle and store hoses and cables when not in use.
- Place empty containers and pallets in designated locations.
- Dump small containers into larger ones.
- Keep only enough combustible materials in the classroom for the school years' projects. Sealed in approved metal fire rated lockable cabinet

DO NOT:

- Do not pile material around fire extinguishers, sprinklers, or emergency exits.
- Do not leave clean-up until the end of the day. This is repeated after every class
- Do not clean equipment without turning main power off
- Do not reach into waste containers. Dump contents or remove the bag.
- Do not blow off dust with compressed air. Use an approved vacuum or brush.
- Do not collect broken glass and metal straps in plastic bags.
- Do not place materials on the stairs.
- Do not use containers or boxes as chairs or ladders

Cleanup is done at the end of each class with large push broom and dust pans cleaning off the machines and floor areas and putting the waste material in the appropriate containers.

Safe Job Procedures - Cleaning Wood Dust

Likely areas of dust accumulations may include:

- Structural members
- Conduit and pipe racks and cable trays
- Floors
- Above the ceiling (if a suspended ceiling is present)
- On and around dust collection equipment
- The interior of a dust collector and ductwork

Equipment/PPE:

- N95 dust mask
- Safety glasses/goggles
- Gloves
- Disposable coveralls
- Telescoping microfibre duster
- Intrinsically safe vacuum

NOTE: Toxic woods must not be used in schools. Refer to Appendix B for a list of toxic and non-toxic wood types.

General Safe Job Procedures – Wood Dust

- Cleaning must occur in a way that minimizes the amount of dust that is dispersed into the
- Compressed air should only be used as a last resort and then, only in localized or isolated areas; air pressure should not exceed 15 psi and kept as low as practicable and a blowdown checklist for the area is to be completed prior to using compressed air (Appendix A)
- Compressed air must not be used to consolidate dust piles or clean open areas
- Ensure that any electrical equipment in the area is locked out and de-energized, any hot equipment or other surfaces are cooled down, and sources of open flame, sparks, or static discharge are identified and eliminated
- Vacuum using a vacuum approved for dust collection
- Horizontal and vertical surfaces where dust could settle are be cleaned up at regular intervals as per the "Wood Dust Cleaning/Inspection List" (Appendix A)

Cleaning Walls

- Stand upright and use a lightweight, long-handled mop or squeegee.
- Adjust the length of a telescopic handle to minimize awkward bending and overreaching.
- Alternate lead hands to avoid fatigue.
- Use your legs, not just your arms, to generate force.
- Using telescopic wall washing tools
- Keep your hands in front of you and between your shoulders.
- Work in a small area of the wall and try to keep your elbows below shoulder level.
- Face the wall and move the tool up and down while
    - Using a combination of small arm movements while walking sideway or
    - Holding the tool across your body while walking forward to minimize arm movements
- Extend your washing range by walking forward to wash higher and walking back to wash lower.

Floors and Standard Surfaces

- Use an approved dust mop to clean floors, surfaces and walls; broom sweeping, and compressed air is not a viable means of cleaning combustible dust
- Damp wipe tables, shelves, counters, desks, stools, etc.
- Damp mop floors weekly and spot mop as needed

Equipment/Machines

- Use an Intrinsically Safe Vacuum to remove dust from machine cavities and surfaces
- Be sure to lock out any electrical equipment prior to damp washing
- Ensure equipment is cool prior to using vacuum to remove dust

Ducts, Tracks, Suspended Lighting, Pipe, Conduit, Elevated Surfaces

- Wear safety glasses, coveralls and an N95 dust mask* when high dusting/cleaning above your head, including walls
- Always work from ceiling to walls to floor
- Use a telescopic microfibre brush with flexible brush when high dusting/cleaning of ducts, conduit, pipes and lighting
    - Stand at an angle and not directly under the dusting area.
    - Keep elbows close to the body to minimize over-reaching.
    - Work with your hands in front of your body in the area between your shoulders to minimize effort.
    - Bend the neck of the handle to align it with the surface to be cleaned.
    - Extend the telescopic handle and step back from the wall to improve neck position.
    - Limit time spent in this position by rotating job tasks
- If you need to use a ladder:
    - Always follow the instructions on your ladder's manufacturer's label
    - Do not step or stand any higher than the step or rung specified on the manufacturer's label
    - Always have a spotter
    - Never use a ladder when working alone
    - Select the correct type of ladder for the job
    - Inspect ladder for defects prior to use. Ladders showing damages such as split rails, broken rungs, broken or worn rubber feet, are to be removed from service and reported to the Supervisor
    - Place ladder at a safe angle ¼ length away from the base of the structure and are to be secured or tied to prevent movement.
    - Ladder feet should always be placed on a firm surface
    - Always maintain three-point contact when climbing and working from ladders
    - Use a fiberglass ladder to avoid static
    - Keep your body centred between your ladder's side rails.
    - Face your ladder when climbing or working.
    - Work with both feet on the same rung or step. Keep the soles of your feet in the centre of the rungs or steps.
    - Climb down before repositioning a ladder. Do not walk or shift your ladder while standing on it.

Safe Job Procedures for Wood Dust Bin Removal and Replacement

Following these procedures can help ensure the safe handling of wood dust bins and minimize the risk of dust-related hazards

1. **Preparation**
    - Personal Protective Equipment (PPE): Ensure you are wearing appropriate PPE, including N95 respirators, safety goggles and gloves; be sure to fit check the N95 mask for a proper seal
2. **Shut down the blower**
    - Press the RUN button to switch off the blower; allow blower to decelerate for approximately 2 minutes. Start the shaker (unless automatic) and run for 1 minute. Manual shakers can be run in the same manner
3. **Lockout the System:**
    - Turn Off Machinery: Ensure all machinery connected to the dust collection system is turned off and locked out to prevent accidental start-up
    - De-energize Systems: De-energize the dust collection system to avoid any electrical hazards.
4. **Removing the Dust Bins**
    - Check the Dust Collector pressure gauge on the panel to ensure there is no residual pressure in the dust collection system before removing the bin.
    - Careful Removal: Slowly and carefully remove/roll out the dust bins to avoid disturbing the dust and creating airborne particles.
5. **Emptying the Dust Bins**
    - Minimize Dust Release: Minimize dust release by gently pulling out the bag or pouring the dust into a disposal container.
    - Seal Waste: Seal the waste container immediately after emptying to prevent dust from becoming airborne; put the bags/containers into the disposal bin.
6. **Cleaning and Maintenance**
    - Clean the Bin: Clean the bin thoroughly before replacing it. Use a vacuum with a HEPA filter to remove any residual dust.
    - Inspect for Damage: Inspect the dustbin and the dust collection system for any signs of wear or damage. Repair or replace parts as necessary. If the bins are fitted for bags, insert the bags and ensure that are secure.
7. **Replacing the Dust Bins**
    - Secure Fit: Ensure the dust bins are securely fitted back into the dust collection system to prevent leaks. If you can see gaps, readjust the bins accordingly.
    - Check Seals: Check all seals and connections to ensure they are tight and secure.
8. **Restarting the System**
    - Remove lockout lock, push in the lockout clip in and turn the lockout handle clockwise (to the left)
    - Re-energize Systems: Re-energize the dust collection system and check the system pressure gauge on the panel to ensure it is operating correctly.
9. **Reporting**
    - Report Problems: Report any problems or concerns to your supervisor immediately.

Locking Out Extractor

1. Communicate with any staff members working in the area
2. Press OFF button on the Dust Collector panel
3. Deenergize Control Panel
4. Lockout power to panel with personal lock
5. Allow time for dust in system to settle
6. Keep the lockout keys secured until servicing is complete

N95 Dust Mask Procedures

Ergonomic Procedures - Emptying Dust Collector Bins

- Wear eye protection, gloves and an N95 dust mask when emptying the sawdust hopper dust collector bins/bags.
- Roll bin(s) out from under the hopper; be sure to have adequate space around you to lift out the bag without contacting anything
- Size up the load; make sure it is stable and balanced. Test the weight to ensure you can lift it yourself.
- Plan the job. Ensure that your path of travel is clear and that you have identified the location where you will place the load (ie: disposal location).
- Establish a good base of support. Use a wide balanced stance with one foot ahead of the other.
- Bend your knees and get as close to the object as possible. Lift with your legs and not your back.
- Get a good grip on the object to be lifted. Make sure you can maintain your hold throughout the lift and won't have to adjust your hands later.
- Lift gradually, don't jerk, but use a slow steady movement.
- Keep the load close while carrying; this prevents you from arching your back and adding additional stress to your back.
- Pivot when you need to change directions - don't twist. Move your feet in the direction of the lift.
- If the load is too heavy either enlist another helper.
- If the bin has a bag inside, put the container on its side and use a pulling motion to get the bag out. This helps to avoid awkward lifts above your shoulders.
- When replacing the bins back under the hopper, be sure that they are aligned properly so that there is a good seal around the top of each bin. If you can see gaps, readjust the bins accordingly

Appendix A

Wood Dust Cleaning List

Custodian = C Teacher=T Maintenance Staff = M

Area	Task	Daily	2 x weekly	Weekly	Monthly	Winter and Summer break	Annually or as needed
Floors	Swept	C					
Floors	Wet Mop			C			
Stairs	Swept	C					
Machine hatches	Vacuum	T					
Filter room	Inspection	T					
Sock filters	Inspection	T					
Equipment	Swept/ to Vacuum	T					
Tool Cupboards	Vacuum			C			
Wood Storage	Vacuum				T		
Dust Collector*	Inspection	T					M
Collection Bins	Check alignment	T					
Bags or Bins	Empty			C			
Office	Swept			C			
Tables	Wiped	T					
Walls below 8 ft	Spot sweep	T					
Walls Below 8ft	Sweep/Vacuum					C	
Walls/Tracks/Ducts/Pipes above 8ft	Sweep/Vacuum					C	
Cable trays/conduits	Dust					C	
Electrical Panel	Dust					C	
Electrical Panel	Inspection						M
Lighting	Dusting					C	
HVAC System	Inspection						M
Electrical outlets	Dusting					C	

The Teacher must ensure that cleanup activities are performed on a regular basis to ensure both primary and secondary dusts are actively managed.

Wood Dust System Inspection Checklist*

Daily Checklist

- Monitor air flow and dust collection pick-up points.
- Inspect the discharge system functionality.

Weekly Checklist

- Spot check the condition of bag seating or cartridge filter seal.
- Inspect for bag leaks, fabric wear, or holes.
- Check tension for reverse-air and shaker bags.
- Examine shaker baghouse moving parts.
- Record compressed air pressure.
- Clean compressed air filter.

Monthly Checklist

- Check for corrosion and blade wear on the fan.
- Ensure the hopper is empty.

Annual Checks - Contractor

- Perform a full system inspection: Check all components for wear and tear.
- Replace filters if necessary: Depending on usage, filters may need to be replaced annually.

Appendix B

Toxic Wood Types

This chart is incomplete and should be used only as a guide.

Wood	Source	Reactions	Notes
Abura / Bahia	Dust, wood, splinters	Nausea, giddiness, eye irritation, vomiting	Rare occurrence
Acrocarpa/Cedar, Pink			Moderately toxic
Afara, Black/Idigbo	Dust, wood	Dermatitis, rash, nose and gum bleeding, respiratory problems	Toxic, splinters go septic
Afrormosia	Dust, wood, splinters	Dermatitis, eye, rhinitis, respiratory, asthma	Effects nervous system. Splinters go septic Rare occurrence
Afzelia / Doussie	Dust	Dermatitis, asthma nose and throat irritant	
Agba	Dust	Dermatitis	
Albizia /Batai	Dust	Dermatitis, rhinitis, nausea, nose, eyes and alimentary tract irritant	
Alder	Dust, smoke	Eye, respiratory, ingestion, skin	Common occurrence
Alligator Juniper		Dermatitis, respiratory	Toxic
Almond	Dust, smoke	Respiratory, ingestion	cyanide poison
Amboyna	Dust	Asthma, nausea, dermatitis	
Andiroba/crabwood	Dust	Dermatitis, respiratory,, eye irritation	Rare occurrence
Angelico	Dust	Eye, dermatitis, respiratory	Rare occurrence
Apricot	Kernel, kernel dust	Ingestion	Seed kernel extremely toxic contains cyanogenic glycosides
Arbor vitae	Dust	Respiratory	Rare occurrence
Araracanga		Dermatitis, respiratory	Toxic
Ash (all forms)	Dust	Dermatitis, rhinitis, respiratory, headaches, vomiting	Reduced lung function, Asthma

Aspen	Dust, wood	dermatitis, respiratory	
Avodire	Dust	Dermatitis, coughing, nosebleeds, internal bleeding	
Ayan/movingui	Dust	Dermatitis	
Balsam Fir	Dust, leaves bark	Eyes, respiratory, dermatitis	Common occurrence
Bamboo		Dermatitis	
Bean, Black	Dust	Dermatitis	
Basralocus/angelique			
Beech	Dust, leaves, bark	Dermatitis eyes, nose, nasopharyngeal cancer	Common occurrence
Bibu	Dust, sap	Eye Irritant, severe dermatitis	Toxic, Blisters
Bilinga	Dust, wood	Coughing, respiratory, nosebleeds	
Birch (all forms)	Dust, wood	Dermatitis, respiratory, asthma	Common occurrence Mildly toxic
Black Locust	Leaves, bark	Dermatitis, eyes, nausea	Common occurrence Mildly toxic
Black Bean	Dust	Dermatitis, nose, eyes, throat, armpits, genitals	
Blackwood (all forms)	Dust, wood	Dermatitis, eyes	Common occurrence Mildly toxic
Bloodwood / Satine	Dust	Nausea, expectoration, thirst	
Bloodwood, Red	Dust	Dermatitis, headache, giddiness, cramps, asthma, bronchitis	
Blue Gum	Dust, wood	Dermatitis	
Bocote		Dermatitis	Cross reactions
Bois Corne			Toxic
Bollywood	Dust	Dermatitis	
Box Elder	Dust	Dermatitis, rhinitis, asthma	
Box, Grey	Dust, wood	Dermatitis, coughing, eczema	

Boxwood	Dust, wood, sap	Dermatitis, eyes	Common occurrence
Brazilwood	Wood	Dermatitis, headaches, nausea, visual disturbance	Toxic
Bread Nut	Dust	Nausea, expectoration, thirst	Toxic
Brigalow	Dust, wood, bark	Nose, eye, throat and Groin dermatitis	
Bubinga (see Rosewoods)	.Dust, sap	Dermatitis, skin lesions possible	
Buckeye, Yellow	Nuts, twigs		Contains aescin, a cytotoxin
Buckthorm	Sap	Dermatitis	
Bulletwood		Dermatitis	
Butternut	Dust	Dermatitis, conjunctivitis	
Camphor	Dust	Respiratory inhibitor. Dermatitis	Toxic, cancer
Caroba	Dust	Dermatitis	
Cashew	Dust, wood	Dermatitis, eyes	Nut highly poisonous when raw Rare occurrence
Cebil / Curupay			Moderately toxic
Cedar, American	Dust, wood	Dermatitis, allergic contact	Common occurrence
Cedar, Australian Red	Dust	Dermatitis, coughing, headache, cramps, asthma	
Cedar, Brazilian	Dust, wood	Severe dermatitis, asthma, possible nasal cancer	
Cedar of Lebanon	Dust	Asthma, rhinitis	Tight Chest, Respiratory disorder
Cedar, Port Orford	Dust, extractives	Dermatitis, earache, giddiness, cramps, renal problems	Moderately toxic
Cedar, South American	Dust, wood	Dermatitis, nose and throat irritant, asthma, skin blisters, swollen eyelids.	Common occurrence Nasal cancer.
Cedar, Virginian Pencil	Dust	Respiratory problems, ermatitis.	
Cedar, White	Dust, wood	Dermatitis	Common occurrence

Chechen/Chechem/Rosewood, Caribbean (all forms)	Dust, wood, sap	Dermatitis, asthma, respiratory, eyes	Rare occurrence Very toxic
Cherry American	Dust	Wheezing, Giddiness	
Cherry, Black	Dust	Asthma, giddiness	
Cherry, Brazilian / Jatoba / Courbaril	Dust, wood	Dermatitis,nose and throat irritant	Common occurrence
Chestnut, Sweet	Bark, lichens	Dermatitis	Toxic
Chinaberry		Dermatitis, respiratory, headaches	
Coachwood	Dust	Dermatitis	
Cocobolo	Dust, wood	Dermatitis, eyes, respiratory	Common occurrence
Cocuswood	Dust, wood	Dermatitis	
Coolibah	Dust, wood, bark	Dermatitis	Toxic
Cooliman Tree		Blindness	Very toxic, Assume everything
Cottonwood, Poplar, Balm-of-Gilead, Eastern	Dust, wood	Dermatitis, sneezing, asthma	
Courbaril	Dust	Skin	
Cypress, Bald	Dust	Respiratory	Rare occurrence
Cypress, Australian / Cypress-Pine, White	Dust, wood	Dermatitis, conjunctivitis, Asthma, nasal irritant	Nasal cancer are occurrence
Dahoma / Dabema	Dust, wood	Dermatitis, sneezing, coughing, nose bleeds, eyes	General irritant Common occurrence
Diospyros Ebony/Gabon, Macassar	Dust, wood	Dermatitis, conjunctivitis, coughing	Common occurrence
Douglas Fir	Dust, wood	Rhinitis, respiratory, dermatitis	Nasal Cancer, Splinters go septic
Ebony (all forms)	Dust, wood	Conjunctivitis, sneezing eyes, dermatitis	General irritant Common occurrence
Ekki / Azobe	Dust, wood	Dermatitis, itching	
Elm (all forms)	Dust	Dermatitis, eyes nose throat irritant.	Nasal Cancer Rare occurrence
Eucalyptus, Bluegum	Dust, wood	Dermatitis	

Eucalyptus, White Ironbark	Dust	Coughing, asthma	
Eyoum		Dermatitis, respiratory	
Fir, Douglas	Dust	Dermatitis, rhinitis, bronchial effects, nasal cancer, eyes and throat irritation	Rare occurrence Nasopharyngeal cancer
Freijo/cordia	Dust, wood	Dermatitis	
Garapa		Dermatitis	
Gaboon/okoume	Dust, wood	Asthma, coughing, dermatitis and eye	
Gedu Nohor / Tiama	Dust, wood	Dermatitis	Rare occurrence
Gonalco Aves /	Dust, wood	Dermatitis, eye	Rare occurrence
Muiracatiara			
Grasstree		Dermatitis	
Greenheart	Dust, wood	Dermatitis, eyes, respiratory, cardiac and Intestinal disorder	Common occurrence, Splinters go septic Highly toxic
Grenadill	Dust, wood	Dermatitis	
Grey Box	Dust, wood	Dermatitis, throat, nose. eczema	
Guanacaste	Dust	Mucous membrane irritation,	General allergenic irritation
Guarea	Dust, sap	Nausea, headache, eyes, respiratory, dermatitis	Rare occurrence Highly toxic
Gum (all forms)	Dust, wood	Dermatitis, rhinitis, coughing	
Hemlock	Dust	Respiratory, dermatitis, rhinitis, asthma eczema, bronchial problems,	Rare occurrence, Nasopharyngeal cancer
Idigbo	Dust	Dermatitis, respiratory problems	
Imbuia	Dust	Nose, eye, dermatitis, sneezing	
Indian Laurel	Dust		
Ipe	Dust	Eyes, respiratory, dermatitis	Rare occurrence

Iroko	Dust, wood	Eyes, dermatitis, respiratory	Common occurrence pneumoitis alveolotis Highly toxic
Ivorywood	Dust	Dermatitis	
Ironwood/ Tesota	Dust	Rhinitis, Sneezing	
Jacaranda Do Para	Dust, wood	Dermatitis, asthma	
Jacaranda Pardo	Dust, wood	General allergenic. dermatitis	
Jacareuba/Santa Maria	Dust, wood	Kidney damage, fainting, insomnia, lost appetite. dermatitis	
arrah	Dust	Eyes, nose, throat dermatitis, coughing	
Jatoba		Dermatitis	
Jelutong	Dust, wood	Allergies, dermatitis	
Jutahy / Limoncillo			Mildly toxic
Katalox	Dust	Respiratory	
Katon		Eyes, respiratory, dermatitis	Rare occurrence
Keruing		Dermatitis	
Kingwood	Dust, wood	Eye, dermatitis, asthma	Common occurrence
Kokko	Dust	Dermatitis, rhinitis eyes, nose, throat	
Korina/Afara/Limba	Dust, wood	Dermatitis, respiratory problems, sepsis	
Kwila/Merbau	Dust	Dermatitis, rhinitis	
Laburnum	Seeds	Poisoning, death	Highly toxic
Lacewood/Silky-Oak	Dust, sap	Dermatitis	
Lancewood, Red	Dust	Dermatitis	Toxic
Larch (all forms)	Dust, bark	Dermatitis, coughing, rhinitis, asthma	
Lauan (Meranti)	Dust	Dermatitis, coughing	General irritant..
Laurel	dust		
Leadwood		Dermatitis	

Lignum Vitae (all forms)	Dust	Dermatitis	Toxic
Limba	Dust	Dermatitis, respiratory, asthma, nose and gums bleeding	Splinters go septic
Mahogany (all forms)	Dust	Dermatitis, eyes, respiratory, giddiness, vomiting. Boils, asthma, headache, nosebleeds	Common occurrence Nasal Cancer, pneumoitis alveolotis African form is highly toxic
Makore	Dust, wood	Nose, throat nosebleeds, nausea, headaches, giddiness, dermatitis	Rare occurrence Toxic. Can affect blood and central nervous system
Manchineel	Dust, wood, leaves, bark	Severe dermatitis, nausea, poisoning, death	Highly toxic
Mansonia / Bete	Dust, wood, bark, sap	Dermatitis nausea, malaise nosebleeds, sneezing, asthma, respiratory problems, headaches, nausea, vomiting, cardiac disorders.	Common occurrence Severe irritant. Bark highly toxic Splinters go septic
Manzinilla	Dust, wood	Respiratory	Common occurrence
Maple (all forms except Queensland)	Dust	Dermatitis, rhinitis, asthma	Common occurrence Highly toxic
Maple, Queensland	Dust, wood	Dermatitis	Toxic
Maple (spalted)	Dust, mold	Respiratory, pneumoitis alveolotis, nausea, malaise	Common occurrence Highly toxic
Marupa	Dust	Respiratory	
Meranti/lauan		Dermatitis, nose, eyes and throat irritation	
Merbau	Dust	Rhinitis. dermatitis, general irritant	
Mescalbean	Seeds	Hallucination, poisoning, death	Highly toxic
Messmate		Dermatitis, asthma, nose, eyes and throat irritation	
Mesquite / Algarrobo Del Brasil	Dust	Respiratory, dermatitis, coughing	
Milky mangrove	Sap	irritation to eyes and/or temporary blindness, headache, burning of throat, blistering of skin	Highly toxic

Mimosa	Leaves, bark	Respiratory, nausea, malaise, pneumonia	Common occurrence Direct toxin
Missanda	Dust	Respiratory, headache, giddiness, nausea, disorders of bowels and stomach	
Miva Mahogany	Dust	Lung congestion, nose bleeds, facial swelling. lost appetite, headaches. dermatitis	
Molopangady		Dermatitis	
Monkeypod		Eyes	
Morado	Dust	Dermatitis	
Movingui / Ayan	Dust	Dermatitis	
Muhuhu	Dust, wood	Dermatitis	
Mulga	Dust, leaves, sap	Nose, throat and eye irritant. Vomiting, headaches, dermatitis	
Muninga	Dust	Bronchial asthma. nasal irritant. dermatitis	
Myrtle (all forms)	Dust, Leaves, bark	Respiratory, mucous membrane	
Narra / Amboyna (Burl)	Dust, wood	Dermatitis, coughing, nausea	
Needlewood	Bark	Dermatitis	
New Zealand White Pine	Dust	Nose, throat, dermatitis	
Oak (all forms)	Dust, leaves, bark, greenwood	Asthma, sneezing. nose, eye irritant, dermatitis	Rare occurrence Dust protection needed Nasal Cancer
Obeche	Dust, wood	Dermatitis, nettle rash, asthma, lung congestion, wheezing, sneezing	Common occurrence Highly toxic
Okoume / Gaboon	Dust, wood	Dermatitis, asthma, coughing	
Oleander	Dust, wood, leaves, bark	Nausea Cardiac malaise, cancer, death	Common occurrence Extremely toxic, direct toxin
Olive	Dust, wood	Eye, dermatitis, respiratory	Common occurrence

Opepe	Dust, wood	Mucous membrane irritant. giddiness, visual disturbance, nosebleeds, blood spitting. dermatitis	Rare occurrence
Orangewood	Dust	Respiratory	Rare occurrence
Osage Orange	Sap	Dermatitis	
Padauk (all forms)	Dust, wood	Dermatitis, nausea, malaise swelling, Itching, Nasal irritant, Vomiting, Asthma.	Common occurrence General irritant
Parinari		Dermatitis	
Palissandre, Madagascar	Dust, wood	Dermatitis, asthma	
Partridge Wood / Angelin			
Pau Marfim / Brazilian Maple,	Dust	Rhinitis, asthma. dermatitis	
Pepper, Brazilian	Sap	Dermatitis	
Peroba Rosa	Dust, wood	Severe dermatitis, asthma, headache, nausea, fainting, cramps respiratory, sweating, fainting, drowsiness, weakness, blisters	
Peroba, White	Dust, wood	Respiratory, dermatitis, asthma, nasal irritant, splinters go septic	Common occurrence
Persimmon	Dust, wood	Dermatitis	
Pheasantwood	Powder in wood cavities	Dermatitis, respiratory	
Pine (all forms)	Dust, wood	Asthma, rhinitis, dermatitis	Common occurrence
Pink Ivory	Bark, fruit, sap	Dermatitis.	Poisonous
Poplar	Dust, wood	Sneezing, eye irritant, Asthma, Bronchitis, Dermatitis	
Port Orford Cedar	Dust, sap	Irritant to eyes and lungs, iolent earache, giddiness, tomach cramps,. dermatitis. nhalation of freshly sawn wood umes/dust can cause kidney roblems etc	
Primavera	Dust, wood	Dermatitis	

Purpleheart	Dust, wood	Nausea, malaise	Common occurrence
Quebracho	Dust, leaves, bark	Nasal irritant nausea, malaise nasopharyngeal cancer respiratory problems,	Nasopharyngeal cancer Common occurrence
Ramin	Dust, bark	Coughing, shivering, sweating, iredness, reduced lung apacity, skin irritant. ermatitis., splinters	Rare occurrence
Rata	Dust	Nose, eye irritant, dermatitis	
Red Cedar (all forms)	Dust, leaves, bark	Nose throat irritant, violent headache, dermatitis, giddiness, stomach cramps, asthma, bronchitis respiratory	Toxic
Red Siris	Dust	Nosebleeds, dermatitis, onjunctivitis, giddiness,	
Redwood	Dust	Pneumoitis alveolotis nasopharyngeal cancer, eyes, skin, respiratory	Rare occurrence
Rengas	Dust, bark, sap	Chronic Intestinal Ulcers, Blistering, Dermatitis	General irritant
Rimu	Dust	Dermatitis, eye & nose irritation	
Robinia	Dust, leaves, bark	Eye, skin irritant, nausea, malaise	
Rosewood (all forms)	Dust, wood	Dermatitis, asthma, eyes, respiratory	Common occurrence General irritant
Saffron	Dust, splinters	Heart Irritant, respiratory, dermatitis	
Sapele	Dust	Dermatitis, coughing, sneezing	
Sassafras	Dust, wood, leaves, bark, sap	Direct toxin nasopharyngeal cancer, respiratory nausea, malaise, dermatitis	Rare occurrence
Satine	Dust	Respiratory, thirst, nausea, excessive salivation	
Satinwood (all forms)	Dust, wood	Dermatitis, giddiness, respiratory, nausea, eyes, headache, swollen scrotum, nasal irritant, lethargy, visual disturbances	Common occurrence

Sequoia (Redwood)	Dust	Asthma, wheezing, dermatitis, , hypersensitivity, pneumonia, respiratory irritant	Rare occurrence Nasal cancer
Shittim	Dust	Dermatitis, respiratory	
Silktree	Leaves, bark	Nausea	
Sipo / Utile	Dust, wood	Dermatitis	
Siris, Red	dust	Dermatitis, nosebleeds, giddiness	
Sissoo		Dermatitis	See rosewoods
Sitka Spruce	Dust	Respiratory irritant, asthma, rhinitis, dermatitis	
Snakewood	Dust, wood	Respiratory, nausea, expectoration, thirst, salivation	Rare occurrence
Sneezewood			
Southern Blue Gum	Dust, wood	Dermatitis	
Spotted Gum	Dust, wood	Dermatitis	
Spruce (all forms)	Dust, wood	Nose, throat and respiratory irritant	Rare occurrence
Stavewood	Dust, wood	Respiratory	Rare occurrence
Stinkwood	Dust	Nasal irritant	
Strychnine Tree		Highly toxic / poisoning, death	
Sucupira	Dust, wood	Contact dermatitis	Rare occurrence
Sumac	Dust, bark	Blisters from bark, severe dermatitis	
Sumac, African	Bark. sap	Dermatitis	
Sweet Chestnut	Bark, lichens	Dermatitis	
Sweet Gum American	Dust	Dermatitis	Reactions are rare
Sydney Blue Gum	Dust, wood	Nose, Throat. Dermatitis	
Tamboti	Dust, sap, bark, smoke	Eyes, Skin Blisters, severe dermatitis, blindness, diarrhea	Strong irritant Direct toxin
Tatajuba	Dust, wood	Dermatitis	

Taun	Dust	Rhinitis, Dermatitis	
Teak	Dust	Pneumoitis alveolotis, eyes, dermatitis, respiratory	Common occurrence Highly toxic
Thuya		Dermatitis	
Tigerwood	Dust	Eyes, dermatitis	
Tree of heaven	Dust, sap, thorns	Dermatitis, vomiting, diarrhea	
Tulipwood	Dust, wood	Dermatitis, asthma	
Turpentine	Dust	Mucous Membranes irritant, coughing	
Tzalam	Dust	Respiratory	Flu like symptoms
Utile	Dust, wood	Dermatitis	
Verawood	Dust	Repiratory	
Walnut (all forms)	Dust, wood	Eye, nose, throat irritant, dermatitis, respiratory	Common occurrence Nasal Cancer
Wenge / Partridgewood / Panga Panga	Dust, wood	Eyes, dermatitis, respiratory problems, sepsis, drowsiness, visual problems, stomach cramps	Common occurrence
White Baltic		Dermatitis, asthma	
Whitewood American	Dust	General allergenic, dermatitis	
Willow	Dust, wood, leaves, bark	Nausea, malaise, respiratory	Rare occurrence Allergic reaction similar to aspirin
Yew	Dust, wood, sap, leaves	Headaches, nausea, fainting, intestinal irritation, visual disturbance, lung congestion, reduced blood pressure, death	Common occurrence direct toxin, nasopharyngeal cancer Extreme toxic,
Zebrawood/Zebrano	Dust, wood	Dermatitis. asthma, breathing difficulty	Rare occurrence
Zircote		Dermatitis	Cross reactions

Appendix C

Wood Species Considered to be Allergenic

Common name	Species name
Softwood	
Western red cedar	Thuja plicata
California redwood	Sequoia sempervirens
Cedar of Lebanon	Cedra libani
Eastern white cedar	Thuja occidentalis
Hardwood	
Oak, European	Quercus robur
Beech	Fagus spp.
Ash	Fraxinus americanum
Tropical Wood	
Abirucana	Pouteri
African maple	Triplochiton scleroxylon
African zebra	Microberlinia
Cabreuva	Myrocarpus fastigiatus
Central American walnut	Juglans olanchana
Cocabolla	Dalbergia retusa
Common name unavailable	Tanganyika aningre
Ebony, African	Diospyros crassiflora
Iroko or Kambala	Chlorophora excelsa
Fenambouk	Caesalpinea echinata
Kejaat	Pterocarpus angolensis
Kobite	Nesorgordonia papaverifera
Mahogany, African	Khaya spp.
Makore	Tieghemella hecklii
Quillaja bark	Species name unavailable
Pau Marfim	Balfourodendron riedelianum
amin	Gonystylus bancanus