

Osmose MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET: NATUREWOOD TREATED WOOD

SECTION I

MSDS NUMBER:	220-osm
MSDS CODE:	OSM
SYNONYMS:	N/A
MANUFACTURED BY:	Licensees/Customers of Osmose, Inc.
DIVISION:	WPD
EPA REGISTRATION NUMBER:	N/A
EMERGENCY PHONE:	716-882-5905
OTHER CALLS:	770-228-8434
ADDRESS:	980 Ellicott Street, Buffalo, NY 14209
MSDS PREPARED BY:	Teri Muchow
DATE PREPARED:	April 4, 2006
DATE LAST REVISED:	January 19, 2007 (replaces June 8, 2006)

IMPORTANT INFORMATION

- Do Not Burn Preserved Wood
- Do Not Use Preserved Wood As Mulch
- Treated Or Untreated Wood Dust May Cause Eye, Skin & Respiratory Irritation
- Some Wood Species May Cause Allergic Skin Or Respiratory Effects In Sensitized Individuals
- Wear Dust Mask & Goggles and Cover Skin When Cutting Or Sanding Wood
- Wear Gloves When Working With Treated or Untreated Wood
- Prolonged Contact with Treated Wood During Construction or Other Extensive or Abrasive Handling May Cause Skin Irritation, and in Extreme Circumstances Can Result in Chemical Burns.
- Some Preservative May Migrate Into The Soil/Water Or Dislodge From Wood
- For Additional Product Information, Visit www.naturewoodproducts.com

SECTION II – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

TRADE NAME: NatureWood	CAS	OSHA PEL/TWA	ACGIH TLV/TWA	%
Wood/Wood Dust (<i>This represents the maximum amount of wood dust that could be generated if the wood was completely machined. Exposure limits are for all species except western red cedar, which has a TLV of 0.5 mg/m³</i>)	N/A	15 mg/m ³ (Total Dust) 5 mg/m ³ (Respirable dust)	1 mg/m ³ (Inhalable)	> 90%
Monoethanolamine (MEA)	141-43-5	3 ppm TWA 6 mg/m ³ TWA	3 ppm TWA 6 ppm STEL	< 6%
Copper complex expressed as Copper Oxides	Proprietary	0.1 mg/m ³ TWA (fume)	0.2 mg/m ³ TWA (fume)	< 2.5%
<i>This product contains one of the below listed Quaternary Ammonium compounds depending on which preservative is used at the treating plant.</i>				
Alkyl dimethyl benzyl ammonium chloride	68391-01-5	N/A	N/A	< 1%
Didecyl dimethyl ammonium chloride	7173-51-5	N/A	N/A	< 1%
Didecyl dimethyl ammonium carbonate and Didecyl dimethyl ammonium bicarbonate	Proprietary	None Established	None Established	< 1%
<i>In certain west coast species of wood the MEA may be replaced with ammonia or a combination of ammonia and MEA. The ammonia may then be present in the following quantity.</i>				
Ammonia (expressed as NH ₃)	1336-21-6	50 ppm	25 ppm TLV 35 ppm STEL	< 1%
<i>Depending on the additives applied to the treating solution, this wood may also contain < 1% of CLEANWOOD MOLD INHIBITOR. CLEANWOOD contains the following ingredients, which are present in the wood at ppm levels. None of these ingredients are classified as carcinogens.</i>				
5-Chloro-2-methyl-4-isothiazolin-3-one	26172-55-4	N/A	N/A	13 – 27 ppm
2-Methyl-4-isothiazolin-3-one	2682-20-4	N/A	N/A	5 – 10 ppm
Magnesium chloride	7786-30-3	N/A	N/A	12 – 24 ppm
Magnesium nitrate	10377-60-3	N/A	N/A	22 – 45 ppm
<i>Depending on the additives applied to the treating solution, this wood may also contain <1% WEATHERSHIELD, a non-hazardous wax emulsion, and <1% of a colorant.</i>				

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PERCENTAGE OF ACTIVE INGREDIENTS PER RETENTION LEVEL

	0.15 pcf	0.25 pcf	0.40 pcf	0.60 pcf
Copper complex expressed as Copper Oxides	0.27	0.45	0.72	1.07
Quaternary Ammonium Compound	0.14	0.22	0.36	0.53

SECTION III - CHEMICAL CHARACTERISTICS

BOILING POINT	MELTING POINT	FREEZING POINT	SPECIFIC GRAVITY (H ₂ O = 1)	PERCENT VOLATILE BY VOLUME	THEORETICAL VOC CONTENT (PERCENT OF WEIGHT)
Not Applicable	Not Applicable	Not Applicable	Not Available	Not Applicable	Not Applicable
WEIGHT PER GALLON	pH:	VAPOR PRESSURE	VAPOR DENSITY	DENSITY	EVAPORATION RATE BASIS (N-BUAC) = 1
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Available	Not Applicable
SOLUBILITY IN WATER: Not Applicable			REACTIVITY IN WATER: Not Applicable		
APPEARANCE AND ODOR: Solid Wood, appearance may vary; ammonical wood odor possible.					

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	METHOD	FLAMMABLE LIMITS IN AIR (%)	AUTOIGNITION TEMPERATURE		
N/A	N/A	N/A	N/A		
NFPA CODES	HEALTH	1	HMIS CODES:	HEALTH	1
	FLAMMABILITY	1		FLAMMABILITY	1
	REACTIVITY	0		REACTIVITY	0
	OTHER	N/A		PROTECTION	B
EXTINGUISHER MEDIA: Use water to wet down wood and to reduce the likelihood of ignition or dispersion of dust into the air.					

SPECIAL FIRE FIGHTING PROCEDURES: Firefighters should wear full protective clothing including self-contained breathing apparatus. Combustion products may yield irritating and toxic fumes and gases including organic chloride, aldehydes, amines, hydrogen chloride, ammonia, copper compounds, oxygen, boric oxide, oxides of carbon and nitrogen.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Wood is combustible, and wood dusts may form explosive mixtures with air in the presence of an ignition source.

SECTION V - REACTIVITY DATA

IS THIS CHEMICAL STABLE UNDER NORMAL CONDITIONS OF HANDLING/STORAGE (Y/N)? Yes

CONDITIONS TO AVOID (REGARDING STABILITY): Keep away from excessive heat, sparks and open flame. Keep away from incompatible materials.

INCOMPATIBILITY (MATERIALS TO AVOID): Strong acids, alkalies and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion products may yield irritating and toxic fumes and gases including organic chloride, aldehydes, amines, hydrogen, ammonia, copper compounds, oxygen, boric oxide, oxides of carbon and nitrogen.

HAZARDOUS POLYMERIZATION POSSIBLE (Y/N)? No

CONDITIONS TO AVOID (REGARDING POLYMERIZATION): N/A

SECTION VI - HEALTH HAZARDS

EMERGENCY OVERVIEW: WARNING! Wood dust may form explosive mixture with air. Wood dusts may cause irritation to the eyes, skin and respiratory tract.

ROUTES OF ENTRY: Dermal, Inhalation.

SIGNS AND SYMPTOMS OF ACUTE OVEREXPOSURE:

EYES:	Contact with wood and/or wood dust may cause irritation to the eyes, regardless of treatment. Symptoms can include irritation, redness, scratching of the cornea, and tearing.
SKIN:	Prolonged contact with treated wood and/or treated wood dust, especially when freshly treated at the plant, may cause irritation to the skin, and in extreme circumstances may cause chemical burns. Abrasive handling or rubbing of the treated wood may increase skin irritation. Some wood species, regardless of treatment, may cause dermatitis or allergic skin reactions in sensitized individuals.
INGESTION:	Ingestion of wood or wood dust is unlikely. If ingestion does occur, gastrointestinal irritation may result from both treated and untreated wood. Certain species of wood and their dusts may contain natural toxins, which can also have adverse effects in humans.

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INHALATION:	Wood dust, treated and untreated, is irritating to the nose, throat and lungs. Symptoms may include nasal dryness, deposits or obstructions in the nasal passages, coughing, sneezing, dryness and soreness of throat and sinuses, hoarseness, and wheezing. Prolonged or repeated inhalation of wood dusts may cause respiratory irritation, recurrent bronchitis and prolonged colds. Some species may cause allergic respiratory reactions with asthma-like symptoms in sensitized individuals. Prolonged exposure to wood dusts by inhalation has been reported to be associated with nasal and paranasal cancer.
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CHRONIC OVEREXPOSURE: Prolonged exposure to wood dusts by inhalation has been reported to be associated with nasal and paranasal cancer. Some wood species may cause dermatitis or allergic skin reactions in sensitized individuals.

CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?: NatureWood treated wood and its components are not listed as carcinogens by ACGIH, NIOSH, or IARC. ACGIH, NIOSH and IARC classify wood dust as a human carcinogen or occupational carcinogen. This classification is based on an increased incidence of nasal and paranasal cancers in people exposed to wood dusts.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Pre-existing eye, respiratory system and skin conditions.

TOXICITY: While acute toxicity testing has not been performed on the treated wood, the following information is available on the chemical components that may have been used in the treating of Naturewood.

Monoethanolamine (CAS #141-43-5)	Copper complex (expressed as Copper oxides)
Oral LD50 Rat: 1720 mg/kg Oral LD50 Mouse: 700 mg/kg Dermal LD50 Rabbit: 1 mg/kg IDLH: 30 ppm	Oral LD50 Rat: 1350 mg/kg Inhalation LC50 Rat: 2000 ppm/4H Dusts as mists as Cu: 100 mg/m ³ IDLH (related to copper)
Didecyl dimethyl ammonium chloride (CAS #7173-51-5)	Alkyl dimethyl benzyl ammonium chloride (CAS #68391-01-5)
Oral LD50 Rat: 84 mg/kg Oral LD50 Mouse: 268 mg/kg	Oral LD50 Rat: 735 mg/kg for males and females combined Dermal LD50 Rat: 3350 mg/kg for males and females combined
Didecyl dimethyl ammonium carbonate and Didecyl dimethyl ammonium bicarbonate* (CAS Proprietary)	
Oral LD ₅₀ (rat): 245 mg/kg Skin Irritation (rabbit): Corrosive Photosensitization (Guinea pig): Not a sensitizer or photoallergen	



EMERGENCY AND FIRST AID PROCEDURES



📞 **EMERGENCY PHONE NUMBER OF MANUFACTURER: 716-882-5905**

- 1. INHALATION:** If dusts are inhaled, remove person to fresh air. If symptoms persist, get medical attention.
- 2. EYE CONTACT:** Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if symptoms persist.
- 3. SKIN CONTACT:** For skin contact, wash immediately with soap and water. Continue flushing skin with water for 15 minutes. If irritation persists, get medical attention. If wood splinters are injected under the skin, get medical attention immediately.
- 4. INGESTION:** If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting.

NOTE TO PHYSICIAN: Respiratory ailments and pre-existing eye and skin conditions may be aggravated by exposure to wood dust.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

US DOT SHIPPING DESCRIPTION: Not regulated.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid working with freshly treated wet wood. If not possible, wear long sleeve shirt, long pants and gloves when working with freshly treated wet wood. Clothing should be removed and replaced if it becomes wet due to contact with freshly treated wood. Avoid contact of wood and wood dusts with skin and eyes. Avoid inhalation of airborne contaminants as a result of cutting or sawing treated wood. Do not eat, drink or smoke when handling this material or in areas where dusts of this product are present.

OTHER PRECAUTIONS: Do not generate airborne dusts in the presence of an ignition source when sawing, cutting or grinding wood. Wash hands after handling and before eating. Maintain good housekeeping procedures, such as sweeping regularly to avoid accumulation of dusts. Store away from excessive heat, sparks and open flame.

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STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: No containment procedures are needed as this product cannot spill or leak the preservative. Keep away from sparks and flame. Wear appropriate protective equipment and clothing during clean-up. Wet down accumulated dusts prior to sweeping or vacuuming in order to prevent explosion hazards. Sweep up or vacuum small pieces and dusts and place in appropriate container for disposal. Gather larger pieces by an appropriate method. Avoid the generation of airborne dusts during clean up. To avoid the inhalation of dusts during clean up, a dust mask is recommended.

WASTE DISPOSAL METHODS: Although no EPA Waste Numbers are applicable for this product's components, you must test your waste to determine if it meets applicable definitions of hazardous waste and for State requirements. Dispose of waste material according to local, State and Federal regulations.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: Wear a dust mask when cutting, grinding or sanding wood and when cleaning up wood dust.

VENTILATION REQUIREMENTS: Provide good ventilation when cutting, grinding or sanding wood. Whenever possible these operations should be performed outdoors.

PROTECTIVE GLOVES: Wear chemical resistant (rubber, neoprene or nitrile) gloves when handling freshly treated wood at the treating plant. Otherwise, wear puncture resistant work gloves, such as leather.

EYE PROTECTION: Wear safety glasses with side shields when handling, cutting, sanding or grinding this material. Use a face shield during processes that may generate excessive dusts and splinters.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye wash fountain is recommended.

WORK/HYGIENIC PRACTICES: Launder work clothes frequently.

SECTION IX – EXOLOGICAL INFORMATION

ECOTOXICITY: This product is not expected to leach harmful amounts of preservative into the environment. However, the wood preservatives in this product contain fungicides and insecticides, which when released into the environment, are expected to adversely effect or destroy contaminated plants. They may be harmful or fatal to wildlife.

While ecotoxicity testing has not been performed on the treated wood, the following information is available on the chemical components that may have been used in the treating of Naturewood.

Monoethanolamine (CAS #141-43-5)	
LC50 (96 hr) goldfish: 170.0 mg/l	
EC50 (30 min) Photobacterium phosphoreum: 13.7 mg/l Microtox test	
Copper Complex (Proprietary)	
LC50 (96hr) fathead minnow: 23 ug/L (20 mg CaCO3/L)	LC50 (96hr) water flea: 10 ug/L (45 mg CaCO3/L)
LC50 (96hr) rainbow trout: 13.8 ug/L (juveniles)	LC50 (96hr) water flea: 200 ug/L (226 mg CaCO3/L
LC50 (96hr) bluegill: 236 – 892 ug/L (adults – related to copper)	– related to copper)
LC50 (72hr) freshwater algae: 120 ug/L (related to copper)	
Didecyl dimethyl ammonium carbonate and Didecyl dimethyl ammonium bicarbonate* (CAS Proprietary)	
LC50 (rainbow trout – 96 hour – Static): 0.810 mg/l	EC50 (Daphnia magna – 48 hour – Static): 0.073 mg/l
LC50 (bluegill sunfish – 96 hour – Static/Renewal): 0.28 mg/l	LC50 (mysid shrimp – 96 hour – static): 0.066 mg/l
LC50 (Sheepshead Minnow – 96 hour Static/Renewal): 1.110 mg/l	

ENVIRONMENTAL FATE: No information available

SECTION X - REGULATORY INFORMATION:

SECTION 302:

N/A

SECTION 304:

N/A

SARA/TITLE III ;SECTION 312 - HAZARD CATEGORIES:

Immediate (Acute) Health: No Reactive Hazard: No
Delayed (Chronic) Health: No Sudden Release of Pressure: No
Fire Hazard: No

SARA/SECTION 313 SUPPLIER NOTIFICATION:

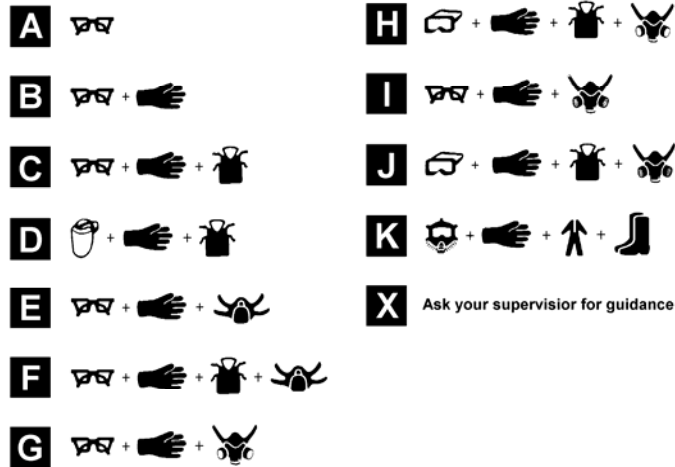
This product contains a chemical which is either listed in Section 313 or is included in a chemical category listed in Section 313, and may be present at or above de minimis concentrations. The following listed chemicals are present:

- Copper Oxide (CAS #1317-39-1) as a Copper Compound

For percent of copper oxide in the product, refer to the PERCENTAGE OF ACTIVE INGREDIENTS PER RETENTION LEVEL table in Section II of the MSDS. According to 40 CFR 372.65(c)(5)(d), "Notifications are not required in the following instances: (1) If a mixture or trade name product contains no toxic chemical in excess of the applicable de minimis concentration as specified in 372.38(a)." If you refer to this section, it describes de minimis concentrations as "the toxic chemical is in a concentration in the mixture which is below 1 percent of the mixture." As the copper oxide levels in NATUREWOOD are below 1% for 0.15 pcf, 0.25 pcf and 0.40 pcf, this Supplier Notification is only applicable to wood treated to a 0.60 pcf retention.

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HAZARDOUS MATERIALS INFORMATION SYSTEM (HMIS) PERSONAL PROTECTION INDEX



N/A = Not Applicable

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