

Osmose MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET: **NATUREWOOD**

SECTION I

MSDS NUMBER:	177-osm
MSDS CODE:	OSM
SYNONYMS:	N/A
MANUFACTURED BY:	Licensees/Customers of Osmose, Inc.
DIVISION:	WPD
EPA REGISTRATION NUMBER:	N/A
VENDOR:	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:	August 31, 2001
DATE LAST REVISED:	February 18, 2002

ADDITIONAL INFORMATION

CHEMTREC'S EMERGENCY TELEPHONE NUMBER IS TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

TRADE NAME: NatureWood	CAS	OSHA PEL	ACGIH TLV	OTHER	%
INGREDIENT NAME					
Wood/Wood Dust	N/A	5 mg/m ³ TWA	5 mg/m ³ TWA 10 mg/m ³ STEL	N/A	90 – 98%
Monoethanolamine	141-43-5	3 ppm TWA 6 mg/m ³ TWA	3 ppm TWA 6 ppm STEL	N/A	0.8 – 5.5%
Copper complex expressed as Copper Oxides	Proprietary	0.1 mg/m ³ TWA (fume)	0.2 mg/m ³ TWA (fume)	N/A	0.3 – 2.1
Alkyl dimethyl benzyl ammonium chloride*	68391-01-5	N/A	N/A	N/A	0.2 – 1.0%
Didecyl dimethyl ammonium chloride*	7173-51-5	N/A	N/A	N/A	0.2 – 1.0%

*Note: This product contains either one or the other of the above Quaternary ammonium compounds depending on which preservative is used at the treating plant.

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
Alkyl dimethyl benzyl ammonium chloride*	0.14	0.22	0.36	0.53
Didecyl dimethyl ammonium chloride*	0.14	0.22	0.36	0.53
Wood Dust**	86.60	86.37	86.02	85.56

- *NOTE: This product contains either one or the other of the above quaternary ammonium compounds depending on which preservative is used at the treating plant.
- ** This represents the maximum amount of wood dust that could be generated if the wood was completely machined.

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..					

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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:
	FLAMMABILITY	1	HEALTH
	REACTIVITY	0	FLAMMABILITY
	OTHER	N/A	REACTIVITY
			PROTECTION
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:	Wood dust may cause irritation to the eyes. Symptoms can include irritation, redness, scratching of the cornea, and tearing.
SKIN:	Wood dust may cause irritation to the skin. Mechanical rubbing may increase skin irritation. Some wood species may cause dermatitis or allergic skin reactions in sensitized individuals.
INGESTION:	Ingestion of wood or wood dust is unlikely. If ingestion does occur, slight gastrointestinal irritation may result. Certain species of wood and their dusts may contain natural toxins, which can have adverse effects in humans.
INHALATION:	Wood dust 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.

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 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:

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/m3 IDLH (related to copper)
Boric Acid (CAS #10043-35-3)	Alkyl Dimethyl benzyl ammonium chloride (CAS #68391-01-5)
Oral LD50 Rat: 2660 mg/kg Oral LD50 Mouse: 3450 mg/kg	Oral LD50 Rat: 735 mg/kg for males and females combined Dermal LD50 Rat: 3350 mg/kg for males and females combined

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Didecyl dimethyl ammonium chloride (CAS #7173-51-5)	
Oral LD50 Rat: 84 mg/kg	Oral LD50 Mouse: 268 mg/kg



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 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: 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. Avoid contact of wood dusts with skin and eyes. Do not breathe wood dusts. Do not eat, drink or smoke when handling this material or in areas where dusts of this product are present.

OTHER PRECAUTIONS: Maintain good housekeeping procedures, such as sweeping regularly to avoid accumulation of dusts. Store away from excessive heat, sparks and open flame.

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. Do not inhale dusts during clean up.

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: Not normally needed. Use a dust mask for particulate concentrations exceeding the Occupational Exposure Limit.

VENTILATION REQUIREMENTS: Use exhaust ventilation when cutting, grinding or sanding in enclosed areas and if it is anticipated the exposure limits for wood dust may be exceeded during working with this product.

PROTECTIVE GLOVES: 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.

COMPONENT ANALYSIS:

Monoethanolamine (CAS #141-43-5)	
LC50 (96 hr) goldfish: 170.0 mg/l	
EC50 (30 min) Photobacterium phosphoreum: 13.7 mg/l Microtox test	
Boric Acid (CAS #10043-35-3)	
LC50 (48hr) water flea: 115.0 – 153.0 mg/l (static conditions)	
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)	

ENVIRONMENTAL FATE: No information available

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SECTION X - REGULATORY INFORMATION:

SARA/TITLE III:

SECTION 302:

N/A

SECTION 304:

N/A

SECTION SECTION 312 - HAZARD CATEGORIES:

Immediate (Acute) Health: No

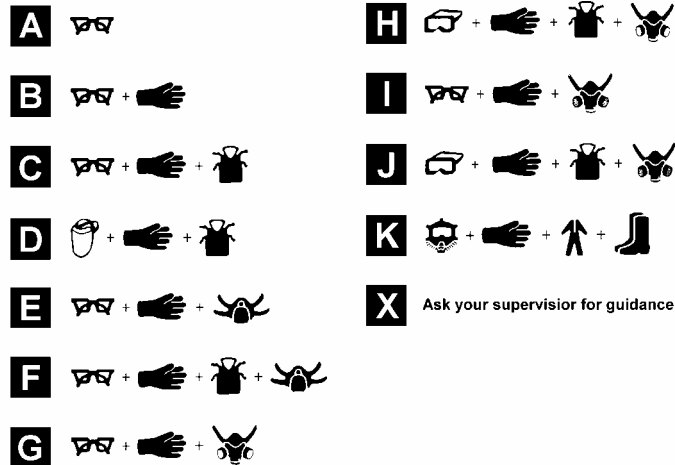
Reactive Hazard: No

Delayed (Chronic) Health: No

Sudden Release of Pressure: No

Fire Hazard: No

HAZARDOUS MATERIALS INFORMATION SYSTEM (HMIS) PERSONAL PROTECTION INDEX



N/A = Not Applicable

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