Osmose **MATERIAL SAFETY DATA SHEET**

MATERIAL SAFETY DATA SHEET: **NW 200**

SECTION I

MSDS NUMBER:	172-OSM
MSDS CODE:	OSM
SYNONYMS:	N/A
MANUFACTURED FOR:	Osmose, Inc.
DIVISION:	WPD
EPA REGISTRATION NUMBER:	10465-40-3008
VENDOR:	N/A
EMERGENCY PHONE:	CHEMTREC: 1(800) 424-9300
OTHER CALLS:	1(800) 686-6676
ADDRESS:	980 Ellicott Street, Buffalo NY 14209
MSDS PREPARED BY:	Teri Muchow
DATE PREPARED: **DATE LAST REVISED:**	July 24, 2001 N/A

★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: NW 200 INGREDIENT NAME	CAS	OSHA PEL	ACGIH TLV	OTHER	%
Copper complex expressed as Copper Oxides	Proprietary	Fume as Cu, 0.1 mg/m3 TWA	Fume as Cu, 0.2 mg/m3 TWA	N/A	8.9 – 9.5
Alkyl Dimethy benzyl ammonium chloride	68391-01-5	N/A	N/A	N/A	4.3 – 4.9

SECTION III - CHEMICAL CHARACTERISTICS

BOILING POINT	MELTING POINT	FREEZING POINT	SPECIFIC GRAVITY (H_20 = 1)	PERCENT VOLATILE BY VOLUME	THEORETICAL VOC CONTENT (PERCENT OF WEIGHT)
~100ºC (~212F)	N/A	~-15ºC (5ºF)	1.1 to 1.25	~ 62%	Not Available

WEIGHT PER GALLON	pH:	VAPOR PRESSURE	VAPOR DENSITY	DENSITY	EVAPORATION RATE BASIS (N-BUAC) = 1
9.85 lb/gal.	8.5 – 11 @ 25ºC	Not Available	0.6 (air = 1)	See specific gravity.	Not Available

SOLUBILITY IN WATER: Complete	REACTIVITY IN WATER: N/A
APPEARANCE AND ODOR: Dark blue liquid with an ammonia odor.	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	METHOD	FLAMMABLE LIMITS IN AIR (%)	AUTOIGNITION TEMPERATURE
Not available	Not available	Not available	Not available

NFPA CODES	HEALTH	3	***HMIS CODES:***	HEALTH	3
	FLAMMABILITY	0		FLAMMABILITY	0
	REACTIVITY	0		REACTIVITY	0
	OTHER	N/A		PROTECTION	D*

EXTINGUISHER MEDIA: Use methods for surrounding fire. *goggles/face shield, gloves, protective clothing

SPECIAL FIRE FIGHTING PROCEDURES: Not a fire hazard. Firefighters should wear full protective clothing, including self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Thermal decomposition of this product may yield toxic gases including organic chloride, amines, hydrogen chloride, ammonia, copper compounds and oxides of carbon and nitrogen.

SECTION V - REACTIVITY DATA

IS THIS CHEMICAL STABLE UNDER NORMAL CONDITIONS OF HANDLING/STORAGE (Y/N)? Y
CONDITIONS TO AVOID (REGARDING STABILITY): Avoid extreme heat and contact with incompatible materials.
INCOMPATIBILITY (MATERIALS TO AVOID): Strong acids, alkalies and oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition products include organic chlorides, amines, hydrogen chloride, ammonia, copper compounds and oxides of carbon and nitrogen.
HAZARDOUS POLYMERIZATION POSSIBLE (Y/N)? N
CONDITIONS TO AVOID (REGARDING POLYMERIZATION): N/A

SECTION VI - HEALTH HAZARDS

EMERGENCY OVERVIEW: Danger! May be harmful or fatal if swallowed or inhaled. May cause severe irritation or burns to the eyes, skin, gastrointestinal trace, and respiratory system.
ROUTES OF ENTRY: Dermal, eyes, inhalation.
SIGNS AND SYMPTOMS OF ACUTE OVEREXPOSURE:

EYES	Contact can cause moderate to severe irritation and possible injury to the eyes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
SKIN:	This product is severely irritating to the skin and may cause burns. Depending on the duration of contact, symptoms will include reddening, discomfort, irritation, ulceration, and chemical burns. Repeated contact with this material may produce dermatitis. This product may be harmful if it is absorbed through the skin. This product contains copper and copper salts which have caused allergic skin reactions in rare cases.
INGESTION:	This product may be harmful or fatal if swallowed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Ingestion of high doses of copper salts can cause gastrointestinal disturbances, anemia, and secondary liver and kidney damage.
INHALATION:	This product may be harmful by inhalation. This product is severely irritating to the respiratory system. Inhalation may produce nasal perforations.

CHRONIC OVEREXPOSURE: Repeated contact with this material may produce dermatitis. This product may be harmful if it is absorbed through the skin. Product contains components that may cause allergic skin sensitization reactions. Chronic exposure to copper and its salts may cause rare cases of anemia (from hemolytic effects) and allergic contact dermatitis.
CHEMICAL LISTED AS A CARCINOGEN OR POTENTIAL CARCINOGEN?:

- NATIONAL TOXICOLOGY PROGRAM (Y/N): N
- IARC MONOGRAPHS (Y/N): N
- OSHA (Y/N): N

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Pre-existing eye, respiratory system and skin conditions. Chronic exposure to copper and its salts can cause changes in the blood (anemia), liver and kidney.
ACUTE AND CHRONIC TOXICITY:

No information is available for this specific formulation, but is available on its components.

Dimethyl benzyl ammonium chloride (DBAC) produces corrosive damage to the eyes and gastrointestinal tract, and severe irritation to the skin and respiratory tract. Under certain circumstances, DBAC may release Ammonia, which is corrosive to the eyes, skin, respiratory, and gastrointestinal systems. Exposure to high concentrations of Ammonia may cause breathing difficulty, pulmonary edema, lung damage, and severe corneal injury including cataracts.

Exposure to Ammonia liquid or high concentrations of vapor can cause immediate and permanent damage to the eyes, skin, and respiratory and digestive tracts, and may be fatal. Respiratory effects may be delayed and include asthma-like bronchitis, pulmonary edema, laryngeal edema and glottis spasms creating a feeling of suffocation, and pneumonitis.

The Copper complex expressed as copper oxide in this product contains copper salts which, upon ingestion of high oral doses, can caused gastrointestinal disturbances, anemia, and secondary liver and kidney damage.

Copper complex (expressed as Copper oxides)	**Dimethy benzyl ammonium chloride (CAS #68391-01-5)**
Oral LD50 Rat: 1350 mg/kg Inhalation LC50 Rat: 2000 ppm/4H Inhalation LC50 Mouse: 4230 ppm/1 H (related to Ammonia) Dusts as mists as Cu: 100 mg/m3 IDLH (related to copper)	Oral LD50 Rat: 735 mg/kg for males and females combined Dermal LD50 Rat: 3350 mg/kg for males and females combined

EMERGENCY AND FIRST AID PROCEDURES

EMERGENCY PHONE NUMBER OF MANUFACTURER: CHEMTREC 1(800) 424-9300

1. INHALATION: If inhaled, immediately remove the affected person to fresh air. If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek immediate medical attention. Perform mouth-to-mouth resuscitation if victim is not breathing.
2. EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes. Seek immediate medical attention.
3. SKIN CONTACT: For skin contact, wash immediately with soap and water. Continue flushing skin with water for 15 minutes. Immediately take off all contaminated clothing. Seek immediate medical attention.
4. INGESTION: If the material is swallowed, get medical attention or advice. DO NOT induce vomiting. Give one to two glasses of water or milk.

NOTES TO PHYSICIAN: Provide general supportive measures and treat symptomatically.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

UNITED STATES DEPARTMENT OF TRANSPORTATION SHIPPING DESCRIPTION:
Corrosive liquids, n.o.s., 8, UN1760, PGII
(Copper complex expressed as copper oxides, Dimethyl benzyl ammonium chloride), Marine Pollutant

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Do not get this material in your eyes, on your skin, or on your clothing. Do not inhale vapors or mists of this product. Use this product with adequate ventilation. Wash thoroughly after handling. Keep out of reach of children. Read product label.
OTHER PRECAUTIONS: Store in a cool dry, well ventilated area. Store in carbon steel storage tanks away from sources of heat. See product label for more information.
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Containment Procedures:	Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up. Keep upwind and out of low areas. Contain discharge by booming on water or diking on ground. Absorb/adsorb residual materials and clean-up with non-sparking tools. Prevent entry into sewers, drains, underground or confined spaces, water intakes and waterways. See product label for more information.
Clean-Up Procedures:	Absorb spill with inert material. Shovel material into appropriate container for disposal. Sweep up or gather material and place in appropriate container for disposal. Wash spill area thoroughly. Wear appropriate protective equipment during clean-up. See product label for more information.
Evacuation Procedures:	Isolate area. Keep unnecessary personnel away.
Special Procedures:	Wear appropriate personal protective equipment. Follow all Local, State and Federal Regulations for disposal.

WASTE DISPOSAL METHODS: You must test your waste using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous waste. No EPA waste numbers are applicable to this product's components. Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: Individuals who enter pressure treatment cylinders and spray treatment booths/compartments contaminated with wood treatment solution (e.g., cylinders that are in operation or are not free of the treatment solution) must wear properly fitting, well-maintained, high-efficiency respirators, MSHA/NIOSH-approved for ammonia. If level of ammonia in the plant is unknown or exceeds 35 ppm (STEL) or 25 ppm (ACGIH) of air averaged over an 8-hour work period, air monitoring programs, procedures and record retention and submission must be conducted in accordance with OSHA standards.
VENTILATION REQUIREMENTS: As necessary to maintain exposure limits in Section II. See product label for more information.
PROTECTIVE GLOVES: Applicators must wear gloves impervious to wood treatment solutions (rubber) in all situations where dermal contact is expected.
EYE PROTECTION: Goggles and face shield.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Individuals who enter treatment cylinders and other related equipment contaminated with wood treatment solutions must wear protective clothing, (including overalls, jacket, gloves, and boots), impervious to wood treatment solutions.
WORK/HYGIENIC PRACTICES: Applicators must not eat or drink, or use tobacco products during those parts of the application process that may expose them to the wood treatment concentrate or solutions (i.e. ,manually opening/closing cylinder doors, moving trams out of the cylinder, mixing chemicals, handling freshly treated wood, etc.). Wash thoroughly after skin contact and before eating, drinking, using tobacco products, or using restrooms. Protective clothing must be replaced when it shows signs of significant contamination. Applicator must leave all protective clothing, work shoes or boots, and equipment at the treatment plant. Worn out or severely contaminated protective clothing must be disposed of in a manner approved for pesticide disposal and in accordance with state and federal regulations.

SECTION IX – EXOLOGICAL INFORMATION

ECOTOXICITY: This product contains fungicides and bactericides which when released into the environment, are expected to adversely effect or destroy contaminated plants. May be harmful or fatal to wildlife.

Copper complex (expressed as Copper oxides)
EC50 (5 min) Photobacterium phosphoreum: 2.0 mg/l Microtox test at 15°C (related to ammonia)
Dimethy benzyl ammonium chloride (CAS #68391-01-5)
None Established

SECTION - REGULATORY INFORMATION:

SARA/TITLE III ;SECTION 312 - HAZARD CATEGORIES:
Immediate (Acute) Health: Yes **Reactive Hazard: No**
Delayed (Chronic) Health: Yes **Sudden Release of Pressure: No**
Fire Hazard: No

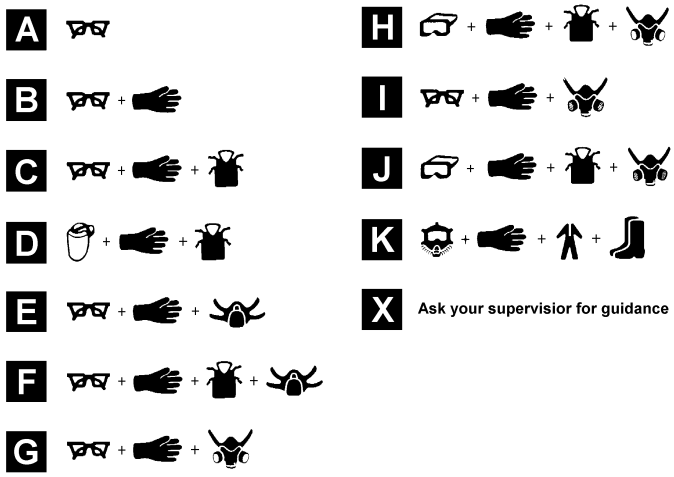
SECTION 302:
Threshold Planning Quantity equals 500 pounds (related to Ammonia)

SECTION 304:
Reportable Quantity (RQ) equals 100 pounds (related to Ammonia).

SECTION 311 & 312:
Storage of AC100 will subject you to reporting under Section 311 and 312 of SARA. Under Section 311 you are required to submit material safety data sheets to your Local Emergency Planning Committee (LEPC), your State Emergency Response Commission (SERC) and your local fire department. Under Section 312 you are required to submit a Tier I or II Inventory Form to your LEPC, SERC and local fire department by March 1st of each year.

SECTION 313:
Form R reporting required for 1.0% de minimis concentration (related to Copper).
Form R reporting required for 1.0% de minimis concentration; Chemical Category N100 (related to copper compounds).
Form R reporting required for 1.0% de minimis concentration (10% total aqueous ammonia); includes anhydrous ammonia and aqueous ammonia from water dissociable ammonium salts and other sources (related to Ammonia).

HAZARDOUS MATERIALS INFORMATION SYSTEM (HMIS)
PERSONAL PROTECTION INDEX



N/A = Not Applicable

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