Osmose MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET: MicroPro 200C

SECTION I

MSDS NUMBER: 217-osm
MSDS CODE: OSM
SYNONYMS: N/A
MANUFACTURED BY: Osmose, Inc.
EPA REGISTRATION NUMBER: 3008-92
VENDOR: N/A
EMERGENCY PHONE: CHEMTREC: 1(800) 424-9300
OTHER CALLS: 716-882-5905
ADDRESS: 980 Ellicott Street, Buffalo NY 14209
MSDS PREPARED BY: Teri Muchow
DATE PREPARED: January 25, 2006
DATE LAST REVISED: November 13, 2012 (replaces October 6, 2008)

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.

HAZARD SUMMARY

CAUTION! Harmful if swallowed or absorbed through skin.

Eyes - May cause irritation.

Skin - Certain individuals may be sensitive to copper. May cause irritation

Ingestion - May be harmful swallowed. May cause burning pain in mouth, esophagus and stomach.

Inhalation - May cause irritation to the upper respiratory tract.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

TRADE NAME: MicroPro 200C

<table>
<thead>
<tr>
<th>INGREDIENT NAME</th>
<th>CAS</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>OTHER</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper Carbonate*</td>
<td>12069-69-1</td>
<td>1 mg/m² Copper dusts &amp; mists as Cu</td>
<td>1 mg/m³ Copper fume as Cu</td>
<td>N/A</td>
<td>57.6%</td>
</tr>
<tr>
<td>Dispersant Water</td>
<td>N/A - Mixture 7732-18-5</td>
<td>None Established</td>
<td>None Established</td>
<td>N/A</td>
<td>6% – 9%</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>None</td>
<td>None</td>
<td>N/A</td>
<td>25% - 30%</td>
</tr>
</tbody>
</table>

Depending on the specifications of the customer, this product may also contain the following component(s):

Sodium Nitrite 7632-00-0 N/A N/A RQ = 100 lbs. 2.0% – 5.8 %

*Copper oxide equivalent 41.70%; Copper Metallic Equivalent 33.31%

SECTION III - CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>BOILING POINT</th>
<th>MELTING POINT</th>
<th>FREEZING POINT</th>
<th>SPECIFIC GRAVITY (H₂O = 1)</th>
<th>THEORETICAL VOC CONTENT (PERCENT OF WEIGHT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Determined</td>
<td>N/A</td>
<td>Not Determined</td>
<td>1.78 – 1.92</td>
<td>Not Determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEIGHT PER GALLON</th>
<th>pH</th>
<th>VAPOR PRESSURE</th>
<th>VAPOR DENSITY</th>
<th>DENSITY</th>
<th>EVAPORATION RATE BASIS (N-BUAC) = 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.9 – 16.0 lbs/gal.</td>
<td>9.21</td>
<td>Not Determined</td>
<td>Not Determined</td>
<td>See specific gravity</td>
<td>Not Determined</td>
</tr>
</tbody>
</table>

SOLUBILITY IN WATER: Soluble

REACTIVITY IN WATER: N/A

APPEARANCE AND ODOR: Light green opaque, aqueous dispersion. Latex paint-like odor.
SECTION IV - FIRE AND EXPLOSION HAZARD DATA

<table>
<thead>
<tr>
<th>FLASH POINT</th>
<th>METHOD</th>
<th>FLAMMABLE LIMITS IN AIR (%)</th>
<th>AUTOIGNITION TEMPERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Determined</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NFPA CODES</th>
<th>HEALTH 2</th>
<th>HMIS CODES: HEALTH 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FLAMMABILITY 0</td>
<td>FLAMMABILITY 0</td>
</tr>
<tr>
<td></td>
<td>REACTIVITY 0</td>
<td>REACTIVITY 0</td>
</tr>
<tr>
<td>OTHER</td>
<td>N/A</td>
<td>PROTECTION D</td>
</tr>
</tbody>
</table>

EXTINGUISHER MEDIA: Use extinguishing agents appropriate for surrounding fire.

SPECIAL FIRE FIGHTING PROCEDURES: When responding to a fire, wear NIOSH/MSHA approved self-contained breathing apparatus and protective clothing. Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Stay upwind and keep out of low areas.

SECTION V - REACTIVITY DATA

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

CONDITIONS TO AVOID (REGARDING STABILITY): None Known

INCOMPATIBILITY (MATERIALS TO AVOID): Sodium hypobromite, acetylene, hydrazine, nitromethane, strong acids and reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may produce acrid smoke and toxic fumes.

HAZARDOUS POLYMERIZATION POSSIBLE (Y/N)? N

CONDITIONS TO AVOID (REGARDING POLYMERIZATION): N/A

SECTION VI - HEALTH HAZARDS

EMERGENCY OVERVIEW: Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wear goggles, face shield or safety glasses and rubber gloves when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove contaminated clothing and wash before reuse. ROUTES OF ENTRY: Skin contact and eye contact.

SIGN AND SYMPTOMS OF ACUTE OVEREXPOSURE:

**Swallowing**
May cause burning pain in mouth, esophagus and stomach. Hemorrhagic gastritis, nausea, vomiting, abdominal pain, metallic taste and diarrhea may occur. If vomiting does not occur immediately systemic copper poisoning may occur. Symptoms may include capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous excitation followed by depression, jaundice, convulsions, blood effects, paralysis and coma. Death could occur from shock or renal failure.

**Skin Exposure**
Certain individuals may be sensitive to copper. May cause irritation

**Eye Contact**
May cause irritation.

**Inhalation**
May cause irritation to the upper respiratory tract. Symptoms may include coughing, sore throat and shortness of breath.

CHRONIC OVEREXPOSURE: Prolonged or repeated skin exposure to copper may cause 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: None known

ACUTE AND CHRONIC TOXICITY:

- Oral LD50 (rat): > 2,000 mg/kg
- Acute Dermal LD50 (rat): > 2,000 mg/kg
- Acute Inhalation LC50 (rat): > 2.06 mg/L
- Skin Irritation (rabbit): Slightly irritating to the skin
- Eye Irritation (rabbit): Minimally irritating to the eye.
- Skin sensitization (Guinea pig): Not a sensitizer

EMERGENCY AND FIRST AID PROCEDURES

1. EMERGENCY PHONE NUMBER OF MANUFACTURER: CHEMTREC 1(800) 424-9300
Chemically contaminated personnel must be taken for medical attention. Rescuers should be taken for medical attention if necessary. Take a copy of label and MSDS to physician or health-care professional with victim.

1. If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

2. If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

3. If swallowed: Call a poison control center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

4. If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN: Take appropriate action to counteract symptoms.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

UNITED STATES DEPARTMENT OF TRANSPORTATION SHIPPING DESCRIPTION: Sodium nitrite is a listed hazardous substance with a RQ value of 100 pounds. If the MicroPro 200C that is being shipped contains sodium nitrite, and it is being shipped in bulk packaging, the proper shipping description is:

UN3082, Environmentally hazardous substance, liquid, n.o.s., 9, PGIII, RQ (contains sodium nitrite)

If shipping in non-bulk packaging or if the MicroPro 200C does not contain sodium nitrite, the product can be shipped as non-regulated.

IMDG SHIPPING DESCRIPTION:

UN3082, Environmentally hazardous substance, liquid, n.o.s., 9, PGIII, RQ (contains sodium nitrite and copper carbonate)

Or

UN3082, Environmentally hazardous substance, liquid, n.o.s., 9, PGIII, RQ (contains copper carbonate)

Please check with manufacturer to determine whether or not the product you are shipping contains sodium nitrite.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep containers closed when not in use. Do not contaminate drinking water, food or feed additive.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Wear appropriate protective equipment and NIOSH/MSHA approved respirator where mists of vapors of unknown concentrations may be generated (self-contained breathing apparatus preferred). Dike and contain spill with inert material (sand, earth, etc.) and transfer the liquid and solid separately to containers for recovery or disposal. Keep spill out of sewers and open bodies of water.

WASTE DISPOSAL METHODS: Dispose of in compliance with all Federal, State and local laws and regulations.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: As necessary to meet exposure limits stated in Section II. Refer to the MSDSs of all products used in conjunction with this product.

VENTILATION REQUIREMENTS: In processes where mists or vapors may be generated, proper ventilation must be provided in accordance with good ventilation practices.

PROTECTIVE GLOVES: Rubber gloves to prevent skin contact.

EYE PROTECTION: Wear chemical splash goggles or face-shield where there is a potential for eye contact. Use safety glasses with side shields under typical conditions, where face or eye contact is unlikely.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Eye wash; safety shower; protective clothing (long sleeves, coveralls or other, as appropriate), when needed, to prevent skin contact.

WORK/HYGIENIC PRACTICES: As with all chemicals, avoid getting this solution on you or in you. Protective clothing must be changed when it shows signs of contamination. Follow manufacturer’s instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. 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 formulation (e.g., manually opening/closing cylinder doors, moving trams out of cylinders, mixing chemicals, handling freshly treated wood).

NOTE: For additional control measures, refer to the MSDSs of all products used in conjunction with this product. If the use of another product requires a higher level of protective equipment, then the PPE requirements of that product should be followed.

SECTION IX - REGULATORY INFORMATION:

SARA/TITLE III

SECTION 302:
N/A

SECTION 304:
Sodium nitrite has a SARA/CERCLA RQ of 100 pounds. Spill or releases resulting in the loss of this ingredient at or above its RQ requires immediate notification to the National Response Center and to your Local Emergency Response Planning Committee. If the MicroPro 200C purchased will be used to produce a micronized copper quat (MCQ) mix, then the sodium nitrite content will be 2.0%. If the MicroPro 200C purchased will be used to produce a micronized copper azole (MCA) mix, then the sodium nitrite content will be 5.8%.

SECTION 311 & 312:
Storage of this product 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 312 - HAZARD CATEGORIES:
Immediate (Acute) Health: Yes Reactive Hazard: No
Delayed (Chronic) Health: No Sudden Release of Pressure: No
Fire Hazard: No

SECTION 313:
This portion of the act requires submission of annual reports of releases of the following components of this material if the threshold reporting quantities as listed in 40 CFR 372, are met or exceeded: Copper Carbonate (CAS #12069-69-1) is reportable as a copper compound; Sodium Nitrite is reportable as a SARA 313 listed chemical. CAS numbers and weight percents are found in Section 2. If the MicroPro 200C purchased will be used to produce a micronized copper quat (MCQ) mix, then the sodium nitrite content will be 2.0%. If the MicroPro 200C purchased will be used to produce a micronized copper azole (MCA) mix, then the sodium nitrite content will be 5.8%.

CALIFORNIA PROPOSITION 65 – This product is not regulated under California Proposition 65.

HAZARDOUS MATERIALS INFORMATION SYSTEM (HMIS)
PERSONAL PROTECTION INDEX

A

B

C

D

E

F

G

H

I

J

K

X

Ask your supervisor for guidance

N/A = Not Applicable

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