Osmose MATERIAL SAFETY DATA SHEET

MATERIAL SAFETY DATA SHEET – CLEANWOOD® AC

SECTION I

MSDS NUMBER: 234-OSM
MSDS CODE: Osm
SYNONYMS: N/A
MANUFACTURED FOR: Osmose, Inc.
EPA REGISTRATION NUMBER: 67071-5-3008
VENDOR: N/A
EMERGENCY PHONE: CHEMTREC: 1(800) 424-9300
OTHER CALLS: (716) 882-5905
ADDRESS: 980 Ellicott Street, Buffalo, New York 14209
MSDS PREPARED BY: Teri Muchow
DATE PREPARED: July 19, 2007
DATE LAST REVISED: October 27, 2008 (replaces November 5, 2007)

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

DANGER! CORROSIVE – Causes Severe eye and skin burns. May cause sensitization by skin contact. Irritating to respiratory system.

Eyes - Corrosive to eyes. Severely irritating to the eyes and may cause eye burns. May cause permanent eye injury.

Skin - Corrosive to the skin. Severely irritating to the skin and may cause chemical burns to the skin. May cause allergic skin sensitization of susceptible persons.

Ingestion - May be harmful or fatal if swallowed. Ingesting may produce chemical burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Inhalation - Inhalation of vapors, mists or sprays can cause irritation or burns of the nose, throat and lungs.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<table>
<thead>
<tr>
<th>TRADE NAME: CLEANWOOD® AC</th>
<th>INGREDIENT NAME</th>
<th>CAS</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1) 5-Chloro-2-methyl-4-Isothiazolin-3-one</td>
<td>26172-55-4</td>
<td>N/A</td>
<td>N/A</td>
<td>RQ 100 lbs. Manufacturer recommended TWA of 0.076 mg/m^3, and STEL of 0.23 mg/m^3.</td>
</tr>
<tr>
<td></td>
<td>2) 2-Methyl-4-Isothiazolin-3-one</td>
<td>2682-20-4</td>
<td>N/A</td>
<td>N/A</td>
<td>RQ 100 lbs. Manufacturer recommended TWA of 1.5 mg/m^3, and STEL of 4.5 mg/m^3.</td>
</tr>
<tr>
<td></td>
<td>3) Magnesium Nitrate</td>
<td>10377-60-3</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.6</td>
</tr>
<tr>
<td>3.5</td>
</tr>
<tr>
<td>15</td>
</tr>
</tbody>
</table>

SECTION III - CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>BOILING POINT</th>
<th>MELTING POINT</th>
<th>FREEZING POINT</th>
<th>SPECIFIC GRAVITY (H_2O = 1)</th>
<th>PERCENT VOLATILE BY VOLUME</th>
<th>THEORETICAL VOC CONTENT (PERCENT OF WEIGHT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>212°F/100°C</td>
<td>Not Determined</td>
<td>Unknown</td>
<td>Approximately 1.25</td>
<td>60%-64% water</td>
<td>&lt; 0.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WEIGHT PER GALLON</th>
<th>pH:</th>
<th>VAPOR PRESSURE</th>
<th>VAPOR DENSITY (air = 1)</th>
<th>DENSITY</th>
<th>EVAPORATION RATE BASIS (BAC) = 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approximately 10.4 lbs/gal</td>
<td>2.5 – 3.0</td>
<td>16 mmHg</td>
<td>Not Determined</td>
<td>1.23 – 1.26 g/cm3</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>

SOLUBILITY IN WATER: Fully Miscible

REACTIVITY IN WATER: N/A

APPEARANCE AND ODOR: Liquid, colorless to pale yellow, mild odor

VISCOSITY: Not Determined
### Osmose MATERIAL SAFETY DATA SHEET

**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>N/A</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</th>
<th>HMIS CODES:</th>
<th>HEALTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

| EXTINGUISHER MEDIA: | Water spray jet, extinguishing powder, CO2, foam. |

**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus (pressure-demand MSHA/NIOSH approved or equivalent) and full protective gear. Use water spray to cool fire-exposed containers. Minimize exposure. DO NOT Breathe fumes. Contain run-off.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Avoid exposure to fumes and vapors from a fire - can possibly include carbon monoxide and hydrogen chloride and oxides of nitrogen.

**SECTION V - REACTIVITY DATA**

<table>
<thead>
<tr>
<th>IS THIS CHEMICAL STABLE UNDER NORMAL CONDITIONS OF HANDLING/STORAGE (Y/N)?</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONDITIONS TO AVOID (REGARDING STABILITY): Protect against temperatures &gt; 60°C.</td>
<td></td>
</tr>
<tr>
<td>INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with oxidizing agents, reducing agents, alkalis and nucleophils.</td>
<td></td>
</tr>
<tr>
<td>HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may yield hydrogen chloride, carbon monoxide and oxides of nitrogen.</td>
<td></td>
</tr>
<tr>
<td>HAZARDOUS POLYMERIZATION POSSIBLE (Y/N)?</td>
<td>N</td>
</tr>
<tr>
<td>CONDITIONS TO AVOID (REGARDING POLYMERIZATION):</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**SECTION VI - HEALTH HAZARDS**

**ROUTES OF ENTRY:** Inhalation, dermal absorption, skin contact and eye contact.

**SIGNS AND SYMPTOMS OF ACUTE OVEREXPOSURE:**

- **Eyes** - Corrosive to eyes. Severely irritating to the eyes and may cause eye burns. May cause permanent eye injury.
- **Skin** - Corrosive to the skin. Severely irritating to the skin and may cause chemical burns to the skin. May cause allergic skin sensitization of susceptible persons. May be fatal if absorbed through the skin.
- **Ingestion** - May be harmful or fatal if swallowed. Ingesting may produce chemical burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.
- **Inhalation** - Harmful if inhaled. Inhalation of vapors, mists or sprays can cause irritation or burns of the nose, throat and lungs.

**CHRONIC OVEREXPOSURE:** Allergic contact dermatitis observed. Collective data indicate non-mutagenic; not teratogenic.

**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:** N/A

**TOXICOLOGICAL DATA:**

- Dermal LD50 - rabbit: > 1,000 mg/kg
- Oral LD50 - rat: 481 mg/Kg
- Eye Irritation - rabbit: corrosive
- Skin Irritation - rabbit: corrosive
- Inhalation LC50 (4hr) – 1.23 mg/l (aerosol)

**EMERGENCY AND FIRST AID PROCEDURES**

1. **INHALATION:** Move subject to fresh air. Give artificial respiration if breathing has stopped. If symptoms persist, call a physician.
2. **EYE CONTACT:** Flush with large amount of water for at least 30 minutes and continuously until medical attention is obtained. Remove contact lenses, if present, after the first 5 minutes, then continuing rinsing eyes. Get prompt medical attention.
3. **SKIN CONTACT:** IMMEDIATELY get under a safety shower. Remove contaminated clothing. Wash off with soap and water. Immediate medical attention is required. Do not take clothing home to be laundered. Discard contaminated clothing, shoes, belts and other articles of leather. If skin irritation occurs, get medical attention.
4. **INGESTION:** If swallowed, give 2 glasses of water to drink. Immediately see a physician. Never give anything by mouth to an unconscious person. Do not induce vomiting unless told to do so by the Poison Control center or doctor.

**Note to Physician:** Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock and convulsions may be necessary.

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

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**CleanWood AC**
SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

US SHIPPING DESCRIPTION: Corrosive liquid, toxic, n.o.s., 8 (6.1), UN2922, PGII (5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H-isothiazol-3-one)

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Ensure good ventilation/exhaustion at the workplace. It is preferable that the product be handled in a closed system. Avoid splashes or spray. Store only in the original receptacle. Prevent any seepage in the ground. Protect from heat and direct sunlight. The product, as supplied, naturally and very slowly evolves carbon dioxide gas. Therefore, to relieve any excess pressure, the product is supplied in specially vented containers which are recommended for the continued storage of the product. In order to prevent spillages, always ensure that these containers are stored and transported in upright position.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
- Personal Precautions – Wear protective clothing. Keep unprotected persons away. When selecting the protective suit it has to be paid attention to a complete and safe protection of skin and mucous membrane. Impermeable protective clothes, protective boots made of neoprene, complete face protection, nitrile-rubber-gloves with long tops. Remove contaminated clothing immediately and dispose of properly. Do not re-use contaminated clothing. See “First Aid Measures” for further information.
- Methods for Clean Up – WARNING! KEEP SPILLS AND CLEAN-UP RESIDUALS OUT OF MUNICIPAL SEWERS AND OPEN BODIES OF WATER. Collect large amounts in suitable container. Cover the rest with absorbent, mix intensively and collect mechanically. Surfaces can be decontaminated with a solution containing 5% sodium hypochlorite and 5% sodium bicarbonate. Ensure adequate ventilation.

WASTE DISPOSAL METHODS: Dispose in accordance with applicable Federal and Local regulations. Contact the local regional office of the EPA for pesticide disposal information.

ENVIRONMENTAL TOXICITY:
- BIODEGRADABILITY: The components are readily biodegradable. Degree of biological degradability is > 60%.
- MOBILITY AND BIOACCUMULATION: Low potential to bioaccumulate. Log Poww -0.71 - +0.75; CIT/MIT. Not dangerous for terrestrial plants
- FISH TOXICITY: 96 hr LC50, Oncorhynchus mykiss: 1.8 mg/l
- 96 hr LC50, bluegill sunfish: 2.3 mg/l
- DAPHNIA TOXICITY: 48 HR EC50, daphnia magna: 0.84 mg/l
- 21 day LC50, daphnia magna: 5.4 mg/l
- ALGAL TOXICITY: 120 hr EC50, Anabaena flos aqua: 0.31 mg/l
- BACTERIA TOXICITY: 120 hr, EC50, Pseudomonas putida: 5.7 mg/l

NOTE: This product contains materials that are harmful to the environment. Avoid transfer into the environment.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: Typical use of this material does not result in workplace exposures that exceed the exposure limits listed in the Exposure Limit Information Section. For those special workplace conditions where the listed exposure limits are exceeded, a respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements must be followed. For concentrations up to 10 times the exposure limit, wear a properly fitted NIOSH approved (or equivalent) half-mask or full facepiece air purifying respirator equipped with organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters. For those unlikely situations where exposure may greatly exceed the listed exposure limits (i.e. greater than 10-fold), or in any emergency situation, wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode or a full facepiece airline respirator in the pressure demand mode with emergency escape provision. See SECTION VII, Accidental Release Measures, for respirator and protective clothing requirements for spill clean-up and decontamination of this material.

VENTILATION REQUIREMENTS: Use local exhaust ventilation with a minimum capture velocity of 150 ft/min. (0.75 m/sec.) at the point of dust or mist evolution. Refer to the current edition of Industrial Ventilation: A manual of Recommended Practice, published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

PROTECTIVE GLOVES: NOTE - Material is a skin sensitizer and if not treated after exposure will cause chemical burns. Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): Nitrile rubber NBR. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.

EYE PROTECTION: Prevent eye contact. Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent).

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Prevent skin contact. Wear as appropriate: chemical impervious apron, complete suit protecting against chemicals, full head, face and neck protection. Also recommend that eye wash facility be in the area of use, an emergency shower, and impervious (rubber) overshoes.

WORK/HYGIENIC PRACTICES: Do not handle material near food, feed or drinking water. Shower or bathe at the end of working.

Remove contaminated clothing immediately and dispose of properly. Do not re-use contaminated clothing.
SECTION IX REGULATORY INFORMATION

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

SARA/TITLE III: SECTION 313 INFORMATION (40 CFR 372)
This product contains a chemical which is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present:
- magnesium nitrate (10377-60-3) as nitrate compound

CERCLA INFORMATION (40 CFR 302.4)
N/A

US Toxic Substance Control Act (TSCA)
This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and is therefore exempt from US Toxic Substances Control Act (TSCA) Inventory listing requirements.

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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