SKANE™ M-8 Mildewcide
Fungicide for Paints and Coatings
CAS Reg. No. 26530-20-1
EPA Reg. No. 707-100

General

High quality, mildew-resistant house and trim paints, both latex and some solvent-based, can be produced using SKANE™ M-8 Mildewcide. Several years of testing exterior paints by exposure in the mildew-prone areas of the Southern and Northern areas of the U.S. have demonstrated the high level of protection obtained. SKANE M-8 has been tested against various mildewcides in actual paint exposures and has been found to offer superior resistance to mildew growth on latex and some solvent-based paints.

In addition to being a superior mildewcide, SKANE M-8 does not compromise the long-term performance of the applied paint film. SKANE M-8 has been used in millions of gallons of paint for more than twenty years and has never been associated with adverse side effects such as yellowing, discoloration, chalking or cracking of the paint film.

SKANE M-8 does not contain lead or mercury and, therefore, will not discolor or sulfide stain in areas with high atmospheric sulfide content. SKANE M-8 is also formaldehyde-free. Under the IUPAC system of nomenclature the SKANE M-8 active ingredient is identified as 2-noctyl-4-isothiazolin-3-one.

Structure

Molecular Weight = 213.34
C_{11}H_{19}NOS

Features and Benefits

SKANE™ M-8 Mildewcide exhibits the following performance advantages over other commercially available mildewcides.

Effective Against Mildew: primers and trim paints formulated with SKANE M-8 have demonstrated effective mildew resistance when applied to bare wood, previously painted surfaces, or other substrates used for exterior siding, such as vinyl siding and masonry.

Universal Paint Mildewcide: SKANE M-8 can be used in all types of paints made by paint manufacturers. It has been proven effective in latex paint based on acrylic, polyvinyl acetate, and other latex vehicles. It has also been proven effective in some solvent-based or alkyd paints.

No Side Effects on the Paint Film: SKANE M-8, in over 20 years of usage in paints, has never caused yellowing, discoloration, poor tint retention or cracking on the paint film.
Economical: SKANE™ M-8 Mildewcide use concentrations in final formulations are cost effective compared to other competitive mildewcides.

Low Use Levels: SKANE M-8 provides excellent resistance against mildew at very low use levels. The typical use levels are in the range of 1 to 3 lb/100 gal on an as-supplied basis, or 450 to 1350 ppm on an active ingredient (AI) basis. EPA registration allows use levels up to 4 lb/100 gal (1800 ppm).

Dow recommends a WARNING LABEL when SKANE M-8 is used at levels between 3 and 4 lb/gal (>1350 ppm active ingredient) indicating a potential risk of allergic skin reaction upon repeated skin contact.

Low Toxicity: extensive testing has shown that the toxicity of SKANE M-8 is low at recommended use levels in the final paint formulation.

Compatible: SKANE M-8 is compatible with common paint ingredients.

Easy to Formulate: SKANE M-8 is supplied in liquid form and is therefore easily formulated into latex or solvent-based paint formulations.

Does Not Contain or Release Formaldehyde: SKANE M-8 does not contain or release formaldehyde.

EPA Registered: SKANE M-8 is registered for use in paint and coatings, as well as in a variety of other applications.

Paint manufacturers who want to make mildewcide label claims on their paint labels should contact the EPA for the appropriate wording allowed by FIFRA regulations. These regulations govern the use of pesticides, which includes mildewcides. The EPA has developed specific guidelines for labeling coatings and includes specific labeling statements for a paint product which does NOT subject a paint product to registration as a mildewcide. Also included in these guidelines are label statements that the paint manufacturer will want to avoid, as these statements will subject their paint to registration as a pesticide under FIFRA.

Environmentally Preferred: SKANE M-8 does not persist in the environment.

**Physical Properties**

The following are typical properties of SKANE™ M-8 Mildewcide; they are not to be considered product specifications.

- **Appearance:** Yellow to amber liquid
- **Active ingredient (AI):** 2-n-octyl-4-isothiazolin-3-one
- **Concentration:** 45% minimum
- **Carrier solvent:** Propylene glycol
- **Viscosity, Brookfield:** 40 cP
- **Density:** 8.5-8.7 lb/gal
- **Specific gravity:** 1.034
- **Bulking value:** 0.116 gal/lb
- **Storage stability:** Excellent
- **Color (VCS):** 8 max. 3
Analytical Procedures for SKANE™ M-8 Mildewcide
Dow has developed a number of techniques for the quantitative analysis of SKANE M-8 both in solution and on a number of solid substrates using high-performance liquid chromatography (HPLC) and gas (GLC) chromatography equipment. A qualitative colorometric technique is also available. Details of these procedures can be obtained by contacting your local Dow representative.

Solubility of SKANE™ M-8 Mildewcide
SKANE M-8 exhibits a range of solubilities as indicated below.

a. Infinite solubility of the Al is achieved in:
   Methanol
   Ethanol
   Propylene Glycol
   Acetone
   Ethyl Ether
   Ethyl Acetate
   Chloroform
   Butyl CELLOSOLVE™
   Corn Oil
   Mineral Oil

b. Solubility in Toluene is approximately 25% w/v.

c. Solubility in Water at 25°C is negligible.

d. Insoluble in Heptane.

These solubilities were determined at typical ambient temperatures (20-25°C). Both the solubility and stability of the Al may change when the temperature is lowered to 0°C or increased to 60°C.

Chemical Compatibility
SKANE M-8 typically has biological and physical compatibility with anionic, nonionic and cationic surfactants, halogens at use dilutions, and most organic and inorganic compounds commonly used in paints, latices and pigment slurries.

SKANE M-8 may be deactivated, under certain conditions, by the presence of ammonia (ammonium hydroxide) and primary/secondary amines. Strong reducing or oxidizing agents, such as hypochlorites, bisulfites, metabisulfites, and H₂S, may also affect the efficacy of the Al, although a number of techniques for stabilizing the Al in the presence of these deactivating compounds are known and can be applied to paint systems as indicated below.

Chemical Stability
The excellent stability of SKANE M-8 has been demonstrated in a variety of paint systems.

The addition of ten to fifty pounds of zinc oxide per hundred gallons of paint will stabilize SKANE M-8 in the presence of ammonia and primary or secondary amines.

In latex paints where zinc oxide cannot be used, SKANE M-8 can be stabilized by the addition of 15 ppm copper metal on total formulation weight as copper nitrate. SKANE M-8 can also be stabilized with formaldehyde generating preservatives.
Vapor Pressure
Using a gas saturation technique, the following vapor pressures have been determined for SKANE™ M-8 Mildewcide AI:

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Vapor Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>25°C</td>
<td>3.68 x 10^{-5} Torr</td>
</tr>
<tr>
<td>35°C</td>
<td>1.20 x 10^{-4} Torr</td>
</tr>
<tr>
<td>45°C</td>
<td>3.60 x 10^{-4} Torr</td>
</tr>
</tbody>
</table>

**Efficacy**

**Anti-Microbial Properties of SKANE™ M-8 Mildewcide**
Initial determinations of the efficacy of any mildewcidal product are made via minimum inhibitory concentration (MIC) measurements. The MIC test yields valuable information about the product's activity profile.

The MIC for any product is the lowest level at which the AI inhibits the growth of various microorganisms in vitro. This rapid test method is a useful tool for screening antimicrobial agents under standardized laboratory conditions, in nutrient-rich growth conditions. In interpreting the data, remember that low values correspond to high activity.

The data are intended only to indicate the activity of SKANE M-8 in an aqueous solution; they do not represent recommended use levels. Moreover, the microorganisms on the list are not all the ones involved in the deterioration of coatings.

**Fungistatic Activity**
Table 1 indicates that SKANE M-8 possesses outstanding activity against fungi. Several of the fungal species listed play key roles in the disfigurement of paint films, such as *Aureobasidium pullulans* and *Aspergillus niger*. SKANE M-8 has very low MIC values for these and many other fungi.

**Table 1**

**Fungistatic Activity of SKANE™ M-8 Mildewcide**

<table>
<thead>
<tr>
<th>Organism</th>
<th>MIC* in PPM of AI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternaria dianthicola ATCC#11782</td>
<td>1</td>
</tr>
<tr>
<td>Aspergillus niger ATCC#9642</td>
<td>8</td>
</tr>
<tr>
<td>Aspergillus oryzae ATCC#10196</td>
<td>2</td>
</tr>
<tr>
<td>Aspergillus repens ATCC#9294</td>
<td>2</td>
</tr>
<tr>
<td>Aureobasidium pullulans ATCC#9348</td>
<td>0.3</td>
</tr>
<tr>
<td>Candida albicans (yeast) ATCC#11651</td>
<td>2</td>
</tr>
<tr>
<td>Chaetomium globisum ATCC#6205</td>
<td>4</td>
</tr>
<tr>
<td>Cladosporium resinae ATCC#11274</td>
<td>0.5</td>
</tr>
<tr>
<td>Lenzites lepideus ATCC#12653</td>
<td>2</td>
</tr>
<tr>
<td>Lenzites trabea ATCC#11539</td>
<td>2</td>
</tr>
<tr>
<td>Penicillium funiculosum ATCC#9644</td>
<td>1</td>
</tr>
<tr>
<td>Phoma glomerata ATCC#6735</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>Phoma pigmentivora ATCC#12569</td>
<td>2</td>
</tr>
<tr>
<td>Rhizopus stolonifer ATCC#10404</td>
<td>4</td>
</tr>
<tr>
<td>Rhodotorula rubra (yeast) ATCC#9449</td>
<td>4</td>
</tr>
<tr>
<td>Saccharomyces cerevisiae (yeast) ATCC#2601</td>
<td>1</td>
</tr>
<tr>
<td>Trichophyton interdigitale (mentagrophytes) ATCC#9533</td>
<td>&lt;1.0</td>
</tr>
</tbody>
</table>

*Fungistatic MIC are based on AI as determined in twofold broth serial dilution tests.
**Bacteriostatic Activity**

Table 2 shows the effectiveness of SKANE™ M-8 Mildewcide in inhibiting the growth of a variety of bacteria. SKANE M-8 contributes to in-can protection of paints where bacterial spoilage is a problem. Best protection is afforded, however, by using a combination of SKANE M-8 and an in-can preservative such as KATHON™ LX 1.5% Biocide or ROCIMA™ 550 Biocide.

<table>
<thead>
<tr>
<th>Organisation</th>
<th>MIC* in PPM of AI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus subtilis ATCC#6651</td>
<td>8</td>
</tr>
<tr>
<td>Brevibacterium ammoniagenes ATCC#2398</td>
<td>4</td>
</tr>
<tr>
<td>Staphylococcus aureus ATCC#6538</td>
<td>8</td>
</tr>
<tr>
<td>Staphylococcus epidermidis ATCC#155</td>
<td>16</td>
</tr>
</tbody>
</table>

* Bacteriostatic MIC are based on AI as determined in twofold broth serial dilution tests.

**Algaestatic Activity**

The algaestatic control of SKANE M-8 AI is reported in Table 3. SKANE M-8 contributes to control of algae growth on paint films, but in severe conditions, such as high humidity climates, an algaecide may be required for full protection.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Type (Strain)</th>
<th>MIC* in PPM of AI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ankistrodesmus falcatus</td>
<td>R. C. Starr</td>
<td>5</td>
</tr>
<tr>
<td>Chlorella pyrenoidosa</td>
<td>G. P. Fitzgerald (1)</td>
<td>5</td>
</tr>
<tr>
<td>Coccomyxa elongata</td>
<td>R. C. Starr/Jagg</td>
<td>1</td>
</tr>
<tr>
<td>Scenedesmus obliquus</td>
<td>R. C. Starr/Turp-Kruger</td>
<td>5</td>
</tr>
<tr>
<td>Nostoc sp.</td>
<td>R. C. Starr</td>
<td>&lt;0.5</td>
</tr>
<tr>
<td>Phormidium sp.</td>
<td>G. P. Fitzgerald (2)</td>
<td>5</td>
</tr>
<tr>
<td>Phormidium retzil</td>
<td>G. P. Fitzgerald (3)</td>
<td>2</td>
</tr>
</tbody>
</table>

(1) Deason and Bold, Wisconsin 2005
(2) “Black Algae”, Wisconsin 1093
(3) “Square D”, strain

* Algaestatic MIC are based on AI as determined in twofold broth serial dilution tests.
Performance Results – SKANE™ M-8 Mildewcide for Exterior Paint

Exposure Test Results
Dow has exposed SKANE™ M-8 Mildewcide at various exposure sites across the United States, as well as in other regions of the world.

Generally speaking, SKANE M-8, when used with zinc oxide, provides excellent protection against the growth of mildew at the most competitive use cost with no side effects on dry paint films. SKANE M-8 alone also provides very good mildew resistance.

Latex Paint Exposure – PVA System
The graph below is based on the results of a 14 month North Vertical exposure in Northeast Florida on a substrate of alkyd primed white pine. The graph demonstrates the excellent mildewcide protection offered in a PVA system using SKANE M-8 with zinc oxide vs a PVA control system with no mildewcide.

Applications/Directions for Use

The usage level required to obtain the desired degree of protection with SKANE™ M-8 Mildewcide depends on several factors. These include the level of zinc oxide in the formulation, the climatic conditions where the paint will be applied and the type of paint produced. The condition of the surface and number of coats applied are also significant.

The mildew protection obtained is proportional to the amount of SKANE M-8 used and the performance desired as determined by the paint manufacturer. As a rule of thumb, substitution of SKANE M-8 and zinc oxide for a previously used mercurial or non-mercurial mildewcide on a cost per gallon basis will result in equal or improved mildew resistance.

The final selection of levels of SKANE M-8 and zinc oxide will depend on the level of protection needed as well as formulation cost. In select areas, depending on climatic and paint surface conditions, some coatings manufacturers may elect to use SKANE M-8 without zinc oxide. Other regions may require higher levels of SKANE M-8. For maximum protection in mildew prone areas (e.g., Southeastern U.S.), the formulation may require the use of zinc oxide, along with higher levels of SKANE M-8.

SKANE M-8 Use Levels
Up to three pounds of SKANE M-8 per hundred gallons are suggested for paints used in mildew-prone areas where humid weather conditions prevail. Lower levels – such as two
pounds in a primer and one pound in a topcoat – provide satisfactory performance in dryer or cooler climates.

When SKANE™ M-8 Mildewcide is used with stabilizers other than zinc oxide, it provides mildew protection in cooler/dry climates where mildew is not severe, especially where surfaces are frequently painted. The use of SKANE M-8 will provide the level of protection needed, and will not cause unwanted side effects on the paint film like yellowing, discoloration or tint loss.

**Zinc Oxide Levels**

When SKANE M-8 is used in conjunction with zinc oxide, which is a mildewstat, a unique performance enhancement effect on the mildew resistance of the paint occurs. Typical treatment levels are shown in Table 4.

Advantage should be taken of this synergism to attain the best possible cost/performance relationship in a paint formulation. Ten pounds of zinc oxide per hundred gallons is the minimum level recommended to stabilize SKANE M-8 in the presence of amines in latex formulations.

Zinc oxide is not needed for stability in solvent-based paint formulations; however, it provides increased mildewcide protection.

<table>
<thead>
<tr>
<th>Paint Type</th>
<th>SKANE M-8 Level (lbs/100 gal)</th>
<th>ZnO Level (lbs/100 gal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Latex</td>
<td>1-3*</td>
<td>10-50</td>
</tr>
<tr>
<td>Solvent</td>
<td>1-3*</td>
<td>0-50</td>
</tr>
</tbody>
</table>

Note: SKANE M-8 may require an alternative stabilizer when used in latex paints without ZnO. A stabilizer is not needed in solvent-based formulations.

*SKANE M-8 can be used up to 4 lb/100 gal per EPA registration. Due to a possible increased risk of allergic skin reaction at levels greater than 3 lb/100 gal, Dow recommends that a precautionary statement, such as shown below, be added to the paint label at usage of SKANE M-8 between 3 to 4 lb/100 gal:

May Cause Allergic Skin Reaction Upon Repeated Skin Contact.

This recommendation is based on The Dow Chemical Company Risk Management Program.

**Formulating Techniques**

**Latex Paints**

SKANE™ M-8 Mildewcide should be incorporated in the letdown stage during manufacture of the paint. It is normally premixed with propylene glycol and coalescent, and then added slowly with good agitation just prior to addition of the thickener.

SKANE M-8 functions as a coalescent and plasticizer for acrylic emulsion polymers. Accordingly, some adjustment in existing coalescent levels should be made. For example, in the case of tributyl phosphate or Texanol¹, a reduction of one-quarter pound per pound of SKANE M-8 added is recommended. A reduction of one pound of propylene glycol for each two pounds of SKANE M-8 is also suggested. Zinc oxide can be readily incorporated in latex paints through the proper choice of pigment dispersants.

¹Eastman Chemical Co.
For more information on dispersant choice as well as further details on formulating techniques with zinc oxide, please contact your local Dow representative.

**Solvent-Based Paints**
Some solvent-based paints benefit from the use of SKANE™ M-8 Mildewcide. Similar levels to those used in latex paints are recommended. Zinc oxide, while not necessary for stabilization, is recommended to enhance the performance of the mildewcide. The use of lithopone or other sulfide-type pigments should be avoided, since they affect the stability of SKANE M-8. A coupling solvent such as Butyl CELLOSOLVE™ can be used to assist in formulating SKANE M-8 into solvent-based paints.

**Guidelines to Optimize Performance of SKANE M-8**
The following guidelines are based on field trial experience with paints containing SKANE M-8:

- Add zinc oxide where appropriate to enhance performance.
- Formulate at a pH of 9.5 or lower.
- Keep within recommended base levels (e.g., ammonia) to ensure good SKANE M-8 stability. Avoid introducing sulfides (e.g., lithopone or Busan2 11-M-2).
- Avoid high PVC in formulations where high mildew resistance is needed.
- Avoid too little or too much coalescent.
- Avoid high levels of surfactants, thickeners (especially cellulosics) or other ingredients which retain moisture.
- Maximize film build through increased volume solids or paint rheology.
- Use higher levels of mildewcide in the primer for best protection.
- Enhance dirt resistance properties of the paint to help resist mildew development.

**Toxicity, Safety and First Aid**

Please refer to the Safety Data Sheet (SDS).

**Storage, Handling and Disposal**

SKANE™ M-8 Mildewcide is packaged in polyethylene or polyethylene-lined containers. Avoid storage in unlined metal containers. Normal recommended storage temperatures of SKANE M-8, as supplied, are in the range of 32 to 100°F. Shelf life at ambient temperatures is 12 years (packaging should be evaluated and replaced as needed for transport compliance over the duration of product shelf life). Storage at > 120°F for extended periods of time can result in degradation of the Al. Store away from direct sunlight.

SKANE M-8, as supplied, is severely irritating to the skin and eyes (see SDS for more information). To avoid accidental skin or eye contact and the associated effects, we recommend the following procedures when handling these products:

1. Prevent exposure by wearing adequate protective clothing. The degree of protection depends on the risk of exposure:

2Buckman Laboratories International, Inc.
a. Closed System Addition
The use of a completely closed, piped-in system is the recommended method for addition of SKANE™ M-8 Mildewcide. This approach minimizes the potential for exposure. When handling SKANE M-8 in a closed system, wear impervious gloves and splash goggles in the event that accidental leaks occur. For more information on a closed system for SKANE M-8, such as the Intermediate Bulk Container and an in-plant dosing system, contact your local Dow representative.

b. Open System Addition
When handling SKANE M-8 in an open system (i.e., dispensing SKANE M-8 directly from an open container), more protective equipment is appropriate since the potential for contact is higher. For this situation, we recommend the use of the following equipment:

- Chemical apron
- Chemical goggles and face shield
- Impervious gloves (butyl rubber or neoprene)
- Impervious boots or over shoes

c. Other Operations
When performing other operations (maintenance of equipment, changing drums of SKANE M-8, etc. the operator should wear an appropriate amount of protective clothing to avoid skin and eye contact during these operations. As a minimum, this would include chemical goggles and impervious gloves (butyl rubber or neoprene).

2. Handle SKANE M-8 in a work area equipped with a safety shower/eye wash station. This will be necessary should First Aid procedures need to be administered.

3. Follow good housekeeping practices as with any chemical. Small spills or drips of SKANE M-8 should be promptly deactivated (see page 10) and cleaned to avoid inadvertent contact by those entering the work area.

4. Follow good industrial hygiene practices as with any chemical. For example, wash hands thoroughly after handling SKANE M-8.

After working with these materials, and especially before eating, drinking or smoking, personnel should wash thoroughly with soap and water. All clothing that may have been contaminated with SKANE M-8 should be decontaminated and then laundered with detergent before reuse. Special care should be taken to avoid contamination of surfaces or materials that may later be handled by unprotected personnel (for example, door handles and tap handles).

No unusual handling or use restrictions need be applied to paints containing SKANE M-8 at recommended use levels.

Composition of Transfer Equipment
This product is supplied at a low pH and, as such, is corrosive to some materials. Table 5 includes information on the compatibility of various materials of construction with SKANE M-8.
### Table 5

<table>
<thead>
<tr>
<th>Metals</th>
<th>Plastics</th>
<th>Elastomers</th>
<th>FRP</th>
<th>Coatings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monel&lt;sup&gt;1&lt;/sup&gt; 400 – NG</td>
<td>HDPE – OK @ RT</td>
<td>Kalrez&lt;sup&gt;2&lt;/sup&gt; 4079</td>
<td>Polyester (Atlac&lt;sup&gt;4&lt;/sup&gt; 382)</td>
<td>PL 4300 – OK @ 50°C</td>
</tr>
<tr>
<td>Hast&lt;sup&gt;5&lt;/sup&gt; C276 – OK @ 40°C</td>
<td>LDPE – OK @ RT</td>
<td>EPT, Nordel&lt;sup&gt;2&lt;/sup&gt;</td>
<td>– OK @ RT</td>
<td>Ceil. 6650 – OK @ 50°C</td>
</tr>
<tr>
<td>Carbon St. – NG</td>
<td>FEP – OK @ RT</td>
<td>Butyl rubber – OK @ 35°C</td>
<td>Butanol (Hetron&lt;sup&gt;6&lt;/sup&gt; 800)</td>
<td>– OK @ RT</td>
</tr>
<tr>
<td>304 SS – NG</td>
<td>Teflon&lt;sup&gt;2&lt;/sup&gt; – OK @ RT</td>
<td>Natural rubber, Buna-N&lt;sup&gt;3&lt;/sup&gt;</td>
<td>Vinyl Ester (DERAKANE® 411)</td>
<td>– OK @ RT</td>
</tr>
<tr>
<td>304L SS – NG</td>
<td>Polypropylene – OK @ RT</td>
<td>Neoprene&lt;sup&gt;2&lt;/sup&gt; – all NG</td>
<td>– all NG</td>
<td></td>
</tr>
<tr>
<td>316 SS – NG</td>
<td>Ryton&lt;sup&gt;3&lt;/sup&gt; – OK @ RT</td>
<td>– all NG</td>
<td>– all NG</td>
<td></td>
</tr>
<tr>
<td>316L SS – NG</td>
<td>–</td>
<td>–</td>
<td>– all NG</td>
<td></td>
</tr>
<tr>
<td>Alloy 20 – NG</td>
<td>–</td>
<td>–</td>
<td>– all NG</td>
<td></td>
</tr>
</tbody>
</table>

Note: “OK” indicates the material is compatible with SKANE M-8 up to temperature specified.

“NG” indicates the material is not compatible with SKANE M-8.

“RT” = Room Temperature

1 Inco Alloys International, Inc., Huntington, WV
2 DuPont Polymer Products, Wilmington, DE
3 Miles Inc, Polymers Div., Pittsburgh, PA
4 Reichhold Chemicals, Inc., Research Triangle Park, NC
5 Haynes International, Inc., Kokomo, IN
6 Ashland Chemical, Inc., Columbus, OH
7 Phillips Petroleum Co., Houston, TX

### Decontamination Solution

Procedures for personnel protection set forth in the section “Storage, Handling and Disposal”, should be followed STRICTLY while cleaning equipment contaminated with, and spills of, solutions of SKANE™ M-8 Mildewcide. SKANE M-8 is readily deactivated with 5% solutions of sodium or calcium hypochlorite (NaOCl, Ca(OCl)<sub>2</sub>) mixed with a 5% solution of sodium bicarbonate (NaHCO<sub>3</sub>) at 10 times the volume of product. These solutions should be freshly prepared by personnel wearing suitable protective clothing, e.g., goggles or face shield, rubber apron, and full-length rubber gloves.

### Decontamination of Equipment

Equipment used in the handling of SKANE M-8 such as mixing vessels, lines, pumps, etc., must be decontaminated before carrying out maintenance work or being used for other service.

Drips, minor spills and exposed wet areas should be cleaned up promptly with a hypochlorite/bicarbonate mixture. Contaminated surfaces should be swabbed with decontamination solutions and allowed to stand for 30 minutes before rinsing thoroughly with water. Decontaminated solutions should be drained to a chemical or municipal sewer depending on local regulations for disposal of such wastes.

NOTE: Because of the high level of activity of SKANE M-8, a relatively small quantity can have a detrimental effect on the operation of biological waste treatment systems, such as percolating filters or activated sludge plants; therefore, it is essential that laboratory or plant spills are decontaminated before release to a biological treatment plant.
Cleanup of Spills

Personnel cleaning up spills should wear impervious overshoes, in addition to the usual protective clothing. The spilled material should be diked and absorbed into an inert material such as earth, sand or vermiculite. The absorbent (add surface soil to a depth sufficient to remove all of the microbicide) should then be shoveled into a pail/drum or suitable vessel and treat the affected area with 10 times the volume of hypochlorite/bicarbonate mixture to wetted surface area.

Let the Deactivation solution sit for 30 minutes minimum, then absorb the solution with sand or vermiculite and shovel contents into separate container for proper waste disposal. Then seal and dispose of them according to local authority regulations.

DO NOT discharge spills and cleaning runoffs into open, natural water courses.

Decontamination procedures are not required when disposing of paint formulations containing recommended use levels of SKANE™ M-8 Mildewcide.

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products – from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

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