



REGISTRY OF SERVICE & OIL, INC.

METASOL TK-100® DISPERSION W

TO INHIBIT THE GROWTH OF MOLD AND MILDEW ON ADHESIVE FILMS,
PAINT FILMS, PAPER PRODUCTS, AND NATURAL AND

SYNTHETIC FIBERS.

KEEP OUT OF THE REACH OF CHILDREN
CAUTION

ACTIVE INGREDIENT
2-(4-thiazolyl)benzimidazole...50%
INERT INGREDIENTS50%

U. S. Patents 3,017,415, 3,370,957 and 3,535,331

Net Weight



ACCEPTED
SEP 25 1987
EPA Reg. No. 10445-30

BEST AVAILABLE COPY

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS **CAUTION**

Do not contaminate water by cleaning of equipment or disposal of wastes. Wash hands with soap and water after handling.

ENVIRONMENTAL HAZARDS:

Do not discharge into lakes, streams, or public water unless in accordance with an NPDES permit. For guidance, contact your Regional office of the EPA.

EPA Registration No. 10445-30

- EPA Establishment No. 10445-PA-01
- EPA Establishment No. 10445-NJ-01
- EPA Establishment No. 10445-CA-01
- EPA Establishment No. 10445-TX-01
- EPA Establishment No. 10445-MO-01

Information concerning human and environmental exposure may be reviewed on the Material Safety Data Sheet for this product.

For additional information regarding incidents involving human and environmental exposure, call 412-777-8000 and ask for the Regulatory and Trade Affairs Department.

DIRECTION FOR USE:

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

The amount of product necessary for the desired level of microbiological control varies with the material being protected for best results. Metasol TK-100 Dispersion W should first be tested on the particular material to assure adequate protection. Consult the Product Bulletin for specific use directions.

This product has not been cleared for use in paper or paperboard products intended for use in contact with food.

STORAGE AND DISPOSAL:

Keep container closed when not in use. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Container Disposal - Do not reuse container. Metal containers - Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved state and local procedures. Plastic containers - Dispose as for metal containers. May also be incinerated, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

NOTICE: Seller expressly warrants that the product conforms to its chemical description. There are no warranties associated with the sale of this product either expressed or implied, including but not limited to the warranties of fitness for a particular purpose or merchantability.

Made in U.S.A.

disposed of on-site or at an approved waste disposal facility.

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Metal Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other approved state and local procedures.

Plastic Containers: Dispose as for metal containers. May also be incinerated, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

PRECAUTIONARY STATEMENTS

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BEST AVAILABLE

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Metasol TK-100 and Tektamer 38 A.D. are registered trademarks of Merck & Co., Inc.

CALGON CORPORATION
P.O. Box 1346
Pittsburgh, PA 15230

Metasol TK-100 Dispersion W is a fungicide only. Tektamer 38 A.D. or other Calgon preservatives should be incorporated into sizing solutions to inhibit any bacterial degradation during shelf storage.

NOTE: Metasol TK-100 Dispersion W should be used only for the manufacture of ~~non-food grade paper products.~~ Metasol TK-100 Dispersion W has not been cleared for use in paper or paperboard products intended for use in contact with food.

Canvas Textiles

Metasol TK-100 Dispersion W is an effective product that has been used successfully in providing mold and mildew resistance to canvas textiles. The simplest treatment method is to prepare a trough with water at pH 3-4 and then add the Metasol TK-100 Dispersion W to obtain the desired concentration. The fabric is passed through the solution until the proper amount of solution is absorbed on the fabric. A wetting agent may be used to aid the solution in penetrating the fabric. The Metasol TK-100 Dispersion W should be applied at dosage levels from 500 to 3000 ppm active ingredient based on finished fabric. The amount necessary to provide the desired protection against mold and mildew can then be determined. If deposition of Metasol TK-100 onto the canvas is desired, a subsequent wash with 1% soda ash solution will suffice. This can be followed by normal processing steps of the canvas textile. Metasol TK-100 Dispersion W should be used for manufacture of canvas textiles only, such as tents and awnings.

Nylon Carpeting

Using spin finish application, add 0.10 - 0.40% Metasol TK-100 Dispersion W based on total weight of the material being used.

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ENVIRONMENTAL HAZARDS

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Interiors

Metasol TK-100 Dispersion W is an effective mildewcide for interior coatings and masonry surface coatings where mold-resistant interior coatings are needed. ~~Metasol TK-100 Dispersion W should not be used in coatings that come into direct contact with food.~~ The following recommendations are made.

<u>Interior Paint System</u>	<u>Metasol TK-100 Dispersion W (lb/100 gal.)</u>
TT-P-0029 latex flat	1/5 - 1/2 lb.
TT-P-650 latex primer	1/2 - 1 lb.
New York City Housing Authority coatings	1/2 - 1-1/2 lb.
Sanitary latex semi-gloss	1/2 - 2 lb.
Oleoresinous interiors	1 - 2 lb.

Metasol TK-100 Dispersion W should be incorporated with the TiO₂ in the pigment grind for all paint systems.

Paper Products

Metasol TK-100 Dispersion W is most efficiently applied via the size tub or water troughs. Metasol TK-100 Dispersion W is a water-soluble acidic salt solution. If the pH of this solution is raised above 4, the salt reverts to the insoluble 2-(4-thiazolyl)benzimidazole which will precipitate. The 2-(4-thiazolyl) benzimidazole is stable and active under a wide variety of pH conditions ranging from highly alkaline to highly acidic. However, once precipitation occurs, pick-up will be poor.

The tub-size or water-trough solutions should be adjusted to a pH below 4.0. The Metasol TK-100 Dispersion W should then be added with thorough agitation. It has been shown that the resulting pH has no adverse effects of the properties of the starch, equipment, or the physical properties of the final products. The Metasol TK-100 Dispersion W should be applied at dosage levels from 200 to 1000 ppm active ingredient based on the finished paper weight.

For use in a coating color the Metasol TK-100 Dispersion W should be added with agitation to the make-up water. Although subsequent raising of the pH with the binder or alkali will precipitate the 2-(4-thiazolyl)benzimidazole, this precipitate will be evenly distributed throughout the coating color. The use of Metasol TK-100 Dispersion W in coating colors is recommended in addition to treatment of the base stock.

SECRET

<u>Adhesive Type</u>	<u>Percent Concentration Metasol TK-100 Dispersion W</u>
Polyvinyl acetate	0.2 - 0.3%
Styrene butadiene	0.1 - 0.2%
Polyvinyl alcohol	0.2 - 0.3%
Methyl cellulose	0.1 - 0.2%
Hydroxyethyl cellulose	0.2 - 0.3%
Acrylic	0.1 - 0.2%
Dextrin	0.1 - 0.2%
Casein	0.3%
Epoxy	0.1 - 0.2%
Polyester	0.1 - 0.2%

Metasol TK-100 Dispersion W should not be used where the treated adhesive comes in contact with food packaging materials or on food contact surfaces.

Paint Films

Exteriors

The active ingredient in Metasol TK-100 Dispersion W has been extensively tested in the laboratory under accelerated weathering conditions and panels have been exposed for periods up to four years at critical mildew locations in the United States. Millions of gallons of paints have been commercially produced and used in homes and industrial installations ranging from the Eastern shore to the Gulf Coast for periods up to five years. Recommendations are based on the successful results of these investigations.

Tektamer 38 A.D. or other Calgon preservatives should be incorporated into latex paint formulations to inhibit any bacterial degradation during shelf storage.

<u>Paint System</u>	<u>Metasol TK-100 Dispersion W (1b/100 gal.)</u>
PVA	1 - 2 lb.
Acrylic	1 - 2 lb.
Vinyl acrylic	1 - 2 lb.
Alkyd modified latex	2 - 3 lb.
Zinc oxide pigmented latex	1/2 - 1-1/2 lb.
Oil house paint	2 - 3 lb.
Alkyd	2 - 4 lb.
Zinc oxide pigmented alkyl and oil paints	1 - 2 lb.

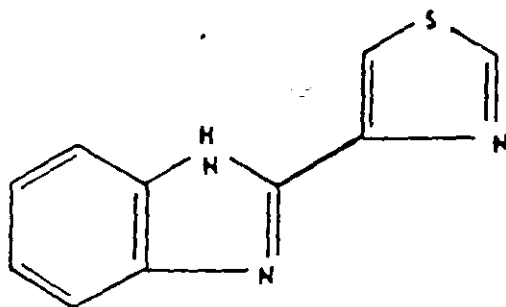
METASOL TK-100 DISPERSION W[®]

DESCRIPTION

Metasol TK-100 Dispersion W* is a nonphenolic, halogen-free fungicide designed for the economical control of mold and mildew on adhesive films, paint films, paper products (for non-food use such as soap wrappers), and natural and synthetic fibers, such as canvas textiles and nylon carpets.

CHEMICAL: 2-(4-thiazolyl)benzimidazole

STRUCTURE:



SPECIFICATIONS:

Active Ingredient: 50% 2-(4-thiazolyl)benzimidazole
Appearance: Flowable, viscous liquid
Specific Gravity: 1.15 at 25°C

DIRECTIONS FOR USE:

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

RECOMMENDATIONS:

Adhesives Films

The following concentrations must be used to provide mildew control on water-based adhesives films. The concentrations are based on the total adhesive formulation weight. Metasol TK-100 Dispersion W can be incorporated with the make-up water or as a post-additive in adhesive production. Tektamer 38 A.D. or other Calgon preservatives should be incorporated into the aqueous adhesive formulations to inhibit in-can bacterial degradation during shelf storage.

EPA Registration No. 10445-30

*U.S. Patent Nos. 3,017,415 3,370,067 3,545,301