

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Washington, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

May 19, 2003

Allen F. Bollmeier  
Regulatory Specialist  
The Dow Chemical Company  
1803 Building  
Midland, MI 48674

Subject: AMICAL 48 Antimicrobial Agent  
EPA Registration No. 464-670  
Application Date: February 19, 2003  
EPA Received Date: February 21, 2003

Dear Mr. Bollmeier:

The following amendment, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable with the conditions listed below:

**Proposed Amendment**

- Label review in response to Agency letter dated January 14, 2003

**Conditions**

Revise the label as follows:

- The precautionary statement must be written on the label as follows:

**PRECAUTIONARY STATEMENTS  
HAZARD TO HUMANS AND DOMESTIC ANIMALS**

**DANGER: CORROSIVE:** Causes irreversible eye damage. Harmful if absorbed through the skin. Do not get in eyes, on skin or on clothing. Wear goggles, face shield or safety glasses. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

**CONCURRENCES**

SYMBOL	7510C						
URNAME	Stacy						
DATE	5-19-03						

2. With regard to the storage and disposal statement, the statement "Do not contaminate water, food, or feed by storage and disposal." must be removed from the storage instructions and placed immediately following the subheading to read as follows:

**STORAGE AND DISPOSAL**

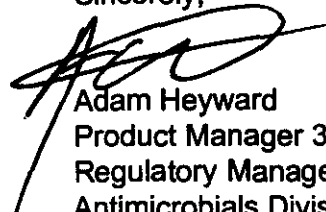
Do not contaminate water, food or feed by storage or disposal.

**General Comments**

A stamped copy of the labeling accepted with conditions is enclosed. Submit three(3) copies your final printed labeling before distributing or selling the product bearing the revised labeling.

Should you have any questions or comments concerning this letter, please contact me at 703-308-6422.

Sincerely,



Adam Heyward  
Product Manager 34  
Regulatory Management Branch II  
Antimicrobials Division (7510 C)

# AMICAL™ 48

Active Ingredients:  
Dilodomethyl p-tolyl sulfone.....95%  
Inert Ingredients:.....5%  
TOTAL 100%

E.P.A. Registration No. 464-670  
E.P.A. Est. 33657-JP-3

**KEEP OUT OF REACH OF CHILDREN**

**DANGER**

**PRECAUTIONARY STATEMENTS**  
Hazards to Humans and Domestic Animals  
**CORROSIVE · CAUSES IRREVERSIBLE EYE DAMAGE · HARMFUL IF ABSORBED THROUGH THE SKIN**

Do Not Get In Eyes, On Skin, Or On Clothing · Wear Goggles, Face Shield, or Safety Glasses · Wash Thoroughly With Soap And Water After Handling · Remove Contaminated Clothing and Wash Clothing Before Reuse



**THE DOW CHEMICAL COMPANY**  
Midland, Michigan 48674 U.S.A.  
(989)636-4400  
\* Trademark of THE DOW CHEMICAL COMPANY  
77270-2/18/2003-1824 Active  
Made in Japan

ACCEPTED  
with COMMENTS  
EPA Letter Dated:

MAY 19 2003

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act as  
amended, for the pesticide,  
registered under EPA Reg. No. 464-670

FIRST AID:	
IF IN EYES:	<ul style="list-style-type: none"> <li>Hold eyes open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first five minutes, then continue rinsing eyes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
IF SWALLOWED:	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
IF ON SKIN:	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment.</li> </ul>
IF INHALED:	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferable mouth to mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment.</li> </ul>
Made in Japan	
<b>IN CASE OF AN EMERGENCY</b> endangering life or property involving this product, call 1-800-424-9300. Have the product container or label with you when calling a poison control center or doctor or going for treatment.	
<b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may preclude the use of gastric lavage.	

**ENVIRONMENTAL HAZARDS**  
This pesticide is toxic to fish. Do not contaminate water when disposing of equipment washwaters. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**STORAGE AND DISPOSAL**  
STORAGE: Do not contaminate water, food, or feed by storage or disposal. Store in a dry area. Keep container closed when not in use.

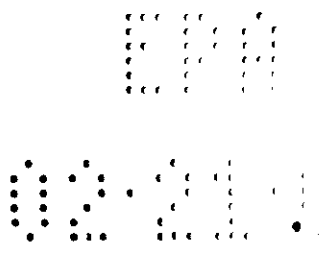
**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinseate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.

**DIRECTIONS FOR USE**  
It is a violation of Federal Law to use this product in a manner inconsistent with the labeling.

**USE IN PAINTS**  
AMICAL 48 is an effective mildewcide and algicide for exterior and interior paints, fire-retardant insulation coating and air duct coatings. Use levels in paint and duct coating will vary depending upon the formulation and expected severity of field conditions. Generally, AMICAL 48 will impart protection when used at levels of between 1.6-5 lb AMICAL 48 per 100 gallons of paint for severe situations while 1-3 lb AMICAL 48 per 100 gallons of paint are sufficient for less severe conditions. AMICAL 48 should be added during the last few minutes of the pigment grind for maximum dispersion. For mildew control on fire-retardant coating add AMICAL 48 at 0.0015 to 0.3% at point in production process to ensure sufficient mixing with other dry ingredients.

**USE IN PIGMENT DISPERSIONS, INKS, EMULSIONS AND EXTENDER SLURRIES**  
To inhibit the growth of spoilage fungi during storage of water-based suspensions and dispersions, AMICAL 48 will impart protection when dosed at 0.02-0.15% (w/w). AMICAL 48 at a point in the production process where sufficient mixing will assure good suspension of the material as other ingredients are added.



**USE IN ADHESIVES, CAULKS, AND SEALANTS**

AMICAL 48 is recommended for use in adhesives and binders, e.g., joint compounds, tile mastics, wallpaper paste, carpet backing, air filler and foil scrim Kraft laminate; and sealants and caulks where mildew growth on the applied or stored product may be a problem. For control of mildew growth add 0.01-0.30% AMICAL 48 at a point in the production process where sufficient mixing will assure good suspension of the material as other ingredients are added.

**USE IN LEATHER TANNING**

AMICAL 48 is used in protecting chrome or vegetable tanned leather from mold and mildew during in-tannery wet processing and for protecting wet-blue during long storage and long transportation times. For normal protection of chrome-tanned cattle hides (based on white weight of hides) use 0.01-0.02%, for sheep hides (based on drained pickle weight) 0.05-0.08%, and for goat and small skins use levels should be calculated on the dry basis of the skin weight, assuming limed weight to be 20% dry basis and pickled weight to be 33% dry basis. When long hold or export protection is required, use 0.02-0.04% for cattle, 0.08-0.15% for sheep, and on goat and small skins follow recommendations for normal protection. Use level recommendations during retan/color/fatliquor protection of chrome-tanned hides for all hide types are 0.1-0.3 (% on wet blue weight. In all applications, add the dry AMICAL 48 through the drum door, preferably by sprinkling across the width of the drum. This should be done just prior to chrome addition, or together with the formate, if formate is added dry prior to chrome. In the case of retan/color/fatliquor, add AMICAL 48 prior to the prime fatliquor feed.

**USE IN WOOD PRESERVATION - (FOR FORMULATING USE ONLY)**

AMICAL 48 can be used for control of mildew, sapstain, and wood rotting organisms. Incorporate AMICAL 48 into appropriate vehicles to protect wood from stain and decay. AMICAL 48 can be utilized in either aqueous or solvent-based systems at concentrations ranging from 0.3-1.0% (w/w). Solvent-based systems containing mineral spirits require a suitable co-solvent for the incorporation of AMICAL into the system. Formulators are responsible for obtaining EPA registration of formulated products.

**USE IN METALWORKING FLUIDS**

AMICAL 48 is recommended for use in metalworking fluids and lubricants to prevent fungal growth. The level of AMICAL 48 to be incorporated into metalworking fluid concentrate will vary depending upon the dilution factor recommended by the manufacturer. For efficient fungistatic activity, a concentration 100 to 3000 ppm of AMICAL 48 in the diluted fluid is suggested. AMICAL 48 should be dissolved in an appropriate solvent prior to addition to the metal working fluid.

**USE IN RUBBER AND PLASTIC PRODUCTS**

AMICAL 48 is recommended for PVC, polyurethane, rubber, thermoplastic rubber and other polymeric based products, coating, adhesives, foams, and sealants requiring protection against microbial deterioration. For control of microbial deterioration use 0.1-0.8% AMICAL 48 based upon total weight of solids in the formulation. AMICAL 48 can be incorporated into the formulation at any convenient stage of the manufacturing process.

**USE IN TEXTILES AND NON-WOVENS (NON-CLOTHING)**

To prevent mildew growth on products such as canvas, carpet, cordage, drapes, filters, and shower curtains. Use levels depend upon the expected severity of exposure or end-use conditions. In general 0.5 to 5.0 lb of AMICAL 48 per 1000 lb of dry fabric (500-5,000 ppm) is needed. AMICAL 48 is best added together with the water-repellent emulsion of dry to ensure durability.

**USE IN PAPER PRODUCTION**

This product aids in the control of objectionable fungi in pulp, paper mills and the additive system and for the preservation of pulp, pigment slurries, alum, emulsions, adhesives, defoamers, polymers and paper products. This product is used to inhibit fungal growth which causes discoloration, odor and degradation in paper and paperboard. This product is not cleared for use in the manufacture of paper and paperboard products that come in contact with food.

Additions can be made on a continuous or intermittent basis depending upon the severity of the contamination. Badly fouled systems must be cleaned before treatment is begun. Apply at a point in the system where the product will be uniformly mixed. Intermittent or Slug Method - Initial Dose: When the system is noticeably fouled, add this product at the rate of 0.0008 to 0.8 lb per ton of pulp, or paper produced. Addition to the additive system should be made directly at the rate of 0.004 to 3.32 lb (0.48 to 400 ppm) per 1000 gallons. Repeat until control is achieved. Subsequent Dose: When microbial control is evident, add this product at the rate of 0.0008 to 0.4 lb per ton of pulp or paper produced. Treat the system as needed to maintain control. Addition of this product to the additive system may be reduced to 0.004 - 1.68 lb (0.48 to 200 Ppm) per 1000 gallons.

Continuous Feed Method - Initial Dose: When the system is noticeably fouled, add this product at the rate of 0.0008 to 0.4 lb per ton of pulp of paper produced. Additions of this product to the additive system should be made directly at the rate of 0.004 to 2.52 lb (0.48 to 300 ppm) per 1000 gallons. Continue until control is achieved. Subsequent Dose: Maintain by continuous feed of this product at the rate of 0.0008 to 0.4 lb per ton of pulp and paper product.

**MOLD INHIBITION IN PAPER AND PAPERBOARD**

This product is used to inhibit fungal growth which causes discoloration, odor and degradation in paper and paperboard. This product may be applied to the white water or stock at a rate of 0.02 to 3.4 lb per ton of dry fiber produced. For inhibition of wet lap or sheet pulp, this product should be applied to the dewatered pulp surfaces via applicator rolls or shower at 0.02 to 3.4 lb per ton of dry fiber produced. Application can also be made at the size press or water box. Application is made at the rate of 80 to 8,000 ppm of this product in the solution applied to the paper sheet.

**PRESERVATION IN PAPER PLANT STORAGE**

This product should be added directly to the material to be preserved prior to manufacturing into the finished product, i.e., pulp, alum, broke, polymers, defoamers, emulsions, adhesives, paper mill coating, pigment and slurries. The dosage rate will depend upon the material to be preserved and the storage time. The usual additions should be 0.2 ppm for storage of microbial resistant materials up to 250 ppm for less resistant materials. Under extreme conditions of spoilage the dosage rate should be increased to 4 to 400 ppm. The above recommendations are based on a maximum storage time of two weeks.

**USE WITH NITROCELLULOSE**

AMICAL 48 is an effective antifungal agent for use in nitrocellulose wet with water for purposes of storage and shipment. Add 0.05 to 0.3% by weight of AMICAL 48 based upon the wet weight of nitrocellulose. AMICAL 48 should be added to the nitrocellulose only by the manufacturer as the last ingredient.