

# TECHNICAL DATA SHEET

## Ultra-Fresh\*DM-50

E.P.A. Registration No. 10466-28

### PRODUCT DESCRIPTION

Ultra-Fresh\*DM-50 is a colorless liquid used for rendering fabrics, water-based emulsions, polyurethane foams, synthetic/cellulosic sponges, plastics and polymers resistant to attack by microorganisms such as bacteria, fungi and house dust mites.

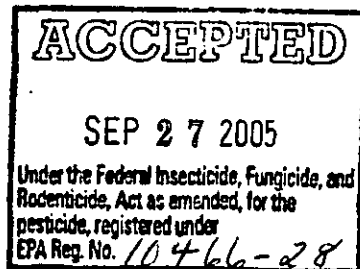
### PHYSICAL PROPERTIES

Boiling Point .....198-200C / 388-392F  
 Freezing Point .....-13C / 8.6F  
 Specific Gravity .....1.048 at 25C / 77F  
 Solubility.....Soluble or miscible in water and most organic solvents

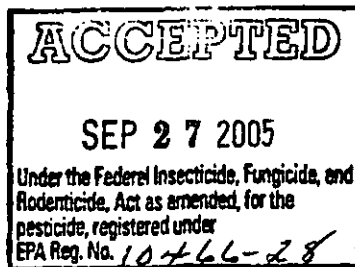
### BIOLOGICAL ACTIVITY

The following table lists the minimum concentrations of Ultra-Fresh\*DM-50, dispersed in aqueous media, required to inhibit the growth of various microorganisms in test tube cultures. This table is intended to provide an indication of the broad-spectrum activity of Ultra-Fresh\*DM-50 in aqueous solution and is neither intended as a claim for recommended use concentrations under practical conditions, nor as a list of micro-organisms involved in specific end-use conditions.

ORGANISM	Minimum Concentration (ppm) Required for Complete Inhibition of Growth
<b>A. Gram positive bacteria</b>	
<i>Bacillus cereus</i>	10
<i>Bacillus mycoides</i>	5
<i>Bacillus megaterium</i>	37
<i>Bacillus subtilis</i>	26
<i>Brevibacterium ammoniagenes</i>	8
<i>Clostridium oroticum</i>	150
<i>Corynebacterium pseudodiphtheriticum</i>	4
<i>Nocardia asteroides</i>	2
<i>Staphylococcus aureus</i>	2
<i>Streptovercillium reticulum</i>	25
<b>B. Gram negative bacteria</b>	
<i>Acinetobacter calcoaceticus</i>	5
<i>Enterobacter aerogenes</i>	722
<i>Enterobacter cloacae</i>	656
<i>Escherichia coli</i>	334
<i>Klebsiella pneumoniae</i>	24



ORGANISM	Minimum Concentration (ppm) Required for Complete Inhibition of Growth
<i>Morganella morgani</i>	26
<i>Proteus mirabilis</i>	36
<i>Pseudomonas aeruginosa</i>	200
<i>Salmonella schottmuelleri</i>	620
<i>Salmonella typhimurium</i>	30
<b>C. Fungi</b>	
<i>Alternaria alternata</i>	5
<i>Aspergillus flavus</i>	30
<i>Aspergillus fumigatus</i>	30
<i>Aspergillus niger</i>	15
<i>Aureobasidium pullulans</i>	31
<i>Candida albicans</i>	2
<i>Chaetomium globosum</i>	less than 1
<i>Curvularia genticulata</i>	9
<i>Epidermophyton floccosum</i>	1
<i>Fusarium oxysporum</i>	25
<i>Gloeophyllum trabeum</i>	5
<i>Lentinus lepideus</i>	5
<i>Mucor racemosus</i>	15
<i>Penicillium funiculosum</i>	15
<i>Penicillium variabile</i>	15
<i>Poria placenta</i>	5
<i>Rhizopus sp.</i>	10
<i>Schizophyllum commune</i>	15
<i>Serpula lacrymans</i>	15
<i>Stachybotrys chartarum</i>	31
<i>Trichoderma viride</i>	5
<i>Trichophyton mentagrophytes</i>	7
<i>Trichophyton rubrum</i>	1



## APPLICATION PROCEDURES

The application levels given below are representative of those found necessary in practice. For each specific use, a trial run is recommended in order to determine the application level and method of addition for the particular product being treated.

### 1. Fabrics

*Ultra-Fresh\*DM-50* can be padded on to fabrics from either an aqueous or solvent dispersion. Sufficient *Ultra-Fresh\*DM-50* should be added to the pad bath to give a fabric pick-up of 0.2% to 0.4%. This product, when applied according to recommendations, will last through at least 25 conventional launderings.

**2. Water-Based Emulsion/Adhesives**

Water-based adhesives and related emulsion systems can be rendered resistant to biologically induced instability and degradation by the addition of *Ultra-Fresh\*DM-50*. An application level of 0.08% w/w based on total emulsion weight is recommended. *Ultra-Fresh\*DM-50* should be treated as one of the components and added prior to mixing. In the case of hot-melt adhesives, temperature should not exceed 200C / 392F. The in-can and in-use protection conferred by *Ultra-Fresh\*DM-50* will last indefinitely in the undiluted adhesive or emulsion.

**3. Polymer Systems**

Polymeric materials such as vinyl and polyolefins can be rendered resistant to the growth of mildew by the incorporation of *Ultra-Fresh\*DM-50*. Add 0.1% to 0.25% by weight of *Ultra-Fresh\*DM-50* to the resin mix. The exact amount required for a specific usage can be readily determined by means of a preliminary trial.

**TOXICITY****A. Animals**

Dermal-Acute Cutaneous LD<sub>50</sub> (rabbits) = >2.0 g/kg  
 Oral-Acute Oral LD<sub>50</sub> (rats) = 330 mg/kg  
 Inhalation-Acute Inhalation LCT<sub>50</sub> = 2.7 mg/L of air

Eyes (rabbits) *Ultra-Fresh\*DM-50* is corrosive to eye tissue.

**B. Birds**

Acute Oral LD<sub>50</sub> (Mallard Duck) = 1,631 mg/kg  
 Dietary LD<sub>50</sub> 8-day - Mallard Duck = 3,401 ppm  
 - Bobwhite Quail = 4,601 ppm

**C. Fish**

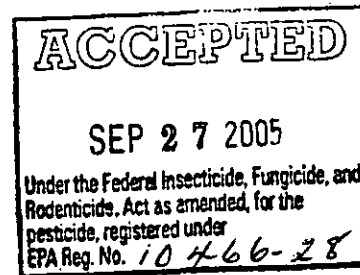
Fish Bioassay, 96-hour Static TL<sub>50</sub>  
 -Rainbow Trout = 54.6 ppb

**D. Invertebrate**

Acute Toxicity LC<sub>50</sub> 24-48 hours (*Daphnia magna*) = 250 ppb

**E. Human Skin Tests**

With *Ultra-Fresh\*DM-50* impregnated fabrics, primary sensitization patch tests indicated no sensitization at the highest level tested: i.e., 0.416% by weight of *Ultra-Fresh\*DM-50* on the fabric.

**PRECAUTIONS**

*Ultra-Fresh\*DM-50*, as received in its concentrated form, is a potentially dangerous material and should be handled with the care and common sense that be accorded to all biologically active

chemicals. *Ultra-Fresh\*DM-50* is corrosive to eyes and exposure can cause skin irritation. May be fatal if swallowed. Do not get in eyes, on skin, or on clothing. Wear goggles or faces shield and rubber gloves when handling. Avoid contamination of food. Treated effluent should not be discharged where it will drain into lakes, streams, ponds, or public water.

**FIRST AID**

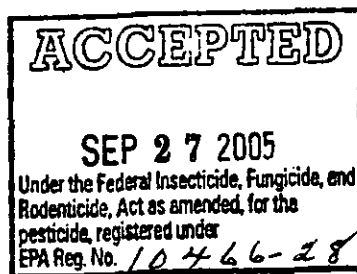
In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse.

**NOTE TO PHYSICIAN**

Probable mucosal damage contraindicates the use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsion may be needed.

**NOTICE**

The technical information and suggestions for use made herein are based on TRA's research and experience and are believed to be reliable, but such information and suggestions do not constitute a warranty, and no patent liability can be assumed. Since TRA has no control over the conditions under which this product is transported, stored, handled, used or applied, it is TRA's intent that its liability on any basis be limited to the price of the product used.



# Ultra-Fresh\* DM-50

## DIRECTIONS FOR USE

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

For use as a bacteriostatic and fungistatic preservative for textiles such as wool, polyester and tenting; aqueous/non-aqueous emulsions and adhesives such as adhesive films, polyvinyl acetate emulsions and starch based adhesives; polyurethane foams; synthetic and cellulosic sponges; plastics and polymers such as latex, rubber, polypropylene and polyolefins; medium density fiber and particulate board. For a more detailed list see the Technical Data Sheet for *Ultra-Fresh\*DM-50*.

*Ultra-Fresh\*DM-50* also eliminates house dust mites from treated materials.

Finished products containing *Ultra-Fresh\*DM-50* cannot make public health claims relating to antimicrobial activity. When incorporated into treated articles, this product does not protect users or others against food borne or disease causing bacteria, viruses, germs, or other disease causing organisms. Do not use for any applications involving direct or indirect food contact, or human or animal drinking water contact applications.

*Ultra-Fresh\*DM-50* is to be used as directed in the accompanying Technical Data Sheet.

## ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with 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.

## BACTERIOSTAT & FUNGISTAT

### ACTIVE INGREDIENTS

tri-n-butyltin maleate.....25.0 %

INERT INGREDIENTS 75.0 %

Total ..... 100.0%

**KEEP OUT OF REACH OF CHILDREN  
DANGER!**

### PRECAUTIONARY STATEMENT:

Danger. Hazard to humans and domestic animals. Corrosive, causes irreversible eye damage and skin burns. Do not get in eyes, on skin or on clothing. May be fatal if swallowed or absorbed through the skin. Wear protective eye wear (goggles, face shield, or safety glasses) and chemical resistant gloves. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Remove contaminated clothing and wash clothing before reuse.

### FIRST AID

<b>If in Eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call poison control center or doctor for treatment advice.</li> </ul>
<b>If on Skin or Clothing</b>	<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 advice.</li> </ul>
<b>If Swallowed</b>	<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 do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies call your local poison control center.

Manufactured for:

Thomson Research Associates  
95 King Street East, Suite 400  
Toronto, Ontario  
Canada M5C 1G4

## STORAGE AND DISPOSAL

**Prohibitions:** Do not store or transport in unlined metal containers. Do not contaminate with strong oxidizing or reducing agents. Do not contaminate water, food or feed by storage or disposal or cleaning of equipment.

**Pesticide Disposal:** Pesticides are acutely hazardous. Improper disposal of excess pesticide or rinsate 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

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

**General: Consult Federal, state, or local disposal authorities for approved alternative procedures.**

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E.P.A. Est. No. 34310-RI-01

70653-TX-001

Net Contents:

U.S. Gallons

**ACCEPTED**  
SEP 27 2005  
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under 10466-28

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