



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

February 13, 2017

Leesha Square  
Regulatory Specialist  
Arch Chemical, Inc.  
1200 Bluegrass Lakes Pkwy  
Alpharetta, GA 30004

Subject: Notification per PRN 98-10 – Updating Label  
Product Name: VANQUISH 100 Antimicrobial  
EPA Registration Number: 1258-1249  
Application Date: January 31, 2017  
Decision Number: 525927

Dear Ms. Square:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Antimicrobials Division (AD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you have any questions, you may contact Emilia Oiguenblik by phone at 703 347 0199, or via email at [Oiguenblik.emilia@epa.gov](mailto:Oiguenblik.emilia@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "John Hebert", is written over a horizontal line.

John Hebert, Chief  
Regulatory Management Branch I  
Antimicrobials Division (7510P)  
Office of Pesticide Programs

# VANQUISH™ 100 Antimicrobial

For Direct Incorporation into Plastic, Rubber, Construcion Materials, and Coatings for Further Processing and preservation of Metal Working fluids used in Enclosed Systems

Active Ingredient:

N-Butyl-1, 2-benzisothiazolin-3-one: ..... 99.2%

Inert Ingredients: ..... 0.8%

Total Ingredients: ..... 100.0%

## KEEP OUT OF REACH OF CHILDREN DANGER

**FIRST AID:**

**IF IN EYES:** 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. CALL A POISON CONTROL CENTER OR DOCTOR FOR TREATMENT ADVICE.

**IF SWALLOWED:** CALL A POISON CONTROL CENTER OR DOCTOR IMMEDIATELY FOR TREATMENT ADVICE. HAVE PERSON SIP A GLASS OF WATER IF ABLE TO SWALLOW. DO NOT INDUCE VOMITING UNLESS TOLD TO DO SO BY A POISON CONTROL CENTER OR DOCTOR.

**IF ON SKIN OR CLOTHING:** TAKE OFF CONTAMINATED CLOTHING. RINSE SKIN IMMEDIATELY WITH PLENTY OF WATER FOR 15-20 MINUTES. CALL A POISON CONTROL CENTER OR DOCTOR FOR TREATMENT ADVICE.

**IF INHALED:** MOVE PERSON TO FRESH AIR. IF PERSON IS NOT BREATHING, CALL 911 OR AN AMBULANCE, THEN GIVE ARTIFICIAL RESPIRATION, PREFERABLY MOUTH-TO-MOUTH IF POSSIBLE. CALL A POISON CONTROL CENTER OR DOCTOR FOR FURTHER TREATMENT ADVICE

**NOTE TO PHYSICIAN:**

PROBABLE MUCOSAL DAMAGE MAY CONTRAINDICATE THE USE OF GASTRIC LAVAGE FOLLOWING INGESTION.

HAVE THE PRODUCT CONTAINER OR LABEL WITH YOU WHEN CALLING A POISON CONTROL CENTER OR DOCTOR, OR GOING FOR TREATMENT.

FOR ADDITIONAL INFORMATION IN CASE OF EMERGENCY CALL TOLL FREE 1-800-654-6911.

See Additional Precautionary Statements on [Side] [Back] [Right] [Left] Panel

MANUFACTURED BY:

Arch Chemicals, Inc.

1200 Bluegrass Lakes Parkway

Alpharetta, GA 30004

CONTENTS: \_\_\_\_\_ LBS.

(APPROX. \_\_\_\_\_ U.S. GALLONS)

LOT NUMBER:

PRODUCT CODE:

EPA REG. NO. 1258-1249

EPA EST. NO. *(as indicted on container)*

Made in [USA] [UK] [China]

**Vanquish ® is a Registered Trademark of Arch UK Biocides LTD.**

## NOTIFICATION

1258-1249

The applicant has certified that no changes, other than those reported to the Agency have been made to the labeling. The Agency acknowledges this notification by letter dated:

02/13/2017

Vanquish 100 Antimicrobial

EPA Reg. No: 1258-1249

EPA Draft Label: 1/31/2017

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**DANGER. CORROSIVE.** Causes irreversible eye and skin burns. Harmful if swallowed or absorbed through skin or inhaled. Do not get in eyes, on skin, or on clothing. Do not breathe spray mist. Wear goggles or face shield and rubber gloves when handling. May be fatal if inhaled. Do not breathe vapors. Use with adequate ventilation. If needed, use NIOSH certified respirator for organic vapors, mists and fumes. Wash thoroughly after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse.

### ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not discharge effluent containing this product into lakes, ponds, streams, 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. Do not contaminate water by cleaning of equipment or disposal of wastes.

### DIRECTIONS FOR USE

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

#### <sup>1</sup>METAL WORKING FLUIDS

### PRECAUTIONARY STATEMENTS ON THE OPERATION OF METALWORKING EQUIPMENT WITH MWF CONTAINING Vanquish 100 Antimicrobial.

For use only in closed metalworking and delivery systems only. Do not permit contact with mixer/loaders or machinists. **Vanquish 100 Antimicrobial** may be used only in enclosed metalworking systems with local exhaust ventilation. **Vanquish 100 Antimicrobial** may NOT be used to preserve metalworking fluids intended for use in machining operations which are not enclosed, even when such operations do not generate significant MWF aerosol. In cases where a central sump is used, **Vanquish 100 Antimicrobial** may NOT be used as a post additive treatment for the metalworking fluid unless all machining operations using this fluid are enclosed, even when the unenclosed equipment is not actively in use.

Do not use this product to treat metalworking fluids that will be resold for use in non-closed metal cutting systems.

**Vanquish 100 Antimicrobial** is an effective fungicide in most aqueous metalworking fluids. Typical applications, and the suggested range of concentrations on which trials can be based, are:

**Fluid Concentrate:** **Vanquish 100 Antimicrobial** should be added to metalworking fluid concentrates at a level that ensures the final use dilution fluid will contain 26 to 212 ppm of product (25 to 200 ppm active agent).

**Use Dilution Fluid:** Note that grossly contaminated systems may require mechanical removal of fungal masses, and cleaning of the system before biocide treatment is begun.

**Initial Dose:** For a noticeably fouled system, add 0.25 to 2.0 lbs. (3.3 to 26.5 fl. oz.) of **Vanquish 100 Antimicrobial** per 1000 gallons of fluid. This will generate a concentration of 25 to 200 ppm active agent.

**Subsequent Dose:** For maintenance of a clean system, add 0.047 to 0.31 lbs. (0.62 to 4.1 fl. oz.) of **Vanquish 100 Antimicrobial** per 1000 gallons of fluid on a periodic basis to maintain microbial control. This quantity will generate a fungicide concentration of 5 to 30 ppm active agent. The frequency of maintenance dosing will be affected by the amount of fluid lost to drag out and other displacements, but also by the severity of the contamination, by the system design, by the effectiveness of system filtration, and by other system variables.

*Note to reviewer: For products that will be sold in California:*

<sup>1</sup>Not approved for use in California

## PLASTICS:

Many plastics are considered to be resistant to microbial attack, but there are significant exceptions that merit preventative action by the use of antimicrobial additive. Plasticized PVC, polyurethane and silicones are particularly susceptible. The biodeterioration of products based on these types of plastics can be a serious problem for manufacturers. Failure to add the proper amount of antimicrobial additive can lead to premature product failure due to loss of mechanical strength, flexibility or adhesive strength. Also, adverse aesthetic problems such as musty odor, permanent staining or microbial surface growth can lead to customer complaints. VANQUISH® 100 Antimicrobial is effective against the microbes which degrade plastics (and plastic additives) or natural rubber and can increase the useful life of articles made from these materials. VANQUISH® 100 Antimicrobial is effective in most plastic compositions and can be used to preserve natural rubber **synthetic rubbers and elastomers, EPDM** and such plastics as PVC, polyurethane, silicone, acrylics, and others to produce articles such as; coated fabric (e.g. ski wear, raincoats, tents, seat covers), floor coverings, underlay and mats, vinyl wall coverings, tarpaulins and awnings, roofing membranes, synthetic leather (e.g. sneakers and training shoe uppers), swimming pool liners, ornamental pond liners, appliance gaskets (e.g. washers, refrigerator), shoe soles, mid-soles and outers, sealants, sealers, coatings, caulks, weather stripping and non-food contact adhesives, pet toys and general household items (shower curtains, bath mats, sink drain mats, rubber or plastic coated wire shelving and dish drainers), auto parts (e.g. landau tops, door seals, shock absorbers), foam (e.g. seat cushions, gaskets, insulation), tubing (e.g. marine hose and sleeving), electrical and pipe wrap, furniture (e.g. outdoor, leisure, water bed liners, cushions, covered foam mattress padding, covered foam pillow cushions). Do not use this product to treat food/feed or drinking water contact items or toys. VANQUISH® 100 Antimicrobial has been found to be an effective polymer preservative at concentrations of 0.03% to 1.0% based on the total weight of the substrate. Typical range of concentrations on which trials can be based are:

<u>APPLICATION</u>	<u>% VANQUISH® 100 Antimicrobial (based on total weight of final product)</u>
Plasticized PVC	0.03 to 0.5%
Polyurethane	0.05 to 0.5%
Silicones	0.05 to 1.0%
Polyesters	0.05 to 1.0%
Polyolefins	0.05 to 1.0%
Acrylics	0.05 to 1.0%
Synthetic elastomers: such as Isoprene and acrylonitrile- Butadiene-styrene	0.03 to 1.0% butadiene-styrene, styrene-
Natural latex rubber	0.03 to 0.5%

The concentration required to give protection depends on several factors. These include the susceptibility of the system to microbiological degradation, the extent to which micro-organisms can gain access, the species involved, pH, temperature, moisture and length of time for which protection is required.

## INCORPORATION OF VANQUISH® 100 ANTIMICROBIAL INTO POLYMERS

Do not use for any application involving direct or indirect food contact.

**PVC plastisols:** For addition to PVC plastisols Vanquish® 100 Antimicrobial liquid may be added along with the other additives. Use levels should be calculated based upon the total weight of the formulation.

**Cross Linked Polyurethane:** For addition to cross linked polyurethane Vanquish® 100 Antimicrobial liquid should be added to the polyol at a concentration that will yield the desired use level in the final product after reaction with the isocyanate component. Vanquish® 100 Antimicrobial may also be incorporated at an injection port of a reaction injection molding (RIM) machine.

**Melt Processed Polymers:** For addition to melt processed polymers (PVC, thermoplastic polyurethane, synthetic elastomers and thermoplastic acrylics etc.) Vanquish® 100 Antimicrobial liquid may be metered into the melt to yield the desired end use concentration. For example at the injection point in an extrusion system. Alternatively, Vanquish® 100 Antimicrobial liquid may be made into a concentrated chip (as above at up to 20% Vanquish 100 Antimicrobial) and these chips blended with non preserved chips in the users plant to yield the desired end use concentration upon subsequent melt processing. For thermoplastic polyurethane, concentrated granules may also be produced by absorbing Vanquish 100 Antimicrobial liquid to granules through shear mixing (up to 20% Vanquish® 100 Antimicrobial). These can be blended with non preserved polymer chips in the users plant to the desired use concentration and then further heat processed (i.e. via extrusion).

*[Note to reviewer: Only one of the following 2 paragraphs will be used.]*

[1.] PVC: This product may be added to the mixed liquid components or added to concentrate(s) that will be added to a blend of PVC resin and solids, shear mixed until a dry blend is achieved and then processed through extrusion, calendaring, molding or other system. The concentrate must be used in proportion to untreated plastic and other inputs in the fabrication of plastic articles entering commerce so that the final concentration of active ingredient does not exceed the application rate range (0.03-0.5%) specified for the various plasticized PVC articles to be preserved.

[2.] PVC: This product may be added to the mixed liquid components or added to concentrate(s) that will be further processed to manufacture PVC articles or added to a blend of PVC resin and solids, shear mixed until a dry blend is achieved and then processed through extrusion, calendaring, molding of other system. The concentrate must be used in proportion to untreated plastic and other inputs in the fabrication of plastic articles entering commerce so that the final concentration of active ingredient does not exceed the application rate range (0.03-0.5%) specified for the various plasticized PVC articles to be preserved.

**Acrylics:** In addition to the above, Vanquish® 100 Antimicrobial liquid can be added to the liquid monomers before polymerization, at levels to yield the desired use level in the final product after polymerization.

**Silicone:** For silicone sealants, the Vanquish® 100 Antimicrobial liquid may be added to the silicone oil before processing, or to the manufacturing vessel before packing off.

**Natural Rubber:** Vanquish® 100 Antimicrobial can be added to the latex.

The Arch Technical Service Group can provide additional guidance on the proper use of Vanquish 100 Antimicrobial.

## **CONSTRUCTION MATERIALS**

Many building construction materials support the growth of a wide range of bacteria, fungi and algae. The uncontrolled growth of these microorganisms either in the wet or dry stage can lead to aesthetic problems such as odor or surface staining or it can lead to premature product failure.

Vanquish 100 Antimicrobial additive has been found to be an effective wet state preservative at concentrations of 0.01% to 0.05%, and an effective dry state preservative at concentrations of 0.075% to 0.115%, based on the total weight of the substrate. Example end use applications are shown below:

For preservation of emulsions, dispersions, slurries, and thickeners including latex emulsions, urethane dispersions, mineral or pigment slurries (such as clay, kaolin, calcium carbonate, and titanium dioxide). For preservation of pulp and paper slurries and for preservation of paper coating compositions, including starch preparations. Add 0.01 – 0.05% Vanquish 100. Not for use in food contact paper products or paper coatings.

For preservation of coatings: add 0.075 – 0.115% Vanquish 100. Not for marine use.

For preservation of adhesives, tape joint compounds, spackle, stucco, grout, glazing compounds, fillers, sealants, caulks, and weather stripping. Add 0.075 – 0.115% Vanquish 100. Not for use in food contact adhesives.

For preservation of manufactured paper and paperboard products such as insulation facing, wallboard facing, stationeries, and paper packaging. Add 0.075 – 0.115% Vanquish 100. Not for use in food contact paper products.

For preservation of gypsum, perlite, plaster-like or mineral and cellulose materials. For preservation of ceiling tiles, partitions, dry wall and wallboard. Add 0.075– 0.115% Vanquish 100.

**STORAGE AND DISPOSAL:** Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**PESTICIDE STORAGE:** Protect from frost. Do not freeze. If frozen, allow to thaw and stir well before use.

**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticides, spray mixture 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:**

**{For containers greater than 5 gallons}** Triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**{For containers less than or equal to 5 gallons}** Triple rinse as follows: Empty remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**Container Disposal:** Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container promptly after emptying. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities

*[Note to reviewer: The following is optional Marketing Language for a subregistration for Sanitized Inc:]*  
Sanitized® is the registered trademark/brand name of Sanitized Inc. for its BACTERIOSTATIC Chemicals.

\*This product is not registered for use as a sanitizer.



**CORROSIVE LIQUID, N.O.S. (CONTAINS  
N-BUTYL-1,2-BENZISOTHIAZOLIN-3-ONE)  
UN 1760**

