

TRIADINE™ 20 Antimicrobial

For Use as a Post Treatment Additive

TECHNICAL
INFORMATION BULLETIN

Many of the antimicrobials commonly used in metalworking fluids are effective against bacteria, but provide only limited protection against fungi. In the absence of bacteria, the fungi – which no longer have to compete with the bacteria for food – proliferate and cause odors, clogged filters and fluid breakdowns. As a result, it is often necessary to use two or more products to obtain optimum protection.

TRIADINE™ 20 Antimicrobial is a broad-spectrum antimicrobial designed to quickly combat both bacteria and fungi commonly found in contaminated metalworking fluid systems. It is a blend of two well-known metalworking preservatives, sodium 2-pyridinethiol-1-oxide and hexahydro-1,3,5-tris (2-hydroxyethyl)-(s)-triazine, each with a long history of effective use. The first material is a highly effective fungicide; and the other a fast acting bactericide. The ratio of the two components has been carefully chosen to provide maximum post treatment protection to metalworking fluid systems. **TRIADINE 20** Antimicrobial is registered with the U.S. Environmental Protection Agency (US EPA Reg. No. 1258-1205), for use in metalworking, cutting, cooling, and lubricating fluids.

DIRECTIONS FOR TANKSIDE ADDITIONS

We offer the following advice when making post treatment additions of **TRIADINE 20** Antimicrobial.

1. Confirm the size of the system at the current operating level and determine the amount of **TRIADINE 20** Antimicrobial necessary to treat the system. (See Table 1)
2. Carefully measure the biocide dose before adding it to the reservoir.
3. To ensure proper mixing, make post treatment additions of **TRIADINE 20** Antimicrobial into areas of the metalworking fluid reservoir where there is good circulation.
4. For this biocide to be most effective, the addition should be made after any other required chemical, metalworking fluid concentrate, or make-up water addition.

Table 1.

System Size	Dose	
	1500 ppm	2000 ppm
Gallons		
10	2.0 ounces	76.0 mls
100	2.5 cups	3.25 cups
1000	1.5 gallons	2.0 gallons
10,000	15.0 gallons	20.0 gallons
System Size	Dose	
	1500 ppm	2000 ppm
Liters		
50	75 mls	100 mls
100	150 mls	200 mls
1000	1.5 liters	2.0 liters
10,000	15.0 liters	20.0 liters

RECOMMENDED USE LEVELS

The amount of **TRIADINE 20** Antimicrobial used should never exceed the maximum EPA approved dose of 2000 ppm (parts per million) product, as sold. Typical post treatment dose levels for this product are between 1500 and 2000 ppm product, as sold.

The need for a biocide addition should be based on the results of standard microbiological tests (i.e. commercially available dipsticks) or chemical analysis for the active ingredient. Arch can provide methods for determining the level of active ingredient in the dilute metalworking fluid. When bacterial levels reach 10^5 CFU (colony forming units) or fungi are detected (or other levels determined by your fluid supplier), an addition of **TRIADINE 20** Antimicrobial should be made. We recommended waiting 24 hours prior to conducting another microbial evaluation. The EPA guideline for post treatment biocide additions states that the maximum approved dose must not be exceeded per event. If repeated doses are found to be necessary within a limited time frame contact should be made with the fluid or biocide supplier. This scenario is usually indicative of either an incompatibility of the biocide with the metalworking fluid or a more serious microbial problem.

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WHY TREATMENT IS NECESSARY

Unchecked growth of microorganisms in metalworking fluids can cause fluid deterioration, resulting in damage to fluid handling systems, tools, and the work-piece. These problems can be controlled through the proper use of biocides. These problems may also be caused by other conditions. Therefore, we recommend making post treatment additions of TRIADINE™ 20 Antimicrobial after testing the fluid for the presence of microorganisms.

THE IMPORTANCE OF RECORD KEEPING

Careful record keeping is essential for maintaining a clean system. The results of standard tests on a system (such as bacterial and fungal counts, pH and alkalinity) should be recorded regularly. A log of post treatment additions, biocide levels, and visual observations should also be kept. This type of record keeping can detect trends and serve to alert workers to a possible problem before the situation gets out of hand. In addition, data can be passed along to the fluid or biocide supplier when they are called upon to solve a problem.

PROPERTIES OF TRIADINE 20 ANTIMICROBIAL

Table 2 provides some typical chemical and physical properties.

Table 2.

<i>% Active Ingredient, min.</i>	72.8
<i>Color</i>	Amber
<i>Odor</i>	Amine
<i>Form</i>	Liquid
<i>pH @ 25C 10% in distilled H₂O</i>	9.5-11.5
<i>Specific Gravity</i>	1.17
<i>Weight per Gallon (lbs.)</i>	9.73

TRIADINE 20 Antimicrobial is compatible with the ingredients found in most metalworking fluids and is stable over the pH range (8.0-9.5) of most metalworking fluids and should not adversely affect the working pH of a metalworking fluid system.

PACKAGING

TRIADINE™ 20 Antimicrobial is available in the US in 4x10 lb. bottle cases, 60 lb. and 500 lb. containers.

SAFETY INFORMATION

Material Safety Data Sheets containing appropriate health and safety advice on the Arch products is available from your nearest regional office.

VISIT OUR WEBSITE

For additional information about this product, or other Arch Biocides products visit our website at:

www.archbiocides.com

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Use biocides safely. Always read the label and product information before use.

Some Arch® biocides may not be registered or registered for only certain uses in your country.

No statement herein is intended as a representation or warranty regarding TRIADINE products or any other product of Arch Chemicals, Inc.

SAFE HANDLING INFORMATION

Refer to the Material Safety Data Sheet (MSDS) available from Arch Chemicals, Inc. for information on the safe use, handling and disposal of this product.

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