



Technical Data Sheet

DOWSIL™ ACP-3472 Antifoam Compound

Foam control agent and process aid for kraft and sulfite process stock washing

Features & Benefits

- Formulated with materials that conform to FDA Regulation 21 CFR 176.170, 176.180 and 176.210
- Economical to use
- Safe for humans and the environment
- Excellent pulp drainage
- Reduced soda losses
- Easily formulated and preserved in dilute emulsions

Composition

- Silica-filled polydimethylsiloxane and silicone organic copolymers

Applications

- DOWSIL™ ACP-3472 Antifoam Compound is an outstanding foam control agent and process aid for both kraft and sulfite process stock washing.

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

CTM ¹	Unit	Value
Appearance		Cream white
Active Ingredients	percent	100
Specific Gravity		1.0
Viscosity at 25°C (77°F)	cp	20,000–30,000
Flash Point	°C (°F)	> 100 (212)

1. CTM: Corporate Test Method, copies of CTM's are available on request.

Description

DOWSIL ACP-3472 Antifoam Compound is a 100 percent active, emulsifiable antifoam concentrate that offers outstanding persistence at a small fraction of use levels required for conventional mineral oil-based antifoams.

How To Use

For preparation of dilute emulsions, simply add DOWSIL ACP-3472 Antifoam Compound to preserved, thickened water with moderate agitation. See Table 1 for data on various thickening agents and Table 2 for suitable preservatives. A more detailed preparation procedure is also provided later in this data sheet.

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How To Use (Cont.)

In pulp mills, direct addition of emulsified DOWSIL ACP-3472 Antifoam Compound to the vats has proved very effective. Distribution will influence both defoaming and drainage efficiency.

Start at 1/5 to 1/10 of the active ingredient relative to oil-based antifoams. Run at this level until the seal tanks have been completely saturated with the emulsion of DOWSIL ACP-3472 Antifoam Compound. Then slowly reduce levels until minimum use levels are determined. This value should be 1/20 to 1/40 the use level relative to conventional oil-based defoamers.

Table 1: Thickeners for Preparing 15% Emulsions of DOWSIL ACP-3472 Antifoam Compound

Thickener	FDA Status ¹	Weight%	Viscosity ²	Cold Water Dispersibility	Appearance
Insta-Thick ^{®3} Xanthan Gum	Food Grade	0.6	3500–4000	Very Good	Uniform ⁴
Insta-Thick Xanthan Gum	Food Grade	1.0	5500–6000	Very Good	Uniform ⁴

¹FDA 176.170, 176.180, 176.210.

²Brookfield, LVT #3 Spindle, 12 rpm.

³Registered trademark of Zumbro, Inc.

⁴Freeze/thaw, 5-day cycle. Appearance remains good, no separation of phases noted.

Table 2: Preservatives for 15% DOWSIL ACP-3472 Antifoam Compound Emulsions

Preservative	Minimum Recommended Effective Level (ppm)
KATHON™ LX 1.5	1000 ppm
UCARCIDE™ 225	600 ppm

Spills And Disposal Of Product

Cleanup of industrial spills can be accomplished by using a dry absorbent material, which should be collected and disposed of per applicable local, state and federal regulations. Conventional industrial cleaning materials can be used to remove remaining traces of product after removal of the absorbent material.

Accidental Discharge Into Lakes And Streams

DOWSIL ACP-3472 Antifoam Compound should not be discharged directly into lakes or streams. If an accidental discharge into public waters occurs, no deleterious effects on the following environmental factors are anticipated below a level of 100 ppm DOWSIL ACP-3472 Antifoam Compound, based on available environmental and toxicological data of components similar to those found in DOWSIL ACP-3472 Antifoam Compound.

Environmental:

Biological Oxygen Demand (BOD) – negligible

Toxicological:

Bluegill Sunfish, Rainbow Trout, Cockles, Shore Crabs, Brown Shrimp, White Leghorn Chickens, Mallard Ducks, Bobwhite Quail and Daphnia.

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Dibenzodioxin And Dibenzofurans	Analysis completed by an independent testing laboratory has shown that DOWSIL ACP-3472 Antifoam Compound does not contain detectable levels of dibenzodioxin and dibenzofuran precursors (detection limit of 0.5–0.6 ppb for both dibenzodioxin and dibenzofuran).
Handling Precautions	PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT WWW.CONSUMER.DOW.COM , OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.
Usable Life And Storage	Some minor separation of the components is possible under some storage conditions, but will not affect product performance as long as full containers are used to prepare dilute emulsions, and are emptied completely. For bulk storage, a slow continuous recycle is recommended. The bulk storage vessels should be kept clean, and suitable biocides for microbial suppression in both liquid and vapor areas are recommended.
Limitations	This product is neither tested nor represented as suitable for medical or pharmaceutical uses.
Health And Environmental Information	<p>To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.</p> <p>For further information, please see our website, www.consumer.dow.com or consult your local Dow representative.</p>

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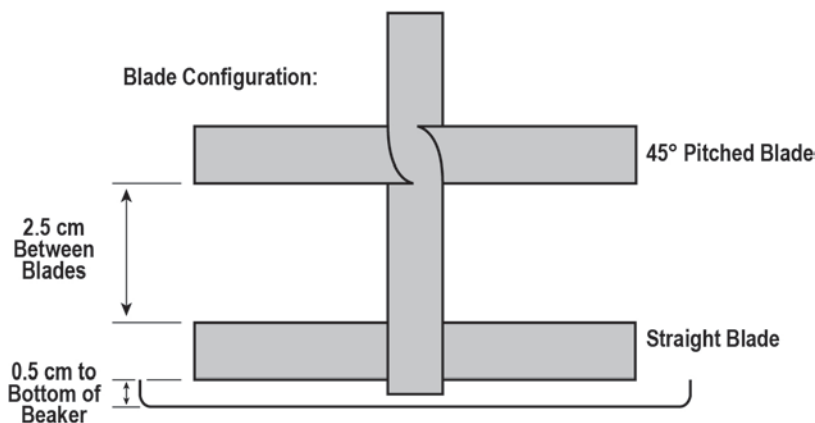
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Sample Preparation – 15% Emulsion of DOWSIL ACP-3472 Antifoam Compound

1. Raw Materials
 - a. 83.9% (419.5 g) tap water at room temperature
 - b. 1.0% (5.0 g) Insta-thick® Xanthan Gum
 - c. 0.1% (0.5 g) KATHON™ LX 1.5%
 - d. 15.0% (75.0 g) DOWSIL ACP-3472 Antifoam Compound
 - e. 500.0 g batch
2. Equipment
 - a. T-line stirrer
 - b. 1000 mL stainless steel beaker
 - c. 2.5 inch blades



3. Procedure
 - a. Weigh water and KATHON LX 1.5%, respectively, into the steel beaker and begin mixing at 500 rpm. Mix for 5 minutes.
 - b. Weigh the xanthan gum out in 1 gram batches into small, plastic weigh dishes.
 - c. Gradually add the xanthan gum to the water/KATHON mixture at a rate of 1 gram per minute.
 - d. After adding all the xanthan gum, stir the mixture for 10 minutes at 500 rpm.
 - e. After the 10 minute period, add DOWSIL ACP-3472 Antifoam Compound into the vortex of the stirring mixture.
 - f. Stir the final mixture for 30 minutes at 500 rpm.
4. Special Notes
 - a. KATHON LX 1.5% can also be added after the emulsion has been made. It is not absolutely necessary that it be used at the beginning of the process.
 - b. One can monitor viscosity of the water/gum mixture as a function of dispersing time. Once a viscosity plateau is achieved, hydration of the gum should be complete.
 - c. Some biocides can be sensitive to pH. It is a good practice to monitor pH conditions during the process to ensure that sufficient concentrations of biocide remain active.

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