

Key Performance Advantages

- Extends the life of metalworking fluids
- Enhances biocide performance
- Biodegradable in the environment



Metalworking Fluids

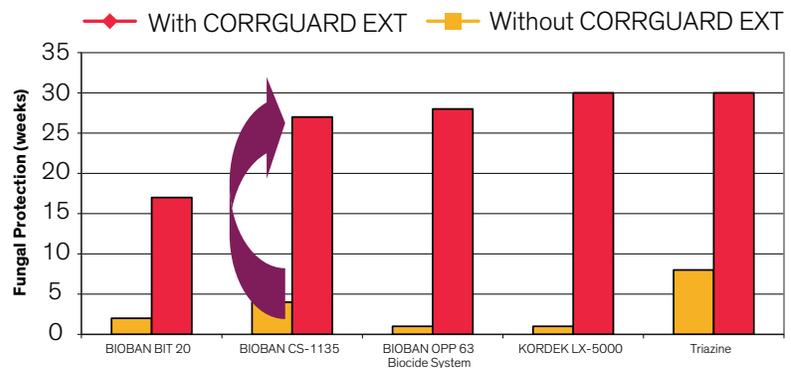
CORRGUARD[®] EXT MULTIFUNCTIONAL NEUTRALIZER

For Long-life Metalworking Fluids with a Favorable Environmental Health and Safety Profile

Whatever your metalworking fluid challenges, ANGUS has the formulation expertise, product, and technology solutions to facilitate a winning formulation. Our breakthrough innovation, CORRGUARD[®] EXT Multifunctional Neutralizer, enables longer-lasting metalworking fluids with improved pH stability and multi-metal compatibility.

Overview

CORRGUARD EXT Multifunctional Neutralizer is used to enhance biocide performance for improved bacterial and fungal control to deliver longer-life fluids. As shown in the following chart, fluids formulated with CORRGUARD EXT provide a significant improvement in fungal protection as compared to fluids without the multifunctional neutralizer. CORRGUARD EXT is not a biocide and is not intended for use as an antimicrobial. More important, metalworking fluid (MWF) formulations containing CORRGUARD EXT provided enhanced protection across a broad range of commonly used biocides, offering formulators an ideal solution to optimize the performance of their existing fluids without requiring significant reformulation. It also offers a favorable environmental profile, being readily biodegradable in the environment.



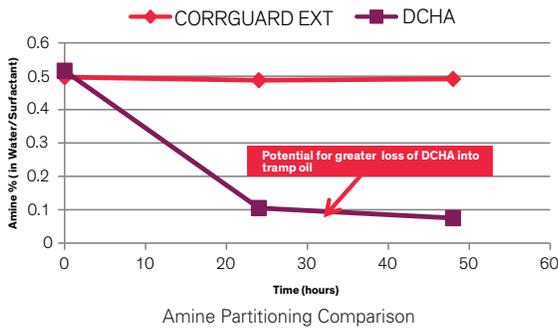
CORRGUARD EXT Step Change Improvement

Regulatory Status

It is important to evaluate and choose raw materials that have been thoroughly evaluated and tested to meet various regulatory criteria. CORRGUARD EXT is an ideal choice for use in global formulations because it has undergone this extensive evaluation. It is permitted for use in REACH countries, as well as in the United States, Canada, Japan, Korea and China as a multifunctional neutralizer.

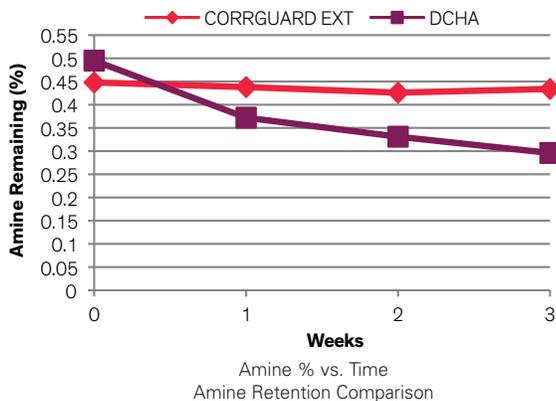
Performance of CORRGUARD EXT Relative to DCHA

CORRGUARD EXT partitions less into light naphthenic oil, particularly when compared to dicyclohexylamine (DCHA). Therefore, there is the potential for greater loss of DCHA into tramp oil, which compromises the quality and effectiveness of the metalworking fluid.



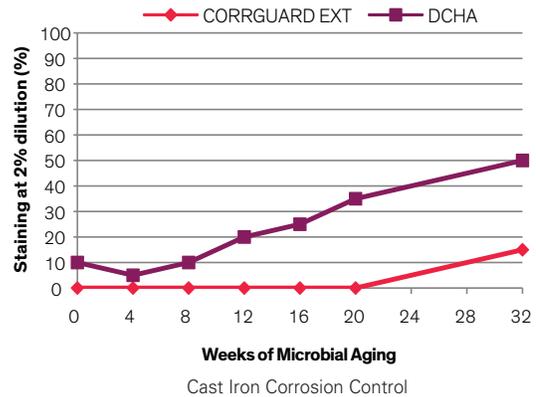
Amine Retention Comparison

A study was conducted to evaluate the retention of amines in an aqueous solution. Water containing CORRGUARD EXT Multifunctional Neutralizer retained a steady level of amine over a period of three weeks at 38°C, as compared to a significant decrease in the amount of DCHA in an identical experiment.



Improved Corrosion Control

CORRGUARD EXT Multifunctional Neutralizer offers improved corrosion control of cast iron over time as compared to an identical fluid containing DCHA.



Global Technical and Formulation Support

ANGUS global Customer Application Centers provide customers with technical and formulation support. Tests customized to your formulation will help ensure that new MWFs containing CORRGUARD EXT Multifunctional Neutralizer will perform well in the field, as our stringent microbiological protocol correlates with field experience. We can also monitor corrosion of iron, steel and aluminum. With almost 80 years of experience in the metalworking fluids industry, you can rely on ANGUS to help you design cost effective, long-life fluids with improved performance.

Product Stewardship

ANGUS encourages its customers to review their applications of ANGUS products from the standpoint of human health and environmental quality. To help ensure that ANGUS products are not used in ways for which they are not intended, ANGUS personnel will assist customers in dealing with environmental and product safety considerations. For assistance, product Safety Data Sheets, or other information, please contact your ANGUS representative at the numbers provided in this document. When considering the use of any ANGUS product in a particular application, review the latest Safety Data Sheet to ensure that the intended use is within the scope of approved uses and can be accomplished safely. Before handling any of the products, obtain available product safety information including the Safety Data Sheet(s) and take the necessary steps to ensure safety of use.

Contact Information

angus.com

North America
+1-844-474-9969

Latin America
+55-11-4700-8427

Western Europe
+49-69-38-079-1799

Central and Eastern Europe
+49-69-38-079-1799

Middle East and Africa
+49-69-38-079-1799

Indian Subcontinent
+000-800-440-5098

Greater China
+86-40-0881-1243

Japan and Korea
+81-34-477-4961
+82-23-483-6665

Southeast Asia, Australia and New Zealand
+66-2787-3335
+65-6723-1010

ANGUS
CHEMICAL COMPANY

®™Trademark of ANGUS Chemical Company

Notice: No freedom from infringement of any patent owned by ANGUS or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where ANGUS is represented. The claims made may not have been approved for use in all countries. ANGUS assumes no obligation or liability for the information in the document. References to "ANGUS" or the "Company" mean the ANGUS Chemical Company legal entity selling the products to Customer unless expressly noted. NO WARRANTIES ARE GIVEN: ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.
Published May 2016 Form No. COR-1684-0516-TCG