

WEBA Technology

Antifreeze Additive Packages

WEBA Technology has developed high performance additive systems for blending antifreeze/coolants that cover the intricate ranges of industrial and institutional specifications. Our additive packages allow the finished fluid manufacturer to make everything from automotive to diesel antifreeze including conventional to Hybrid Organic Acid Technology (HOAT), NOAT and Poly-Organic extended life antifreezes. All the WEBA METALGUARD antifreeze additive packages provide corrosion prevention, fluid longevity and ease of blending. These additive packages are formulated for the use in engines of most types. WEBA Technology's comprehensive technical expertise and customer support services will assist with problems, the pursuit of new business and new product development.

METALGUARD A65 is Formulated to meet the following Specifications*

- ASTM D 3306
- ASTM D 4985
- ASTM D 6210
- TMC of ATA RP329/338

Nearly all of OEM automotive light-duty and heavy-duty specifications are patterned after or identical to the ASTM standard specifications given above. For individual OEM specification compliance contact your sales representative. Note that the ASTM specifications listed include the key performance tests (ASTM D1384, D4340, D1881, D2570, D2809)

*See reverse for making specification claims.

Technical Support

WEBA Technology can answer questions about ASTM standards and industry specifications as well as help with many other questions relating to antifreeze and glycols. To confirm that your finished product meet the required industry specifications, WEBA's laboratory can help you with problem solving and testing associated with any products containing our inhibitor package.

Quality Control

WEBA Technology additive packages are tested for conformance with product specifications and industry standards. A laboratory analysis is conducted for all production lots and shipments and a certificate of analysis is available to customers who require them.

METALGUARD® A65

Precharged Extended Life Additive Package
Global Type Formulation For use with Ethylene Glycol

Description and Applications

METALGUARD A65 is a fully-formulated, precharged extended life additive package developed specifically to allow the antifreeze producer to meet specifications for the global extended life category of antifreezes. METALGUARD A65 is a hybrid and nitrated organic acid technology (HOAT/NOAT) additive system, containing both carboxylic acids (OAT technology) and azoles/inorganic salts (conventional technology). While OAT-only antifreezes have compatibility problems with conventional antifreeze formulations, HOAT formulations are compatible with OAT, HOAT, NOAT (nitrated organic acid technology) and conventional azole/inorganic salt type antifreeze/coolants.

METALGUARD A65, when blended with ASTM antifreeze grade ethylene glycol/water in accordance with WEBA Technology's instructions, will produce an antifreeze concentrate which contains a minimum of 2400 ppm nitrite, or 1560 ppm total nitrites plus molybdates, with at least 600 ppm of each (product can be ordered with molybdate/nitrite blend as METALGUARD A65M). The antifreeze/coolant will also have a pH of 9.8-10.7 (see specifications below), a minimum reserve alkalinity of 6 ml and a maximum silicate content of 250 ppm. It is phosphate-free (<15 ppm) and amine/triethanolamine-free.

Antifreeze made with METALGUARD A65 will be suitable for passenger cars, vans, SUV's, light trucks and heavy-duty vehicles. It will demonstrate outstanding aluminum corrosion control in addition to superior protection for copper, brass, solder, steel and cast iron. METALGUARD A65's substantial nitrite content will also control pitting/cavitation damage to diesel engine wet sleeve cylinder liners. In heavy-duty applications, antifreeze made with METALGUARD A65 will have a service life of 600,000 miles with the addition of an additive booster at 300,000 miles. At every oil change the antifreeze should be checked to be sure that the pH is in the proper range and that the sample is free of significant precipitates, suspended solids, cloudiness or contamination.

Antifreeze blenders must demonstrate compliance with ASTM, Ford, Chrysler or other specifications with their antifreeze/coolant, because the quality of the glycol and water used is as important as the additive package. This extended life additive system can also be used with either virgin or high-quality reclaimed ethylene glycol from distillation units, reverse osmosis membranes, and most flocculation/filtration systems. WEBA Technology recommends that you send in sample of any non-virgin glycols that you are considering for use with any of WEBA Technology's additive packages to a laboratory for testing, and send us the results. We will help you determine if any pretreatment will be necessary.

Typical Product Specifications

As concentrated METALGUARD A65 inhibitor package:

Visual	Clear, yellow-gold liquid
Specific Gravity	1.255-1.268
pH	11.6-12.6

As concentrated Antifreeze (made with EG and METALGUARD A65*):

Specific Gravity	1.110-1.145
pH	9.8-10.7 (ASTM 7.0-11.0)
Reserve Alkalinity	6 ml min
Freeze Point	-34°F (-36°C) max. (diluted 50% with water)

Continued on other side.

METALGUARD A65

Blending and Use Instructions

Blending: If you use only a portion of the drum (i.e. a few gallons at a time) you need to thoroughly mix the drum of additive prior to pulling out the required amount. This ensures that the antifoam is completely mixed into the inhibitor package as it can float to the top under some circumstances. If you use the entire drum to make a bulk blend you do not need to mix the drum prior to use.

To make antifreeze concentrate, first charge the desired quantity of glycol to the blending tank. Heat the glycol to 60°F (15.5°C) or higher, and at a pH of 7.0-9.5. Maintain this temperature throughout the blending procedure. Based on the quantity of glycol being treated, add 2.2% by volume of the additive package while agitating or circulating glycol (two 55 gallon/208 liters drums per 5,000 gallons/18,925 liters of glycol). Good agitation is vital to making a consistent and proper product. Continue to agitate for 30-60 minutes after all of the additive package has been transferred into the blending vessel. To make a 50/50 product (50% glycol/50% water), without making a concentrated product first, add 1/1% by volume of the additive package using the previous instructions (one 55 gallon drum/208 liters per 5,000 gallons/18,925 liters of glycol/water mixture). Visit www.webacorp.com/customerarea.html and download a self-calculating sheet.

Storage: Always store concentrated the additive package above of 60°F (15.5°C) at all times. Once a container is opened there is a possibility of the liquid phase evaporating, so close the container tightly after each use. High temperatures, above 90°F (32°C), for an extended period of time may also cause degradation of the inhibitors. If you are in an area of the country with continuous high heat store the additive in a cooler area of your warehouse.

Water Quality And Dilution: When antifreeze concentrate is diluted to 50% by volume with water, the water of dilution must be of acceptable quality. Deionized water is the best to use, but other sources of water are acceptable as long as they contain less than 100 ppm total hardness measured as calcium and magnesium compounds. Higher hardness levels may cause excessive inhibitor consumption, scale deposits and metal pitting.

Quality Control Procedures: WEBA Technology strongly recommends that all antifreeze producers have an internal complete quality control program in place for manufacturing and testing of all products made for sale.

Making Claims for Antifreeze/Coolant Blended with WEBA Technology's Additive Packages

The specifications listed in this bulletin are based on antifreeze produced with WEBA Technology's additive packages, virgin glycol and deionized water. Antifreeze blenders must demonstrate independent compliance with ASTM or other specifications with their antifreeze/coolant, because the quality of the glycol and water used is as important as the additive package. Note that OEM's have placed limits on the percentage of recycled glycol that can be used in factory fills as have other purchasers of antifreeze. Glycol quality specifications have also been established. Obtain copies of the specifications that you wish to meet, thoroughly read them and conduct any required tests, prior to stating that your antifreeze produced meets the specifications. WEBA Technology can provide assistance locating the necessary specifications/standards. To confirm that your finished products meet the required industry specifications, WEBA Technology recommends that you test your glycol and finished products at an accredited laboratory. Glycol should be tested for conformance with ASTM E1177 and/or ASTM D7713, and finished products should be tested for the ASTM performance tests listed on this product bulletin. Additionally, if you are using a process other than distillation for recycling your glycol tests should using the ASTM D6471/D6472 standards to determine the quality of your product. WEBA Technology can assist your company in preparing your samples for testing with pre-tests performed at the accredited laboratory. WEBA Technology will warrant our additive packages only if these procedures and the recommended blending and storage procedures are properly followed. In addition, the glycol or other base fluid used with our additive systems must meet industry or ASTM standards unless specifically exempted in our literature.

Technical Contact Information

WEBA Technology
1213 N. Sherman Ave. #351
Madison, WI 53704 USA
Tel: 608-819-8806
Fax: 608-237-2054
www.webacorp.com

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