

WEBA TECHNOLOGY

Antifreeze Additive Packages

WEBA Technology makes inhibitor systems for blending glycol and water to make anti-freeze/coolants that cover most industry and OEM specifications. Our additive packages allow the finished fluid manufacturer to make everything from automotive light-duty to heavy-duty diesel antifreezes, both conventional and extended life. Our formulations include traditional conventional light and heavy duty, Hybrid Organic Acid Technology (HOAT), NOAT and OAT (Organic acid technology), Poly-organic Acid Technology (POAT) and Multi-Functional Organic Acid Technology for both light and heavy-duty applications. Our series of OAT inhibitors are the latest technology for making long-lasting coolants. The METALGUARD® antifreeze additive packages provide proven corrosion prevention, fluid longevity and ease of blending. WEBA'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).

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 meets 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's additive packages must pass all our quality control tests prior to shipment. They are tested for conformance with product specifications and industry standards. Certificate of analysis are provided with every shipment. Complete ASTM performance tests are available by request.

METALGUARD® A65

HOAT Heavy-Duty Extended Life Additive Package
For use with Ethylene Glycol

Description and Applications

METALGUARD A65 is a fully-formulated, precharged extended life additive package that contains the initial charge of supplemental coolant additive (SCA). It was developed to allow the antifreeze producer to meet the myriad of specifications in the extended life category of antifreezes. METALGUARD A65 is a hybrid and nitrited 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 (nitrited 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. It is phosphate, 2EHA, silicate and amine/triethanolamine-free. If a combination of nitrite and molybdate is required by the specification for the coolant application we recommend WEBA's METALGUARD A90.

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. The service life can be extended to one million miles by monitoring the coolant every 300,000 miles. In off-road service, coolant made with A65 will provide a service life of 12,000 hours, or 6 years, whichever comes first. 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.

METALGUARD A65 can be blended with either ethylene or propylene glycol, and can also be used with either virgin or high-quality reclaimed glycol from distillation units.

Typical Product Specifications

As concentrated METALGUARD A65 inhibitor package:

Visual	Slightly cloudy, yellow to gold liquid
Specific Gravity; 70°F/21°C	1.260-1.280
pH	12.2-12.8

As concentrated Antifreeze (EG and METALGUARD A65*):

Specific Gravity; 70°F/21°C	1.110-1.145
pH	9.9-10.9
Reserve Alkalinity	6 ml min
Freeze Point @ 50%	-34°F (-36°C) max.

METALGUARD® A65

Blending and Use Instructions

Blending: Upon opening the drum, stir thoroughly. Do not use high speed agitation. If you use only a portion of the drum (i.e. a few gallons at a time) you need to mix the drum of additive prior to pulling out the required amount. 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 50°F (10°C) or higher. For reclaimed glycols adjust its pH range to a range of 7.0-9.0, as required. Maintain the minimum temperature throughout the blending procedure. Good agitation is vital to making a consistent and proper product; agitate for 30-60 minutes after the addition of the additive package.

Based on the quantity of glycol being treated, add 2.2% by volume of the additive package while agitating or circulating glycol. Use 2.0 x 55-gallon drums (110 gallons) per 5,000 gallons (416 liters per 18,925 liters of glycol).

To make 50/50 (50% glycol/50% water): Follow glycol instructions in concentrate section above, and then add 1.1% by volume of the additive package using the previous instructions. Use 1.0 x 55 gallon drum (55 gallons) per 5,000 gallons (208 liters per 18,925 liters) of 50% glycol/50% water mixture.

Antifoam: Although this additive package has antifoam as part of the formulation, depending upon your glycol base additional antifoam may need to be added to pass ASTM foam test. Antifoam may be purchased in 5-gallon (18.93L) pails from WEBA Technology.

Dye: If you purchase undyed additive, the last step is to add the color of dye that you wish to use. If you need help determining dye colors or use rates you may contact us. We can help you to select the proper color for the antifreeze you wish to make. Dye can be ordered from WEBA Technology or from the dye company of your choice. We recommend and use dyes from Robert Koch Industries www.kochcolor.com.

Testing: Test your finished product to be sure it conforms to specifications. See below paragraph on quality control.

Storage: Store concentrated the additive package above of 60°F (15.5°C) at all times. If a container arrives very cold to your warehouse, immediately place it in a hot room for 1-2 days then stir thoroughly prior to use. 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 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.

The specifications listed in this bulletin are based on antifreeze produced with WEBA's additive packages, virgin glycol and deionized water. To confirm that your finished products meet the required industry specifications, WEBA recommends that you test your glycol and finished products at an accredited laboratory. WEBA will warrant our additive packages only if this procedure and the recommended blending and storage procedures are properly followed and documented. In addition, the glycol or other base fluid used with our additive systems should meet industry or ASTM standards unless specifically exempted in our literature.

Technical Contact Information

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