METALGUARD® A80-PSi

Light and Heavy-duty Nitrite Free Extended Life Antifreeze Inhibitor with Silicate and Phosphate

Overview

METALGUARD A80-PSi is a nitrite-free OAT additive package that contains phosphate and silicate, but does not contain amine, borate, nitrate, nitrite or 2-ethylhexanoic acid. METALGUARD A80-PSi meets the performance requirements of ASTM D6210 without nitrite or nitrite/molybdate, but still provides wet sleeve cylinder liner cavitation protection due to its unique formulation.

METALGUARD A80-PSi provides multiple levels of corrosion protection for cooling system metals. Silicate provides rapid aluminum protection and phosphate provides rapid protection for a broad range of metals. The organic acid salts in A80-PSi provide enduring protection for all metals over an extended service life.

A major advantage of this type of additive system is that it provides total cooling system protection for up to 600,000 on-road miles without the use of additive-containing coolant filters or supplemental coolant additives (SCA). The addition of a METALGUARD A80-PSi Extender at 300,000 miles, if needed, is the only maintenance recommended. Although, it is recommended that a sample of the coolant be inspected quarterly to detect any problems such as significant color change, pH change, phase separation, precipitation, cloudiness, or obvious contamination. This inspection should be in addition to the parameters that are normally checked in a routine or scheduled maintenance program.

Features & Benefits

- All-organic, phosphate and silicate-based formulation.
- Does not contain amine, borate, nitrate, nitrite or 2-ethylhexanoic acid.
- Provides long-term compatibility with hoses, seals, and gaskets.
- Contains ingredients to protect all engine metals.
- Silicate and phosphate content provides multiple levels of corrosion protection for all cooling system metals.
- Contains anti-scalants and dispersants to prevent scaling and fouling of heat exchanger surfaces.
- Can be blended with ethylene glycol, propylene glycol or glycerin bases.
- Service life of 5-years, 150.000 miles in light-duty applications and up to 600,000 miles with extender added as necessary. A coolant maintenance program is required for extended service use.

Specifications

Formulated to meet:

- **ASTM D3306**
- **ASTM D6210**
- **TMC of ATA RP 364/338A**

Industry Applications

Used to make antifreeze/coolant for:

- Light-duty applications
- On-road heavy-duty diesel trucks
- Natural-gas-powered heavy-duty on and off-road equipment.

Quality Control & Technical Support

WEBA's products must pass rigorous quality control tests. They are tested for conformance with product specifications and industry standards. Certificates of analysis are provided with every shipment. WEBA Technology can help with many technical questions relating to the finished fluids our additives create, types of glycol and other bases, and assist with issues on products containing our inhibitor packages.

WEBA TECHNOLOGY

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METALGUARD® A80-PSi

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Product Specifications

As concentrated inhibitor package:	
Visual	Clear to slightly cloudy, clear to amber liquid
Specific Gravity, 70ºF/21.1ºC	1.179-1.190
pH	9.5 - 10.5
As antifreeze concentrate, ethylene glycol base:	
Specific Gravity, 70ºF/21.1ºC	1.115-1.125
pH, 50%	8.0-9.0
Freeze Point, 50%	-34ºF (-36ºC) max.
Reserve Alkalinity	8.0 min.

Blending & Use Instructions

METALGUARD A80-PSi should be blended with glycols meeting ASTM E1177 EG-1, EG-2, PG-1 or PG-2 requirements. Dilution water should be deionized or at least meet the limits given in Table X1.1 in the appendix of ASTM D6210 standard.

Blending: Upon opening the container stir gently, if required. Do not use high-speed agitation. If you use only a portion of the drum (i.e. a few gallons at a time) gently 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 50ºF (10ºC) or higher. 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.

Minimum Use Rate: Based on the quantity being manufactured, add 5.0% by volume.
Premium Heavy-Duty Applications: Based on the quantity being manufactured, add 8.0% by volume.

To make Premix: Option 1: dilute concentrate 50% by volume. Option 2: If you are making premix (ready-to-use) from scratch, the METALGUARD additive, antifoam, dye and bitterant are considered part of the water portion. The concentration (percentage) of water will need to be adjusted to achieve a proper freeze point as required by ASTM D3306.

Minimum Use Rate: Based on the quantity being manufactured, add 2.5% by volume.
Premium Heavy-Duty Applications: Based on the quantity being manufactured, add 4.0% by volume.

Antifoam: Add the appropriate amount of antifoam to allow your product to pass a foam test. Use 0.01% by volume or 0.5 gallon (1.90L) per 5000 gallons (18,925L) of antifreeze concentrate (0.25 gallons/10.95L in 50/50). More may be needed depending upon glycol-base quality. Antifoam may be purchased in 5-gallon (18.93L) pails from WEBA Technology.

Dye: As the last step add the color of dye that you wish to use. If you need help determining dye colors or use rates you may contact us.

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

Storage: Store concentrated additive packages above 60ºF (15.5ºC). If a container arrives cold to your warehouse, immediately place it in a hot room for 1-2 days then stir thoroughly prior to use. Alternatively, heating blankets may be used (follow local regulations regarding their usage) 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 100ºF (38ºC) for an extended duration, 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 with water, the water for dilution must be of acceptable quality. Deionized water is the best to use, but other sources of water are acceptable if they meet the water quality limits outlined in both ASTM D3306 and ASTM D6210.

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. It is recommended that antifreeze/coolant be inspected at 90-day intervals to detect any obvious contamination, phase separation, cloudiness, precipitation or significant pH change. A full analysis of coolant is recommended at least every 300,000 miles, or when visual, pH checks or other monitored physical properties indicate a problem.

The specifications listed in this bulletin are based on products 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.