

WEBA Technology Corp

Use of METALGUARD SCA80 as a Supplemental Coolant Additive for Heavy-Duty Diesel Engines

Detailed Use Instructions

METALGUARD SCA80 is a high-nitrite supplemental coolant additive for use in heavy-duty diesel engines requiring a precharged fully-formulated antifreeze meeting ASTM D 6210, TMC of ATA RP329/330, Caterpillar EC-1, etc. SCA80 is added to the coolant in an engine to maintain the levels of depletable corrosion inhibitors and other critical additives in effective/acceptable ranges. Some inhibitors, including nitrites, nitrates, silicates and MBT/tolyriazoles are converted into inactive compounds relative to corrosion protection as they perform their function of protecting engine metals, and must be boosted at intervals that depend upon engine operating conditions and hours of operation at various loading levels.

The best way to determine when to add a supplemental coolant additive which contains these depletable antifreeze/coolant ingredients is to measure the concentrations of the depletable components in your antifreeze and add each based on these analyses. However, this is not a practical approach, because it is costly and requires significant analysis time at a qualified laboratory. A method that is commonly employed and practical is to measure the level of a "marker" inhibitor and add SCA when its level falls below a certain point. This "marker" inhibitor is the one that depletes to levels of inadequate protection most rapidly. If you keep this ingredient of the antifreeze within acceptable bounds, the other depletable additives will theoretically always remain above minimum acceptable levels.

In precharged antifreeze containing elevated levels of nitrite, nitrite is the most appropriate "marker." It can be checked quickly and with sufficient accuracy in the field with approved test strips or test kits. When these test methods indicate nitrite levels below 800-1000ppm, it is then time to add METALGUARD SCA80 per the following schedule:

Measured Nitrite Level	Add this much SCA-80 per 4 gallons of system cooling capacity	
	50/50	Concentrate
1000	0.6 ounces	1.2 ounces
800	0.8 ounces	1.6 ounces
500	1.5 ounces	3.0 ounces
0	2.5 ounces	5.0 ounces

Many companies add supplemental coolant additives based on a set elapsed operating time or mileage at standard operating conditions. Many add SCA to a heavy-duty engine cooling system at approximate intervals of 12,000-18,000 miles, 225-275 hours of operation, or 3 months of operation. The best way to determine your recommended mileage or time intervals is to accumulate operating data while using the strips or kits. These data will allow you to establish statistically valid SCA addition intervals based upon the time or mileage over which nitrite levels fall to recommended minimums.

Proper Use for Health and Safety

Precautions:

Where skin contact may occur, chemical-impervious gloves should be worn. Use chemical goggles or full face shield when the danger of splashing exists. Wash any areas of skin contact thoroughly after use of this product. Avoid contact with skin, eyes, and clothing. Do not take internally. Clean up spills immediately. Keep containers tightly closed when not in use. Store only in containers that are resistant to alkaline solutions with a pH of 12-14. Consult MSDS for additional safety information.

Technical Support

WEBA Corp 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 products meet the required industry specifications, WEBA Corp's laboratory will help you with problem solving and testing associated with any products containing our inhibitor package.

Technical Contact Information

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