



## *Product One Voice*

### *Q&A*

**Product: Dominator® Coolant Boost**

**Product Area: Power Sports**

**Created: 3-30-10**

**Published Date: 7/15/10**

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**1. Question:**

What is the most common cause of overheating?

**Answer:**

Over time, silicates in antifreeze and minerals in water contribute to the formation of scale inside radiators. This process is accelerated as antifreeze becomes degraded or through the use of high mineral content water. As these materials circulate in the cooling system, they reduce flow through radiator tubes which reduces heat transfer, increases operating temperatures and ultimately leads to overheating.

**2. Question:**

When is straight water used as a coolant?

**Answer:**

Straight water coolant is commonly used in hot-weather climates where freezing is not a concern. Also, most race tracks do not allow the use of antifreeze as a means to avoid clean-up issues associated with spills.

**3. Question:**

What are the main benefits of using Dominator® Coolant Boost (RDCB)?

**Answer:**

Dominator® Coolant Boost lowers engine operating temperatures to reduce the potential for boil-over and overheating associated with engines worked beyond normal operating conditions. It also contains a specially designed technology that does an excellent job fighting corrosion in straight water systems and enhances the corrosion protection provided by antifreeze packages.

**4. Question:**

Dominator® Coolant Boost contains tiered surfactant technology. What is that?

**Answer:**

Tiered surfactant technology is an exclusive AMSOIL technology designed to reduce engine operating temperatures and engine warm-up times. This AMSOIL proprietary technology provides more efficient heat transfer through the use of multiple surfactants; each is designed to operate in a specific temperature range. When combined, the tiered surfactant technology makes Coolant Boost effective over a wide range of engine operating conditions, significantly improving performance benefits when compared to competitive technologies.

**5. Question:**

How much will Dominator® Coolant Boost lower operating temperature when using straight water coolant?

**Answer:**

In straight water coolant systems, Dominator® Coolant Boost reduces stabilized operating temperature an average of 15-20°F. Depending on the design and overall condition of the cooling system, results may vary outside of this range.

**6. Question:**

How much will Dominator® Coolant Boost lower operating temperature when using 50/50 mix of antifreeze and water?

**Answer:**

In a 50/50 mix of antifreeze and water, Dominator® Coolant Boost will reduce operating temperature by an average of 5-7°F.

**7. Question:**

What causes damage to the water pump?

**Answer:**

Deposits are very abrasive because of their chemical makeup. Wear can occur as deposits pass through the working parts of the water pump, causing leaks and eventual water pump failure.

**8. Question:**

How does Dominator® Coolant Boost help prevent pump breakdown?

**Answer:**

Dominator® Coolant Boost contains complex polymer dispersants that prevent deposit formation. It lubricates seals and water pumps, preventing associated damage and failure. Dominator® Coolant Boost also contains a commercial grade oxygen scavenger that significantly reduces dissolved oxygen molecules found in coolant mixtures. Without oxygen, rust and oxidation cannot occur.

**9. Question:**

How does Dominator® Coolant Boost perform in testing?

**Answer:**

The following tests show how Dominator® Coolant Boost performs in industry standard tests:

**a) Temperature Reduction Dynamometer Test:**

Controlled engine dyno tests were used to measure reduction in engine operating temperature. These dyno tests were conducted using a 350 cubic inch Chevy engine with an aluminum block and cylinder heads. The engine was run at 4,500 rpm until stabilized coolant temperature was achieved.

Coolant Mixture	Stabilized Coolant Temperature
Straight Water (with no corrosion protection)	221°F
Water with AMSOIL Dominator® Coolant Boost	202°F

*\*AMSOIL Dominator® Coolant Boost provided a 19°F temperature reduction.*

**b) ASTM D-4340**

This test utilizes a cast aluminum puck that is heated to 275°F at 28 PSI for one week while exposed to the coolant mixture being tested. The objective of the test is to simulate aluminum heat transfer corrosion in accelerated conditions. This test is significant because the modern automobile engines

as well as high performance race engines utilize aluminum cylinder heads. Weight loss of less than 1.0 mg is established as a “pass” by the ASTM.

Coolant Mixture	Max 1.00 mg/cm <sup>2</sup> /wk
Straight Water (with no corrosion protection)	3.97 mg/cm <sup>2</sup> /wk
Water with AMSOIL Dominator® Coolant Boost	0.14 mg/cm <sup>2</sup> /wk

*\*AMSOIL Dominator® Coolant Boost reduced weight loss by 3.83 mg/cm<sup>2</sup>/wk*

### c) ASTM D-2570

In this test, six coupons made from the metals most commonly found in automotive cooling systems are exposed to the coolant mixture for 1,064 hours at 190°F. The coolant is maintained at a temperature and flow rate equivalent to that of most passenger cars and light trucks. This test utilizes ASTM corrosive water, which is designed to simulate hard and corrosive water in degraded coolants. The coupons are weighed before and after the test. Weight loss during the test is used to determine an additive’s ability to control corrosion.

Metal	Straight Water Wt Loss	Water w/RDCB	ASTM Acceptable
Copper	66 mg	7 mg	20 mg
Solder	120 mg	0 mg	60 mg
Brass	59 mg	3 mg	20 mg
Steel	54 mg	0 mg	20 mg
Cast Iron	117 mg	0 mg	20 mg
Cast Aluminum	89 mg	0 mg	60 mg

*\*AMSOIL Dominator® Coolant Boost significantly reduced weight loss in corrosive metals.*

*\*\*A treatment rate of 2 fluid ounces of Dominator® Coolant Boost for every quart of straight water coolant was utilized for all tests.*

### 10. Question:

How does Dominator® Coolant Boost prevent electrolysis and galvanic corrosion?

#### Answer:

Galvanic corrosion occurs when antifreeze acts as an electrolyte between dissimilar metals in cooling systems. Dominator® Coolant Boost contains a premium ingredient called molybdate, which forms a film on the surface of aluminum, controlling the transfer of electrons. This film helps minimize the tendency for electrolysis and galvanic corrosion.

### 11. Question:

How is Dominator® Coolant Boost added to a vehicle?

#### Answer:

With the ignition off and the vehicle’s engine cool, open the radiator cap and pour in the proper dosage of Dominator® Coolant Boost. Then start the engine, turn the heat on high and allow the car to run for at least 15 minutes or until the thermostat has opened. This will circulate Dominator® Coolant Boost through the entire system, providing full protection to the radiator, heater core, water pump, cylinder heads, engine block and intake manifold.

### 12. Question:

What if the vehicle’s cooling system is already full?

**Answer:**

Open the petcock on the bottom of the radiator and drain approximately one pint of coolant in order to create sufficient additional capacity for the addition of Dominator® Coolant Boost. If a petcock is not available, siphon the coolant from the top of the radiator. Dominator® Coolant Boost may also be added to the coolant expansion tank or reservoir, as long as the vehicle is driven regularly. It takes approximately 4-5 complete heat-up cycles for Dominator® Coolant Boost to make its way into the cooling system via the coolant reservoir.

**13. Question:**

What is the dosage required for maximum protection from corrosion, electrolysis and scale build-up?

**Answer:**

When mixing with 50/50 antifreeze and water, add 1 fluid ounce of Dominator® Coolant Boost for every quart of 50/50 mix. With straight water coolant, add 2 fluid ounces of Dominator® Coolant Boost for every quart of straight water coolant.

**14. Question:**

How often should coolant be replenished with Dominator® Coolant Boost in order to maintain full protection?

**Answer:**

With straight water systems, drain and re-fill the coolant system and add Dominator® Coolant Boost per dosage instructions when indicated by color change or once per year, whichever comes first. When using a 50/50 anti-freeze-water solution, add Dominator® Coolant Boost once per year or 30,000 miles, whichever comes first. Follow the antifreeze manufacturer recommendations for coolant change intervals.

**15. Question:**

Is Dominator® Coolant Boost compatible with all types of antifreeze?

**Answer:**

Dominator® Coolant Boost is compatible with all types of antifreeze, including ethylene glycol and propylene glycol. When using a 50/50 antifreeze-water solution, AMSOIL Antifreeze & Coolant (ANT) is recommended.

**16. Question:**

If more than the recommended dosage of Dominator® Coolant Boost is added, will performance increase?

**Answer:**

Exceeding the recommended dosage will not yield any additional temperature reduction performance, nor will it yield any additional corrosion protection.

**17. Question:**

What are the AMSOIL recommendations when using straight water coolant?

**Answer:**

When using straight water as a coolant, the most robust form is softened water because the softening process removes impurities and minerals from the water by exchanging them for more beneficial minerals. Unlike distilled water, softened water will not act as an electrolyte, thereby minimizing damage from electrolysis. Although softened water is preferred, Dominator® Coolant Boost contains an advanced formula that allows use of low quality water (i.e. well water in cooling

systems without concern of damage or scale/deposit buildup.) Distilled water is not recommended in straight water systems.

**18. Question:**

What if no temperature reduction is seen after adding Dominator® Coolant Boost?

**Answer:**

This indicates that the radiator is either undersized, has restricted or inadequate flow, or contains excessive scale/deposits that reduce heat transfer. In this situation, the radiator should be cleaned or replaced with a higher capacity, higher performance radiator.

**19. Question:**

Will Dominator® Coolant Boost actively clean or remove existing scale and deposits in already-fouled systems?

**Answer:**

No. Dominator® Coolant Boost is not designed as a flush.

**20. Question:**

For long storage periods, should the coolant be drained and the system left dry?

**Answer:**

No. AMSOIL Dominator® Coolant Boost provides long term corrosion protection. Dominator® Coolant Boost contains a premium ingredient that chemically removes dissolved oxygen from any type of coolant, reducing the possibility of corrosion.

**21. Question:**

If an owner's manual suggests that a coolant system additive should not be used and may affect warranty coverage, will using Dominator® Coolant Boost void the warranty?

**Answer:**

No. Dominator® Coolant Boost exceeds the requirements set forth in ASTM D-4340 and ASTM D-2570 testing and will not void warranties. Dominator® Coolant Boost actually lowers chance of overheating and corrosive damage to the cooling system.

**22. Question:**

Is Dominator® Coolant Boost compatible with stop-leak additives?

**Answer:**

There are no known compatibility issues between Dominator® Coolant Boost and stop-leak additives; however, AMSOIL does not recommend using stop-leak products with AMSOIL coolant products.

**23. Question:**

Will Dominator® Coolant Boost cause any damage to plastic or rubber cooling system components?

**Answer:**

No. Dominator® Coolant Boost will not cause premature drying, cracking or failure of rubber or plastic components.

**24. Question:**

What is the shelf-life of Dominator® Coolant Boost?

**Answer:**

Dominator® Coolant Boost should be stored between 30°F and 90°F. In these conditions, shelf-life is 5 years. Dominator® Coolant Boost freezes at approximately 10°F, but the package and fill height provide protection against the effects of short term expansion from freezing. The product will not permanently separate if frozen and can be thawed and used without issues.

**25. Question:**

Is Dominator® Coolant Boost hazardous to the environment?

**Answer:**

No. A copy of the Material Safety Data Sheet (MSDS) for this product is available at

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