

# **VR12**® TECHNICAL DATA

## **Anti-Rust, Corrosion and Oxidation Inhibitor Package, Fully-Formulated, Heavy-Duty and Recharged with OAT formulation for the optimum Cooling System Protection**

**VR12** is a heavy-duty, fully-formulated and pre charged additive package that re-energize and recharge the cooling system fluids using Antifreeze, Regular Water or Racing Water in order to meets the most demanding industry specifications, including ASTM D 6210/6211 and RP 329/330 of the Technology and Maintenance Council of the American Trucking Association. As a pre charged additive package, **VR12** contains the initial charge of supplemental blend of additives, meeting the requirements in the cited specifications. In other words it is available with either a minimum of 2400 ppm nitrite or optionally a nitrite/molybdate formulation with a minimum of 1560 ppm nitrite plus molybdate (with both at or above 600 ppm) in antifreeze concentrate.

**VR12** Is a sophisticated, multi component additive system which employs synergistic combinations of inhibitors to provide you with the best corrosion protection available for heavy-duty engine cooling systems, whether in vehicles or stationary engines. A proprietary combination of substituted tolytriazoles and hosphono-carboxylates controls corrosion and oxidation of steel, cast iron and aluminum. The soft or yellow metals (copper, brass and solder) are protected by a mercaptobenzothiazole/tolytriazole system. **VR12** Also contains anti-scalants and dispersants to prevent inorganic salt scaling on heat exchange surfaces and organic fouling due to minor oil leakage into the cooling system, also containing low percentages of Sodium Nitrate and Potassium Hydroxide. Many European automobile warranties require that non-phosphate coolants to be used; for many Japanese vehicle warranties, silicate-containing coolants are not allowed. Many U.S. vehicle and engine producers do not allow amine-containing coolants to be used in their cooling systems. **VR12** Was designed with all of these considerations in mind; it contains no silicates, phosphates, amines or nitrates.

### Product Description and Applications

As concentrated **VR12** additive package:

Visual: Clear to cloudy, Yellowish/Green liquid

Specific Gravity@60°F: 1.180-1.200

pH: 10.2 to 11.0 (concentrate) (Balanced 9.6)

Specific Gravity@60°F: 1.110-1.125

Reserve Alkalinity: 10 ml min.

Nitrite: 2400 ppm min.

### Typical Product Specifications

ECO- Technology always thinking about our planet conservation By using Organic Acid Technology (OAT) witch provide a full cooling system protection, fluid longevity, decreasing liquid viscosity Increasing liquid flow, improve heat transfer, less friction, Improve cooling capacity and help to decrease engine temperature within 5 to 15 degrees. (All depends on maintenance of the cooling system).

### Technical Support

**VR12** Can answer questions about ASTM Standards and industry specifications as well as help With many other questions relating to cooling system Maintenance.

**VR12** Laboratory will help you with problem solving and Testing associated with any products containing our Inhibitor package.

### Quality Control

**VR12** 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.

### Formulated to meet these Industry Standards

- ASTM D3306
- ASTM D4985
- ASTM D6210
- TMC of ATA RP 302A
- TMC of ATA RP329/330

Nearly all of OEM automotive light-duty ad 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)



### Racing recommendations:

Use one (1) bottle of VR-12 (16oz) per every 3 gal of plain water or Racing water. VR-12 will blend with water 100% guaranteeing 100% protection of the entire cooling system, including water pump, hoses, and thermostate.



[www.vr-12.com](http://www.vr-12.com)



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