

Hartland Green Universal Anti-freeze

Hartland Green Universal Anti-freeze is a premium, ethylene glycol antifreeze for year round use in both aluminum and conventional metal engine cooling systems of automobiles, trucks, marine and stationary equipment. Formulated with a low silicate type rust and corrosion inhibitor system which effectively alleviates problems of gel formation and prevents loss of radiator heat transfer capacity. Hartland Green Universal Anti-freeze pre-diluted 50/50 is a 50/50 volume mixture of Hartland Green Universal Anti-freeze with deionized water. For animal and child protection, Hartland Green Universal Anti-freeze contains bitterant.

Features/ Benefits

- Universal formula for both automotive and heavy duty diesel engines (ASTM D 3306 and ASTM-D4985)
- Excellent heat transfer properties
- Premium anti-foam characteristics
- Premium corrosion protection for aluminum, brass, copper, solder, steel and cast iron
- Low silicate formulation
- Nitrite-free, amine-free and borax-free
- Concentrate mixes readily with clean tap water
- Pre-diluted product is ready to use and requires no mixing top-up and initial fill
- Compatible with cooling system filters
- Compatible with heavy duty diesel supplemental coolant additives
- Compatible with conventional brands of coolant
- Contains bitterant for animal and child protection

Applications

Hartland Green Universal Anti-freeze is formulated to meet the stringent aluminum corrosion protection requirements of today's automotive engines. Due to its low concentration of silicate, it also complies with Cummins and other heavy duty diesel engine manufacturer's requirements. This product is also designed for use in industrial internal combustion engines which require an antifreeze/coolant to provide protection against freezing, boil over, and corrosion. Hartland Green Universal Anti-freeze is suitable for use where the following specifications are required:

- General Motors GM1825M
- ASTM D 3306 incl. D 4340
- ASTM D 4985
- ASTM D 6210
- Chrysler MS-7170
- Cummins 90T8-4
- Federal Specification A-A-870 • Ford ESE-M97B44-A
- Mack Truck
- Detroit Diesel 7SE298
- AAMV
- Freightliner
- General Motors GM1899M
(Performance corresponding to GM6038M)
- Caterpillar EC-1
- J.I. Case JIC501
- John Deere H24B1
- John Deere H24C1
- PACCAR
- SAE J1034
- TMC RP329
- MC of ATA RP-302

Recommendations or Approvals/ licenses

Hartland Green Universal Anti-freeze meets:

- ASTM D 3306 for automotive service
- ASTM D 4985 for heavy duty diesel service

Hartland Green Universal Anti-freeze Pre-diluted 50/50 meets:

- ASTM D 4656 for pre-blend automotive service
- ASTM D 5345 for pre-blend heavy duty diesel service

Special handling, Notices or warnings

Hartland Green Universal Anti-freeze has an approximate shelf life of 18 months. Concentrate product should be mixed prior to use. Always dispose of coolant in accordance with local, state and federal guidelines. These products are not to be used to protect the inside of portable water systems against freezing.

Properties	Typical Concentrate	Typical 50/50
Appearance	Fluorescent Green	Fluorescent Green
Specific Gravity 60 / 60 °F	1.130	1.06
Freezing Point °F (ASTM D1177) 50 vol % q.s. aqueous solution	-34	-34
pH (ASTM D1287), 1:2 dilution with water	10.5	10.3
Reserve Alkalinity (ASTM D1121) , as received	12.0	6.0
Silicate, % (as Anhydrous Alkali <u>Metasilicate</u>)	0.09	0.045