

**PRODUCT
SPECIFICATION**



**RAD Pro Long Life Antifreeze
TYPE RA 290**

Number of revisions: 1

Date of last revision: January 24, 2010

Technical Information:

Physical state : Liquid

Appearance: Viscous, Deep Orange color

Application: Antifreeze long life

This product is formulated with the latest organic acid technology and is “precharged” creating a high quality extended life ethylene glycol antifreeze/coolant for all engine metals, including aluminum and ferrous alloys. Its special blend of long-lasting inhibitors is designed to protect all engine components, for five years, or 250000 km, when is used as directed.

RAD long life coolant /antifreeze exceeds the requirements of ASTM D3306/4985, Compatible with Dex-cool®, Havoline ® XLC extended life and other “orange” coolants

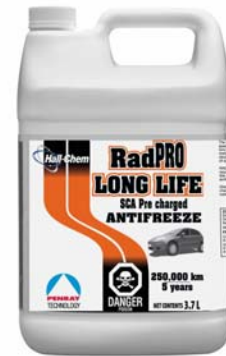
Hall-Chem Code RA-290

CAS-No:

WHMIS CLASSIFICATION:

D2A, D2B

PRIMARY CLASS : No regulated



Physicochemical Specifications:

Indices	Test Method	Limit Values	Typical Values
Specific Gravity @60°F	D-1122	1.100-1.12	1.113
Freezing Point : 50% Water solution F° (C°)	D-1177	-34°F (-37°C) Max	34°F (-37°C)
Boiling Point A F° (C°)	D-1120	325°F (163°C) Min	325°F (164°C)
Effect: Automotive Finish	D-1882	No Effect	No Effect
Ash Content, Mass %	D-1119	5% Max	1%
pH: 50% in Water	D-1287	8.5 – 10.5	9.5
Water, Mass %/	D-1123	1% Max	0.5%
Reserve Alkalinity, ml	D-1121	Report B	1.5-4.5

Corrosion in Glassware Weight Loss, mg/specimen	D-1384		
Copper		10 Max	0
Solder		30 Max	2
Brass		10 Max	1
Steel		10 Max	0
Cast Iron		10 Max	0
Aluminum		30 Max	0
Simulated Service Weight Loss, mg/specimen	D-2570		
Copper		20 Max	2
Solder		60 Max	15
Brass		20 Max	5
Steel		20 Max	1
Cast Iron		20 Max	1
Aluminum		60 Max	0
Corrosion of Cast Aluminum Alloys at Heat Rejecting Surfaces mg/cm ² /week	D-4340C	1.0 Max	0.175
Foaming Volume, ml Break Time, seconds	D-1881	150Max 5 Max	50ml 1.2 sec.
Pitting, Cavitation or Erosion of the Water Pump ^C	D-2809	8 Min	8
^A Some precipitate may be observed at the end of the test. This should not be cause for rejection.			
^B Agreed value between supplier and customer.			
^C This test is not required by ASTM D-4985; however, ASTM D-3306 requires it.			
Packing:			
*Plastic Containers 1100 l and Metal Drums - 205 l * Plastic Containers of 4 l, 3.7 l and 18.9 L			
These data are based on our current knowledge, experience and technical equipment. They do not relieve customers of carrying out their own tests and experiments, due to the great diversity of possible effects in processing and application of our products. They do not imply any legally binding assurances of certain properties and applications. The recipients of our products ought to abide by the existing legislation and regulations as well as possible reserved rights			
Hall-Chem Montreal 1270 Nobel Boucherville, Québec J4B 5H1 Canada Tel: 450-645-0296 Fax: 450-645-0444 www.hall-chem.com		Hall-Chem Mississauga: 2155 Dunwin Drive Unit # 15 Mississauga, Ontario L5L 4M1 Canada Tel: 905-607-6800 Fax: 905-607-6888	