

ANTIFREEZE IN CLASSIC CARS

Advice from Federation of British Historic Vehicle Clubs (FBHVC)

Technology moves forward; new products are constantly being launched with claims to improved formulations and performance. With the bitterly cold weather during the winter of 2009/2010, antifreeze has been in the headlines, with some alarming stories in relation to classic cars. At first, these seem to be about the well-known tendency of antifreeze to find the tiniest hole and cause leaks. However, in some cases it has led to catastrophic engine problems.

Traditional blue ethylene glycol is a toxic but highly effective antifreeze; it contains silicates as an inhibitor to help prevent corrosion in engines with mixed metals in their make-up. Bluecol and Blue Star are well known brand names; both are declared suitable for 'classic cars' on their company websites. Halfords also sells this type of anti-freeze with its own branding.

Be aware that there are also low- or no-silicate ethylene glycol formulations (usually red) available which may not be suitable for all engines.

Propylene glycol is another well-known and less toxic antifreeze formula and usually contains silicates. However, Comma, the main manufacturer, has now discontinued it in favour of an ethylene glycol product containing 'bittering agents' to make it less palatable and minimise the risk of accidental poisoning. Both of these products use inorganic additive technology (IAT).

Recently, problems have been reported concerning the use of antifreeze mixtures using organic acid technology (OAT). OAT was introduced in the mid-1990s and the products are biodegradable, recyclable, do not contain either silicates or phosphates and are designed to be longer lasting. However, these products do seem to cause problems in older engines.

Over and above the ability of antifreeze to find the smallest crevice and leak, OAT antifreezes have been accused of destroying seals and gaskets and causing a great deal of damage in 'old' engines. For this reason, the manufacturers do not recommend their use in historic vehicles. These products are usually coloured red, pink or orange.

The final category is HOAT. These products use hybrid organic acid technology in an ethylene glycol base with some silicates in the formulation alongside the organic corrosion inhibitors. The product is usually coloured green and is not recommended for use in historic vehicles.

FBHVC is still researching this problem but its current advice is:

- ❑ Only use blue coloured IAT antifreeze in historic vehicles
- ❑ Only use OAT products ('advanced' or 'long life' antifreeze) if the vehicle used it when new and if specifically directed by the vehicle's manufacturer
- ❑ Never mix different types of antifreeze without thoroughly flushing out the system
- ❑ Always replace the coolant within the time scale specified by the antifreeze manufacturer as the corrosion inhibitors break down over time