Product Information

# LONG LIFE INHIBITOR

An organic radiator cooling system inhibitor which is non-toxic and fully biodegradable. It is based on state-of-the-art carboxylic acid technology to provide optimum protection for all cooling system components. Coloured red for easy identification. Meets AS/NZS 2108.1-1997 Type B and Ford ESD M99-B166C.

## APPLICATION

Cooling systems of automotive, heavy duty transport, industrial and marine engines where anti-freeze and/or anti-boil properties are not required. It is recommended for use at between 8% to 14%. Optimum protection is achieved at dosage rates of 11% for which the following change intervals apply*.

| | |
|---|---|
| Passenger Car and Light Truck | 3 years/100,000km |
| Heavy Duty Diesel , on road | 3 years/500,000km |
| Heavy Duty Diesel, off-road | 3 years/6,000hours |
| Stationary power generation and marine | 12,000 hours |

** intervals only apply if the system is maintained at the correct treat rate.*

## CUSTOMER BENEFITS

- Extended drain intervals achievable with correct maintenance of system.
- Environmentally friendly - biodegradable according to OECD Guideline 301E.
- Compatible with hard water
- Helps prevent wet liner cavitation erosion.
- Exceptional protection of aluminium surfaces.
- Free of nitrates, nitrites, borates, phosphates and amines.
- Provides excellent heat transfer characteristics due to lack of solid inhibitors and glycols.

Penrite Long Life Inhibitor Plus is water based and contains minimal solids. It has superior heat transfer characteristics compared to conventional anti freeze/anti boil products and inhibitor systems. This is because water has better heat transfer properties than ethylene glycol and because the inhibitors do not plate out on cooling system components.

Extensive field trials have shown that components such as thermostat housings still look brand new even after 100,000km of service.

## INDUSTRY SPECIFICATIONS

AS/NZS 2108.1-1997 Type B Ford ESD-M99B166-C
Deutz-MWM 0199-2091 Scania
GEC Alsthom Ruston Diesel MAN 248
MAN B&W D36 5600 Mack*
Sulzer Diesel ZBS0503 Wartsila 32-9011
Caterpillar Detroit Diesel*
Komatsu* Mercedes Benz*
GM 6277M*

**technology has approvals in ethylene glycol coolants as used in the Northern Hemisphere*

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## Typical Properties

| | |
|---|---|
| Colour | Red |
| pH | 8.1 |
| Nitrates, nitrites, molybdates, borates, phosphates, amines | Nil |
| Biodegradability, OECD Guideline Nr 301E | 92% (18 days) |
| Toxicity in Fish, OECD Guideline Nr 203 | LC50>1000mg/L |
| DIN 1988 Part 4 Classification | <3 |

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***ENVIRONMENT, HEALTH AND SAFETY***
Information is available by request on this product in the Penrite Material Safety Data Sheet. Information in this sheet is based on the most current information available. Minor variations to typical properties not affecting the performance of the product are to be expected in normal manufacture.

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