# ACDelco Premix Coolant

## DESCRIPTION

**ACDelco Premix Coolant** – already mixed with the appropriate amount of water - is used as a cooling and heat transferring fluid in combustion engines. The heat of the internal combustion is transferred via the fluid to the radiator where the mixture is cooled by means of air flow. Formulated with powerful and efficient additives, **ACDelco Premix Coolant** is recommended for use in cooling systems of all types of liquid cooled automotive and industrial internal combustion engines. Exempt from potentially harmful additives such as nitrites, amines and phosphates, the coolant also contributes to a safer environment. ***ACDelco Premix Coolant*** has been approved by a large number of passenger car and heavy duty Original Equipment Manufacturers.

**ACDelco Premix Coolant** offers the following benefits to the user:

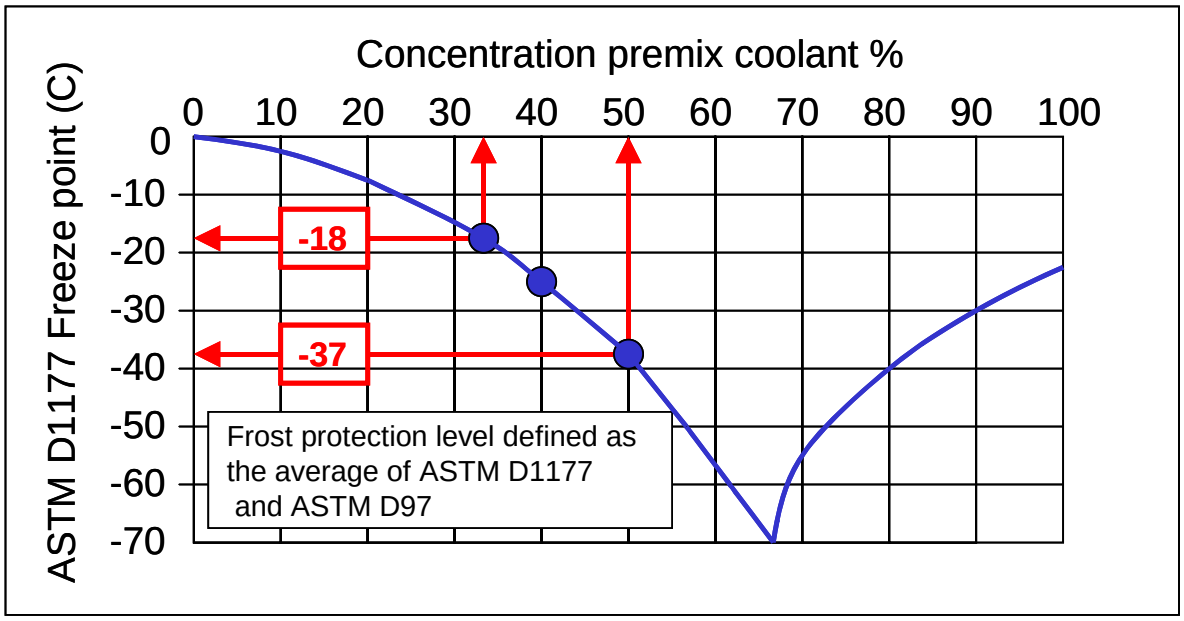
- **Efficient and long lasting**
- **corrosion protection** combination of silicate and carboxylate inhibitor technology
- **Maintenance-free protection** ethylene glycol based fluid
- **against freezing and boiling**
- **Extended coolant life** low depletion rates of the corrosion inhibitor package
- **Excellent seal compatibility** no adverse effects on rubber hoses and gasket materials

**ACDelco Premix Coolant** has been developed to meet the demanding requirements of the most important car and truck manufacturers**.**

## APPLICATION

**ACDelco Premix Coolant** provides year-round frost and corrosion protection. Our premix coolant is already mixed at a ratio of 50% coolant and 50% water to ensure good corrosion protection and provides frost protection down to -37°C. Whilst the 50:50 mixture is typical, especially within Northern Europe, it can be diluted further and a ratio of 33% **ACDelco Premix Coolant** provides frost protection to -18°C. Mixtures with more than (approx) 70 vol. % of **ACDelco Premix Coolant** in water are not recommended.

The maximum frost protection (about -69°C) is obtained at 68 vol. % **ACDelco Premix Coolant .** The use of soft water is preferred for dilution. Though, lab testing has shown that acceptable corrosion results are still obtained with water of 20°dH, containing up to 50 ppm chlorides and 50 ppm sulphates. **ACDelco Premix Coolant** may be used with confidence in engines manufactured from cast iron, aluminium or combinations of the two metals, and in cooling systems made of aluminium or copper alloys.




## COMPATIBILITY AND MIXABILITY

**ACDelco Premix Coolant** is compatible with most other coolants based on ethylene glycol. Exclusive use of **ACDelco Premix Coolant** is recommended for optimal corrosion protection and sludge control. This coolant is compatible with European hard tap waters. It satisfies the most stringent requirements for hard water stability.

## CHEMICAL AND PHYSICAL PROPERTIES

| | ACDelco Premix Coolant | ASTM D3306 requirements | method |
|---|---|---|---|
| Ethylene glycol | 93.5 % w/w glycol | base | |
| Inhibitor content | 5.4 % w/w | | |

*ACDelco Premix Coolant*

| | ACDelco Premix Coolant | ASTM D3306 requirements | method |
|---|---|---|---|
| Water content | 3.5 % w/w max | 5 % w/w max | ASTM D1123 |
| Ash content | 1.3 % w/w typ. | 5 % w/w max | ASTM D1119 |
| Nitrite, amine, phosphate | nil | | |
| Colour | Colorless | | |
| Specific gravity, 20°C | 1.125 typ. | 1.110 to 1.145 | ASTM D1122 |
| Equilibrium boiling point | 174°C typ. | > 163°C | ASTM D1120 |
| Reserve alkalinity (pH 5.5) | 16 typ. | report | ASTM D1121 |
| pH | 7.2 typ. | | ASTM D1287 |
| Refractive Index, 20°C | 1.432 typ. | | ASTM D1218 |

| | 50 % dilution | 40 % dilution | 33 % dilution | ASTM 3306 | method |
|---|---|---|---|---|---|
| PH | 8.4 typ. | 8.4 typ. | 8.6 typ. | 7.5 to 11.0 | ASTM D1287 |
| Foaming properties at 23°C<br>↳ break time | 30 ml typ.<br>2 sec. typ. | - | - | | ASTM D1881 |
| Foaming properties at 88°C<br>↳ break time | 20 ml typ.<br>1 sec. typ. | | 30 ml max.<br>1 sec typ. | 150 ml max. [1]<br>5 sec. max. [1] | ASTM D1881 |
| Initial crystallization | < - 37°C | < - 26°C | < -18°C | < - 37°C | ASTM D 1177 |
| Freezing protection | -40°C typ. | - 28°C typ. | -20°C typ. | | |
| Specific gravity, 20°C | 1.076 typ. | 1.068 typ. | - | | ASTM D1122 |
| Reserve alkalinity (pH 5.5) | 8.0 typ. | 7.0 typ. | - | | ASTM D1121 |
| Effect on non-metals | no effect | No effect | no effect | | GME 60 255 |
| Staining characteristics | - | - | no effect | no effect | ASTM D 1882 |
| Hard water stability | no precipitate | - | - | | VW PV 1426 |

(1) limit for the 33 % dilution.

## CORROSION PROTECTION

Table 1 : ASTM D1384 glassware corrosion tests

| | Weight loss in mg/coupon[1] | | | | | |
|---|---|---|---|---|---|---|
| | Brass | Copper | Solder | Steel | Cast Iron | Aluminium |
| ASTM D3306 (max) | 10 | 10 | 30 | 10 | 10 | 30 |
| GM 1825-M (max) | 10 | 10 | 20 | 10 | 10 | 20 |
| GM 1899-M (max) | 10 | 10 | 20 | 10 | 10 | 20 |
| **ACDelco Premix Coolant** | 2 | 2 | -3 | -1 | -1 | 0 |

Table 2 : ASTM D4340 Aluminium heat rejection test, 25 %

| | Weight loss in mg/cm²/week[1] |
|---|---|
| ASTM D3306 (max) | 1.0 |
| **ACDelco Premix Coolant** | < 0.1 |

Table 3 : ASTM D2570 Simulated service test

| | Weight loss in mg/coupon[1] | | | | | |
|---|---|---|---|---|---|---|
| | Brass | Copper | Solder | Steel | Cast Iron | Aluminum |
| ASTM D3306 (max) | 20 | 20 | 60 | 20 | 20 | 60 |
| SAE J1034 (max) | 20 | 20 | 60 | 20 | 20 | 60 |
| GM 1825-M (max) | 20 | 20 | 40 | 20 | 20 | 40 |
| GM 1899-M (max) | 20 | 20 | 40 | 20 | 20 | 40 |
| **ACDelco Premix Coolant** | 6 | 7 | -1 | -1 | -3 | 1 |

1 Weight loss AFTER chemical cleaning according to ASTM procedure. Weight gain is indicated by a - sign.

Table 4: GM-OPEL hot finger test (QL130100)

| | Weight loss in mg/coupon | | | | | |
|---|---|---|---|---|---|---|
| | Brass | Copper | Solder | Steel | Cast Iron | Aluminium |
| **44 % solution** | | | | | | |
| Specification (max) | 10 | 10 | 30 | 10 | 10 | 30 |
| ***ACDelco Premix Coolant*** | 10 | 10 | 20 | 10 | 10 | 20 |
| **25 % solution** | | | | | | |
| Specification (max) | 10 | 10 | 20 | 10 | 10 | 20 |
| ***ACDelco Premix Coolant*** | 2 | 2 | -3 | -1 | -1 | 0 |

**APPROVALS by OEM's**

**ACDelco Premix Coolant** has been approved by most engine manufacturers and an up-to-date approvals list is available separately. Even though some OEM's have not yet given a formal approval **ACDelco Premix Coolant** is suitable for use as antifreeze / coolant in any combustion engine .

**AVAILABILITY**

***ACDelco Premix Coolant*** is available in bulk and in various packages and with a bittering agent. Please contact your local ACDelco Sales Manager for advice on the availability of packages.
- **ACDelco Premix Coolant Premixed Antifreeze Coolant** is the final mixture of coolant & water filled in the radiator.

**STORAGE REQUIREMENTS**

The product should be stored at ambient temperatures and periods of exposure to temperatures above 35°C should be minimized. **ACDelco Premix Coolant Antifreeze Coolant** can be stored for 5 years in unopened containers without any effect on the product quality or performance. It is strongly recommended to use new containers and not recycled ones. As with any antifreeze coolant, the use of galvanised steel is not recommended for pipes or any other part of the storage/mixing installation.

**TOXICITY & SAFETY**

For Toxicity and Safety Data we refer to the Material Safety Data Sheet. The transport is not regulated. Labeling as for any MEG based coolant is required: Xn: R 22 (Harmful if swallowed) and S 2 (Keep out of reach of children).

This product should not be used to protect the inside of drinking water systems against freezing.

*All information contained in this Product Information Leaflet is accurate to the best of our knowledge and belief as at the date of issue specified. However, the Company makes no warranty or representation, express or implied, as to the accuracy or completeness of such information.*