Antifreeze or Coolant ?

What is the difference between MPM antifreeze and coolant, and why is regular changing necessary?

Before it leaves the factory, a car's cooling system is always filled with coolant. Coolant is an essential component of a car's cooling system. Coolant is a mixture of antifreeze and demineralized water and its job is to cool the car's engine. It circulates through the cooling system and absorbs the heat generated by the engine. This allows the engine to maintain an optimal temperature and prevents overheating.

Coolant contains special additives that prevent rust, corrosion, foaming and freezing. Car manufacturers currently prescribe more than 10 different types of coolants. This is because car manufacturers use different metals for their engines and cooling systems. Various technologies are also used. Consider, for example, hybrid technologies where a coolant with low conductivity is often chosen.

Antifreeze, on the other hand, is the concentrated product. Antifreeze should always be diluted with demineralized water. In general, with a mixing ratio of 50:50, you achieve an optimal balance of additives and a freezing range of -36 to -40 degrees Celsius.

If you dilute the antifreeze with more than 50% demineralized water, this compromises its protective properties and reduces frost protection.

Can you also dilute antifreeze with tap water?

Diluting antifreeze with tap water disturbs the balance in the coolant. It increases the risk of contamination from, for example, lime deposits, which can cause blockages in the cooling system. In addition, conductivity increases, causing major problems in Hybrids and EVs. So the advice is always to use demineralized water.

Why is it important to regularly change the coolant in vehicles?

Here are some key reasons:

Protection against corrosion:
Over time, the additives in the coolant can degrade, reducing their protective properties against corrosion. This can lead to the formation of rust (corrosion) and damage to the internal components of the cooling system. If the car manufacturer does not specify an interval, it is advisable to change the coolant once every 5 years or every 150,000 km. This helps maintain corrosion protection and extends the life of the cooling system and engine.

Controlling pH:
The pH (acidity) of coolant can change over time due to chemical reactions and contaminants. Incorrect pH levels can lead to deterioration of gaskets and seals, causing leaks. Regular changing will help keep the pH at the correct level and prevent leaks.

»»

MPM International Oil Company B.V.
Cyclotronweg 1, 2629 HN Delft, The Netherlands
Phone: +31 (0)15 - 251 40 30 • **Internet:** www.mpmoil.com • **E-mail:** info@mpmoil.com

121023-EN

Maintaining correct mixing ratio:
It is important to maintain the correct ratio of demineralized water to antifreeze. Too much antifreeze can impede heat transfer and reduce the efficiency of the cooling system. On the other hand, too low a percentage of antifreeze can lead to freezing at low temperatures. By measuring the coolant with a refractometer, you can determine if frost protection (and therefore the mixture ratio) is still optimal. If it deviates, it is advisable to change the coolant immediately.

Prevention of engine problems:
A well-maintained cooling system with coolant changed on time reduces the risk of engine overheating. Overheating will cause serious damage to the engine and lead to expensive repairs. By changing regularly, you reduce the risk of engine problems and extend the life of the engine.

In short, coolant changing is essential to maintain proper functioning of the cooling system. The interval varies by manufacturer, generally being once every 5 years or every 150,000 km. When work is carried out on the cooling system, the coolant should always be changed.

In case of excessive contamination of the cooling system the advice is always to first flush the system thoroughly with (tap) water and a radiator flush (MPM AD25250).

On the MPM website, you can find the vehicle-specific interval and the correct coolant for that vehicle.

In summary / tips for the workshop

- Car manufacturers currently prescribe more than 10 different types of coolants as mandatory.
- For a garage, using ready-to-use coolant is the easiest option because the mixing ratio with demineralized water will always be optimal.
- Antifreeze should always be diluted first and you should always keep to the recommended mixing ratio (1:1)!
- Always mix antifreeze with demineralized water (not tap water!) because tap water will seriously weaken the protective properties of the coolant.
- Coolant eventually loses its protective properties and should therefore be changed in line with the vehicle manufacturer's instructions.
- In the absence of manufacturer's instructions, change every 5 years or every 150,000 km.
- When repairing the cooling system, always change the coolant.
- For a contaminated cooling system, first add radiator flush (MPM AD25250) to the old coolant, then rinse the system with water.
- Consult **www.mpmoil.com** for the OEM-prescribed coolant for your vehicle.

In case of technical inquiries:
contact MPM Technical Support at **support@mpmoil.com**
or call **+31 (0)15 - 251 40 30**

Art.No.: AD25250

MPM International Oil Company B.V.
Cyclotronweg 1, 2629 HN Delft, The Netherlands
Phone: +31 (0)15 - 251 40 30 • **Internet:** www.mpmoil.com • **E-mail:** info@mpmoil.com