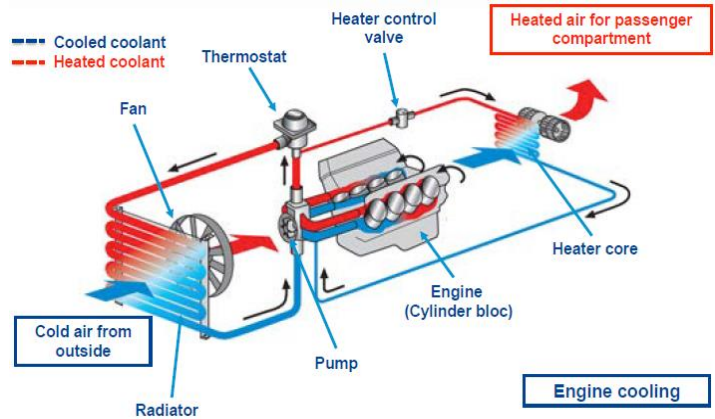


Importance of using coolants and TOTAL's coolant solution: COOLELF AUTO SUPRA

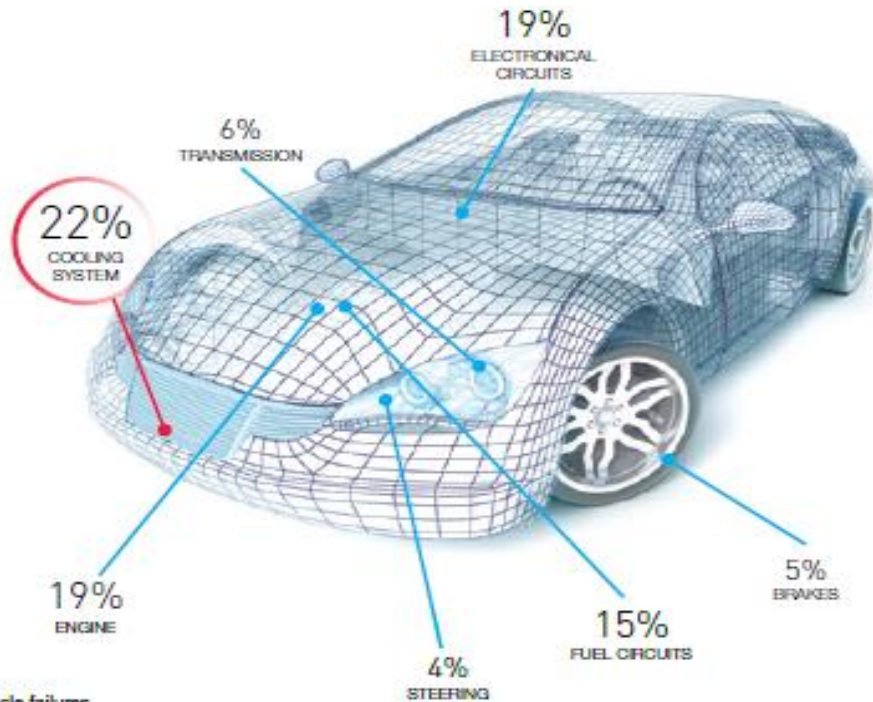
Like other maintenance fluids used in a **vehicle**, engine **coolant** plays a big role in how your **vehicle** is running and should be selected carefully. ... It prevents the engine from overheating in hot weather and freezing in extreme cold weather, conditions where a wrong selection can lead to serious damages.

In winters, Coolant (or antifreeze) protects engine from freezing while defending components against corrosion. In the summer, because Internal combustion engine creates a lot of energy and heat while the vehicle is moving, so the coolant absorbs the heat from the engine and stops the engine water from boiling and plays a critical role in sustaining engine heat balance by removing excess heat from vehicle engine. Without the coolant, the heat produced during constant internal combustion would ruin the engine very quickly.



3 KEY REASONS TO USE A COOLANT

1. BECAUSE COOLING SYSTEM FAILURE IS THE **No.1** REASON FOR VEHICLE FAILURE

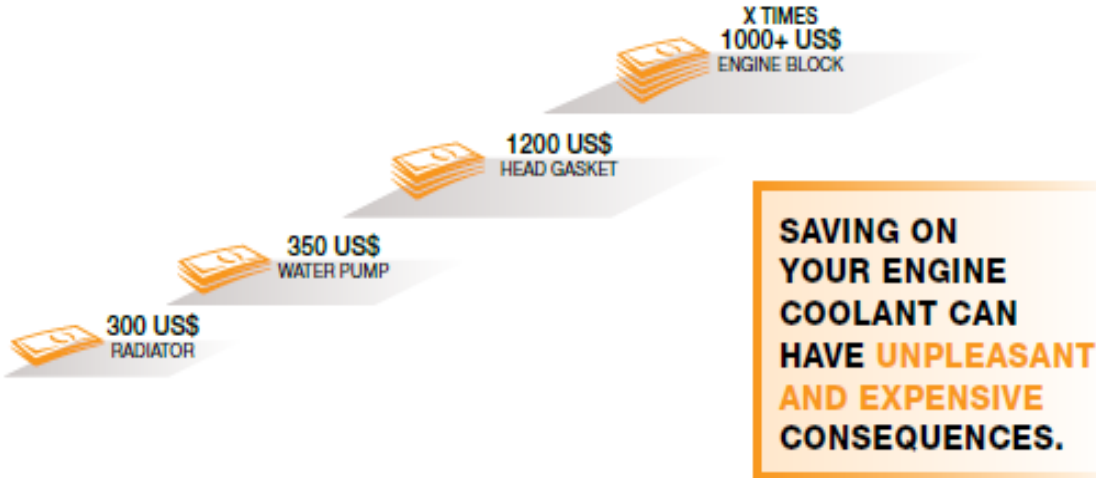


Reasons for vehicle failures
Source: og car-garantie, reasons for vehicle failures

2. BECAUSE A COOLANT CAN HELP AVOID UNNECESSARY FAILURE

MANY THINGS CAN GO WRONG. BUT THAT COULD BE AVOIDED BY TAKING CARE OF YOUR COOLANT.

The estimated cost of a coolant replacement is about 110 US\$. Typically, the coolant system components are way more expensive:



3. BECAUSE WITHOUT A COOLANT AN ENGINE COULD BE DESTROYED

A COOLANT IS NECESSARY TO:

- ▶ Protect all cooling system materials against:



FREEZING

Volumetric expansion of 9%, which will cause cooling system breakdown.



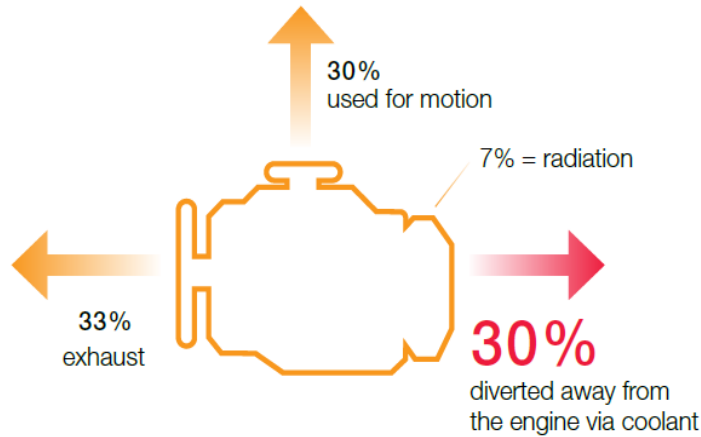
BOILING

Risk of overheating and corrosion



CORROSION, EROSION, CAVITATION

- ▶ Guarantee that excessive heat from combustion is transferred:



WHAT IS A GOOD COOLANT?

**FREEZING POINT ALONE DOES NOT DETERMINE A COOLANT QUALITY.
A GOOD COOLANT SHOULD:**



EXCHANGE HEAT
EFFICIENTLY



PROTECT AGAINST
CORROSION AND
CAVITATION



BE ENVIRONMENTAL
FRIENDLY



PROTECT
AGAINST BOILING



PROTECT
AGAINST FREEZE

CAN WE USE WATER AS COOLANT ?

Even though many people choose to simply put water into their radiators instead of coolant, it is not really a good idea. If you do not have any coolant on hand and must use water, then by all means do so. Do however, make sure that you purchase some coolant and put it into your radiator at your next available moment.

While water does help to keep your engine cool, it does not work nearly as well as coolant does. First of all, water boils faster and at a lower temperature than coolant. If it is winter, then you risk having your engine block crack if you run your engine with only plain water. Engine coolant has also been formulated to keep the parts in your engine from becoming corroded. Water, it goes without saying, does not possess these qualities. Without coolant, the heat produced through constant internal combustion would destroy the engine very quickly. Water alone is not entirely adequate to keep the system cool, for the high temperatures inside the motor would eventually boil it off. In time, the water in the system would evaporate entirely. Doing this will help you avoid bigger and costlier problems further down the road.

TOTAL COOLELF AUTO SUPRA

The Coolelf Auto Supra range are ready to use, environmental friendly and “long life” coolants with technically advanced organic corrosion inhibitors, having antifreeze protection temperatures up to -26°C & -37°C. They are formulated from an extremely pure mono-ethylene glycol base and organic corrosion inhibitors. They are approved by a large number of OEMs (details of which can be found on the product datasheet) and this is a great mark of quality for any product. Currently in Pakistan TPPL is focusing on marketing (through efforts of direct channels of sales i.e. Industrial sales, OEM and Fleets) the product COOLELF AUTO SUPRA -37°C as it offer more protection and has a wider range of use.

The main discerning feature of COOLELF AUTO SUPRA -37C is its extraordinarily long drain interval:

- 650,000 km / 8000 hours / 5 years when used in trucks
- 250,000 km / 5 years when used in cars.

CONCLUSION

For proper maintenance and useful longevity of vehicle engine, coolants should be used and not just any coolants, rather properly formulated coolants from reliable and trusted manufacturers.

Coolelf Auto Supra is best solution for the cooling applications that can be used in all cooling systems of combustion engines in cars, vans, trucks, buses, constructing machines, small diesel gensets and agricultural tractors.