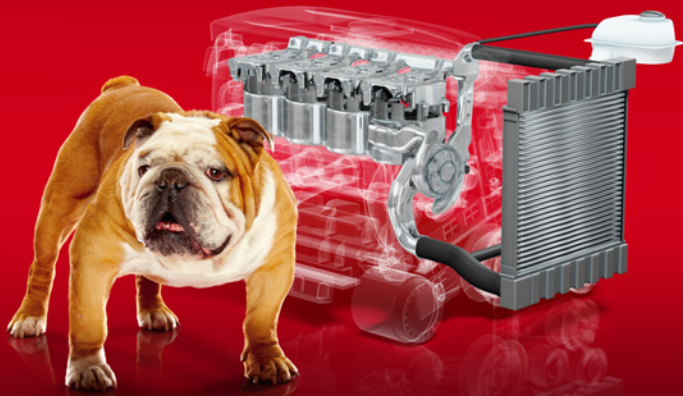




**Der Schutz-Garant.**



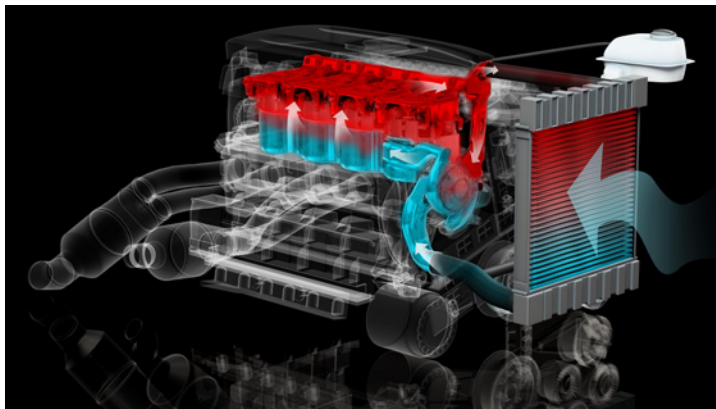
**Coolant 101**

A brand of

**BASF**

The Chemical Company

# How does the cooling system work?



The basic principle is simple: a third of the energy created by an engine is transported from the coolant mixture to the cooling system in the form of heat and then released into the atmosphere. The average flow rate in a car's cooling system is 150 liters/minute. A coolant mixture generally comprises 50% coolant concentrate

(e.g. Glystantin®) and 50% water. Glystantin® increases the melting point of the coolant mixture to approximately 110 degrees Celsius to protect against overheating. Glystantin® thus guarantees reliable heat exchange even when external temperatures are high and prevents additional deposits from forming.



**Water alone is not enough to cool the system – only when it is mixed with protective Glystantin® concentrate can damage be avoided.**

The problem? Water without coolant concentrate expands when it freezes, boils at 100 degrees Celsius and causes rust to form more quickly.

# Avoid mistakes by following a few basic rules:



**With this mixture, you'll always be in safe hands:**

Glysantin®/water: 50/50 (1/1 parts)

**Never use undiluted coolant!**

**Always remember the following:**

- Always completely change the coolant during repairs (flush and clean cooling system beforehand)
- With older cars, change coolant every 3 to 4 years
- Use clean (not too hard) tap water, fully desalinated or distilled water
- Never mix coolants containing different technologies or coolants made by different manufacturers
- Read your vehicle manufacturer's instructions

**→ Using coolant in the wrong way can leave your cooling system unprotected and may damage it.**



# What do the different Glysantin® colors mean?



The various colors make it easy to tell our products apart from other coolant technologies. Please remember that using just the color to differentiate between products may lead to mistakes being made. The various technologies are specially tailored to the requirements of various cooling systems and the materials used. Information about the right Glysantin® product for your vehicle can be found on the label or on the Internet at [www.glystantin.com](http://www.glystantin.com)

There are three basic technologies:

## 1. Hybrid coolant

The corresponding BASF products are:  
**Glysantin® G48®** (Glysantin® G05®\*)

## 2. OAT coolant

The corresponding BASF products are:  
**Glysantin® G30®** (Glysantin® G33®\* Glysantin® G34®\*)

## 3. Si-OAT coolant

The latest generation – the corresponding BASF product is:  
**Glysantin® G40®**



Never mix products containing different technologies or by different manufacturers.

\* = Large containers only

## **Why does coolant have to be changed regularly?**

Coolant mixture is placed under high levels of stress all year round in the cooling system. This means it deteriorates over time. The additives dissipate and the corrosion protection is also reduced. Even if the coolant is guaranteed to protect against frost for over two years, it is still recommended to change the coolant regularly.

## **What happens if the wrong coolant or a mixture of coolants is used?**

Using the wrong coolant can lead to serious damage to the water pump, cooler, hoses and head gaskets. In the worst-case scenario, this can damage the engine. Mixing various types of coolant can make the various additives less effective. This results in significantly reduced protection for the cooling system and engine.

## **What else does Glysantin® offer apart from frost protection?**

Glysantin® forms a protective layer in the cooling system and therefore protects against corrosion. It also increases the melting point of the coolant mixture in the cooling system and therefore guarantees perfect heat transfer – even at high engine performance levels or when external temperatures are high. Glysantin® has three-way protection: against corrosion, overheating and frost.

## **Can the coolant mixture be disposed of via normal sewage disposal systems (oil separators)?**

No, because the coolant concentrate they contain is a chemical product. And that does not belong in wastewater, particularly if it has been in the cooling system for a number of years. Please dispose of the coolant at the relevant collection points for special waste.



**You can find further information and tips about coolants, as well as the right Glysantin® product for your vehicle, at [www.glysantin.com](http://www.glysantin.com)**

# Glysantin® provides three-way protection – against corrosion, overheating and frost.

After all, an engine needs to be cooled the whole year round!



If you have any further questions, please contact the Glysantin® team.

Email: [glysantin@basf.com](mailto:glysantin@basf.com)

Internet: [www.glysantin.com](http://www.glysantin.com)

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