

COOLELF AUTO SUPRA-37°C



TOTAL

COOLELF AUTO SUPRA -37°C is a cooling liquid based on **GLACELF AUTO SUPRA**, this can be used in all cooling systems of combustion engines in cars, vans, trucks, buses, construction machines and agricultural tractors.

GLACELF AUTO SUPRA is a «**very long life**» antifreeze based on monoethylene glycol and **organic corrosion inhibitors**, based on the developments about material protection in a corrosive environment (this technology is protected by numerous patents).

COOLELF AUTO SUPRA -37°C contains a **bittering agent** to make it undrinkable and so preserves the health of children and users.

COOLELF AUTO SUPRA -37°C is the **top product** of our cooling liquid range

APPLICATIONS

Dilution in demineralised or softened water

Minimum 33%

Maximum 70%

Lifetime

● **COOLELF AUTO SUPRA -37°C** is a permanent cooling liquid that offers an efficient protection against freezing (until -37°C) and overheating of the engine, during the whole year.

● **COOLELF AUTO SUPRA -37°C** is ready for use, as a mix with demineralised water, which offers following advantages:

no scaling, normally caused by the hardness of water, leading to overheating by obstruction or insufficient heat transfer, very low electric conductivity, thus avoiding electrolytic corrosion.

● **COOLELF AUTO SUPRA -37°C** can be used for cast iron as well as aluminium engines, and also in engine radiators in aluminium or copper alloy.

COOLELF AUTO SUPRA -37°C is specially recommended for new technology engines, where aluminium protection at high temperatures is extremely important

● In numerous fleet tests, **COOLELF AUTO SUPRA -37°C** offered an excellent protection during a very long period:

- during at least **650 000 km** (8000 hours) in cooling systems of commercial vehicles,

- during at least **250.000 km** (2000 hours) in cooling systems of passenger cars.

It is recommended to drain the cooling liquid after this mileage or every **5 years** (whatever occurs first).

● The antifreeze used in **COOLELF AUTO SUPRA -37°C**, **GLACELF AUTO SUPRA**, meets the *international specifications* concerning antifreeze, and the tenders of the important vehicle manufacturers.

SPECIFICATIONS

AFNOR NFR 15-601
ASTM D 3306
ASTM D4656
ASTM D4985
BS 6580

DC : MB page 325.3
DC : MB page 326.3

GM 6277M
DEUTZ / MWM
FORD
Leyland Trucks
MAN 324
TL 774 D

CUSTOMER BENEFITS

The role of the cooling liquid

No consumption of the organic inhibitors

No deposits. Keeps surfaces clean.

Long life

Non Toxic inhibitor

Long term corrosion protection

● **COOLELF AUTO SUPRA -37°C** has been approved by the following manufacturers

MERCEDES-BENZ, page 325.3 (antifreeze)
MERCEDES-BENZ, page 326.3 (coolant -50% dilution)

MAN
SCANIA
SAAB
FORD
VW, AUDI, SEAT, SKODA

● **COOLELF AUTO SUPRA -37°C** meets the requirements of the following manufacturers

LEYLAND TRUCKS
JAGUAR
OPEL-GM
RENAULT VI

● *In a petrol or diesel engine, about 30 to 40 % of the fuel energy is not transferred into motion power but into heat. Additionally, a lot of calories are generated by friction between the moving parts. The engine cooling system has to evacuate all these wasted calories.*

The cooling liquid absorbs the heat from the engine parts and gives it back to the atmosphere through the radiator.

Even a very short period of working without cooling liquid is sufficient for a piston seizure or for cracks of the cylinder head, due to insufficient heat transfer.

● The *electrochemical* action of the organic inhibitors, *never consumed during the drain period*, extends material life and guarantees a **maximum cooling of the engine.**

The heat exchange of **COOLELF AUTO SUPRA -37°C** remains optimum, because its **100% organic inhibitors** do neither *build up a layer*, nor have *any oxidising action* (they do not form any deposit like inhibitors in conventional cooling liquids do).

The fact that the additives are neither consumed nor build up any layer offers to the user of **COOLELF AUTO SUPRA -37°C** a **better reliability** and a **simpler maintenance.**

● **COOLELF AUTO SUPRA -37°C** contains neither *silicates, nor phosphates, chromates, nitrites, boron.*

Cooling liquids based on monoethylene glycol are chemical wastes that should be destroyed by specialised companies.

● **COOLELF AUTO SUPRA -37°C** offers an **adequate solution against corrosion problems** of all the materials in the cooling system.

Laboratory Test :
250 ml antifreeze*
500ml corrosive water
336 hours
6l/h air
88°C

Table 1 : ASTM D1384, Glassware corrosion test

	Weight change in mg/test specimen					
	Brass	Copper	Solder	Steel	Cast iron	Aluminium
ASTM D4985 (max)	10	10	30	10	10	30
ASTM D3306 (max)	10	10	30	10	10	30
GLACELF AUTO SUPRA*	-1,6	-1,9	-0,1	+0,5	+1,4	-4,6

Protection of the aluminium water pump against cavitation corrosion and erosion

Optimised physical-chemical characteristics

● These severe tests prove the *excellent performance of COOLELF AUTO SUPRA -37°C.*

Air or gas penetration into the cooling system has a negative influence on cavitation problems. Furthermore, the presence of oxygen in the system affects the action of the corrosion inhibitors.

● **COOLELF AUTO SUPRA -37°C** guarantees an adequate protection against cavitation, leading to cylinder wall penetration and water pump damage.

In the adapted **ASTM D2809** test on an aluminium water pump - a cavitation corrosion / erosion test, more severe than the standard test - **GLACELF AUTO SUPRA** obtained a **result of more than 8/10**. This is necessary to meet the specifications ASTM D3306 and D4985.

The additives in **COOLELF AUTO SUPRA -37°C** grant to the cooling liquid

- **chemical neutrality** (pH 7 - 8,5),
- **alkalinity reserve** (in order to neutralise the acids, originating from the combustion),
- good resistance against foaming (by breaking the eventual foam's stability).

COOLELF AUTO SUPRA -37°C is perfectly compatible with seals and paints

CHARACTERISTICS

The typical characteristics mentioned represent mean values

Coolelf Auto Supra -37°C		
Colour		Fluorescent orange
Density at 15 °C	ASTM D1122	1.071
pH	ASTM D1287	8.4
Alkalinity reserve (pH 3.5)	ASTM D1121	2.8ml HCl 0.1N
Temperature at which the first ice crystals occur	ASTM D1177	-37°C
Boiling temperature	ASTM D1120	110°C