

# GLACELF CLASSIC



**GLACELF CLASSIC** is an antifreeze based on monoethylene glycol and selected inhibitors, and contains no amines, nitrites or phosphates.

**GLACELF CLASSIC antifreeze**, when mixed with an appropriate quantity of water, becomes a *coolant fluid* recommended for all cooling circuits in internal combustion engines.

In accordance with French Decree No. 95-326 of 20<sup>th</sup> March 1995 concerning the distribution of certain substances containing monoethylene glycol, **GLACELF CLASSIC** contains a **bittering agent to give it a bitter taste** as a guarantee against accidental ingestion by children or users.

**GLACELF CLASSIC** represents an excellent quality/price ratio

## APPLICATIONS

Diluted in demineralised  
or softened water

Minimum 33%

Maximum 70%

Lifetime

● **GLACELF CLASSIC** is used diluted in demineralised water (< 8F) and forms a **permanent cooling fluid** that can be used throughout the year, giving effective protection against engine freezing or overheating.

● To obtain a coolant perfectly mixed, it is recommended **to mix mechanically** the antifreeze with the water

The protection against freezing depends upon the proportion of **GLACELF CLASSIC** in the water.

% volume of <b>GLACELF CLASSIC</b>	33	40	50	68
Temperature at which first crystals appear, °C (NFT 78 102)	-20	-26	-37	-69

It is recommended that the coolant fluid should be replaced **every two years**.

## SPECIFICATIONS

AFNOR NFR 15-601  
BS 6580 / SAE J1034 /  
ASTM Standards

● **GLACELF CLASSIC** meets the principal *international specifications* for antifreezes

TOTAL LUBRIFIANTS  
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F- 92800 PUTEAUX  
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Glacelf Classic  
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This antifreeze used in accordance with our recommendations and for the application for which it is intended does not represent a special hazard. A safety data file conforming to the requirements of current EC legislation is available from your local trade consultant.

## CUSTOMER BENEFITS

### The function of a coolant fluid

- *In a petrol or diesel engine, some 30 to 40% of the heat produced in combustion is not converted into motion power and has to be dissipated. An engine's cooling system must be capable of removing this excess heat together with that due to friction of the moving parts. The coolant fluid cools the different parts of the engine by heat transfer and then gives up heat in the radiator. Running an engine without coolant for only a few minutes is sufficient to cause piston seizing and cracks in the cylinder head owing to heat not being removed.*

### Protection against corrosion of metals

- **GLACELF CLASSIC** performs well in the corrosion tests required by the specifications: hot plate and glassware corrosion.

### Optimised physical-chemical properties

- The additives in **GLACELF CLASSIC** give the coolant fluid a **reserve of alkalinity** (to neutralise the acids resulting from the combustion gases), **resistance to foaming** (mainly instability of the foam that might form) and **compatibility with hard water (maximum 40°F)**.

- The coolant fluids obtained by diluting **GLACELF CLASSIC** are also inert to elastomeric seals and paints. *We remind you that antifreezes and coolant fluids containing monoethylene glycol should not be poured into the drains. They are regarded as special industrial wastes (potentially hazardous to man and the environment) and should be disposed of in approved centres*

## CHARACTERISTICS

The typical characteristics mentioned represent mean values

<b>GLACELF CLASSIC</b>		
Colour		Light Blue
Specific gravity at 15 °C	ASTM D1122	1.122
Alkalinity reserve (pH 5.5)	ASTM D 1121	11.5ml HCl 0.1N
Temperature at which crystals appear, 50% dilution by volume.	ASTM D1177	-37°C