

# Glacelf SI-OAT

Coolant concentrate to be diluted • SI-OAT



ANTI- FREEZING



ANTI- BOILING



ANTI- CORROSION



## DESCRIPTION

**GLACELF SI-OAT** is a "very long life" antifreeze made of monoethylene glycol.

**GLACELF SI-OAT** has fast, effective protective properties. It provides a high level of protection against damage caused by freezing, cavitation, corrosion and overheating.

**GLACELF SI-OAT** antifreeze must be mixed with a suitable quantity and quality of water to be used as a coolant. This product is especially recommended for certain ICEs both for light vehicles (MB and VW group Euro 6 engines), heavy vehicles (MB, MAN, Scania and Cummins EURO 6 engines), public works machinery (Liebherr Euro 6 engines) and agricultural tractors (MTU Claas engines).

## SPECIFICATIONS

**Glacelf SI-OAT meets the international standards** on coolants:

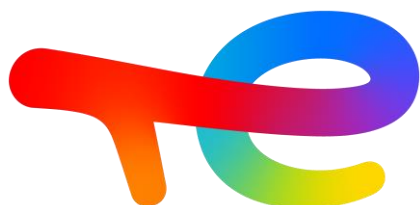
- AFNOR NFR 15-601
- BS 6580 : 2010
- CUNA NC 956-16
- ASTM D 3306
- SAE J1034

**Glacelf SI-OAT is approved** by the following manufacturers:

- VW / AUDI / SEAT / SKODA / LAMBORGHINI/ BENTLEY/ PORSCHE / BUGATTI : VW TL 774-G (G12++)
- DAIMLER / MERCEDES-BENZ :
  - MB 325.6
  - DTFR 29C120 (former MB 325.5)
- MAN 324 Type SI-OAT
- CUMMINS CES 14603
- DEUTZ DQC CC-14
- MTU MTL 5048
- MAN CW 175D

**Glacelf SI-OAT meets the requirements of:**

- Scania TB1451
- Irizar
- Liebherr LH-01-COL3A
- Deutz-Fahr
- Claas
- Wrightbus



**TotalEnergies**

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Glacelf SI-OAT | Sheet updated: 05/25

This coolant 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.

## CHARACTERISTICS

| Appearance               |             | VISUAL     | Clear liquid |
|--------------------------|-------------|------------|--------------|
| Colour                   |             | VISUAL     | Pink         |
| Density at 20°C          | KG/L        | ASTM D1122 | 1.125        |
| Refractive Index at 20°C |             | ASTM D1218 | 1.4331       |
| Reserve Alkalinity       | mL HCl 0.1N | ASTM D1121 | 9.7          |
| pH at 20°C               |             | ASTM D1287 | 8.4          |

Typical values given for information purposes.



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## APPLICATION

### MIXING

We strongly advise against mixing Glacelf SI-OAT with any other coolant technologies. If the manufacturer permits SI-OAT technology, any changes in technology must take place further to rinsing the whole cooling system.

### DILUTION OF THE PRODUCT

**GLACELF SI-OAT**, when diluted in demineralised water, is a coolant that can be used year-round. It is essential to mechanically mix the antifreeze product with the dilution water to guarantee a consistent mixture. Protection against freezing depends on the proportion of **GLACELF SI-OAT** in the water.

It is recommended that a 33% volume of GLACELF SI-OAT be used in the final solution, and a maximum volume of 60%.

| % Volume of Glacelf SI-OAT       | 33%        | 40%        | 50%        |
|----------------------------------|------------|------------|------------|
| Freezing Protection (ASTM D1177) | -20°C      | -26°C      | -37°C      |
| Boiling Point (ASTM D1120)       | 105°C min. | 107°C min. | 110°C min. |

### YEAR-ROUND PROTECTION

It guarantees optimum protection against freezing, down to -37° at 50% dilution.

### LONGER SERVICE LIFE

Recommended change interval:

- **Professional: from 3 to 5 years** depending on the manufacturer's recommendations (refer to the vehicle's maintenance manual)
- **Light vehicles: up to 250,000 km**, depending on the manufacturer's recommendations (refer to the vehicle's maintenance manual).

### RETRO-APPLICABILITY

**Glacelf SI-OAT** has been specifically designed to meet the most demanding mechanics of certain EURO 6 engines in various business areas, for both professionals and individuals.

Unless there are indications to the contrary from the manufacturer (see vehicle maintenance manual), the product is retro-applicable for generations prior to Euro 6, taking the necessary precautions, i.e. mandatory rinsing before the transition to Si-OAT technology.

**Glacelf SI-OAT** is MAN 324 (Si-OAT type) approved, and can be used on vehicles requiring MAN 324 type NF and type SNF approvals.

**Glacelf SI-OAT** is VW TL 774-G approved, and can be used on vehicles requiring VW TL 774-C, 774-D, 774-F, and 774-J approvals.

**Glacelf SI-OAT** is MB 325.6 and DTFR 29C120 approved and can be used on vehicles requiring MB 325.0 and MB 325.3 approvals.

**Glacelf SI-OAT** is not recommended for OM 300 and 400 engines on MB Trucks (non-exhaustive list).

## HSE

Any antifreeze made with monoethylene glycol is considered to be special industrial waste, and, to respect the environment, must be disposed of in certified centres.



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## CUSTOMER BENEFITS

### EXCELLENT PROTECTION AGAINST METAL CORROSION, CAVITATION AND THE FORMATION OF DEPOSITS

**Glacelf SI-OAT** protects against all forms of corrosion, overheating and freezing. Protects aluminium water pumps against corrosion, erosion and cavitation, prevents the formation of deposits and leaves surfaces clean.

## PERFORMANCES

### GLASSWARE CORROSION TEST

|                   | WEIGHT LOSS (mg/COUPON) |        |       |       |           |           |
|-------------------|-------------------------|--------|-------|-------|-----------|-----------|
|                   | Copper                  | Solder | Brass | Steel | Cast Iron | Aluminium |
| Glacelf SI-OAT    | 0.1                     | 0.1    | -0.4  | -0.1  | -0.1      | -0.4      |
| VW TL 774-G LIMIT | 3                       | 3      | 3     | 3     | 3         | 2         |

### DIN 51 360-2

|                   | CORROSION INDEX    |                    |
|-------------------|--------------------|--------------------|
|                   | 20% vol % dilution | 40% vol % dilution |
| Glacelf SI-OAT    | 4                  | 2                  |
| VW TL 774-G LIMIT | 4                  | 2                  |

### FOAMING CHARACTERISTICS (33% VOL DILUTION)

|                                    | Volume (ml) | Break time (s) |
|------------------------------------|-------------|----------------|
| Glacelf SI-OAT                     | 5           | 3              |
| VW TL 774-G LIMIT                  | 20          | 5              |
| ASTM D1881<br>(PART OF ASTM D3306) | Max 150 ml  | Max 5 sec      |

### ASTM D4340: ALUMINIUM HEAT REJECTION TEST (25%VOL)

|                   | WEIGHT LOSS(MG/CM <sup>2</sup> /WEEK) <sup>1</sup> |
|-------------------|--|
|                   |  |
| ASTM D3306 LIMITS | 1.0  |
| Glacelf SI-OAT    | -0.1   |

<sup>1</sup> Weight loss AFTER chemical cleaning according to ASTM procedure. Weight gain is indicated by a (-) sign.

Glacelf SI-OAT trade name on tables represent either concentrated antifreeze or different dilutions of the concentrated product as per official test parameters.



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