TECHNICAL DATA SHEET (TDS)

METOX ANTIFROZEN SOLAR

Heat Transfer Fluid for Solar Energy Systems

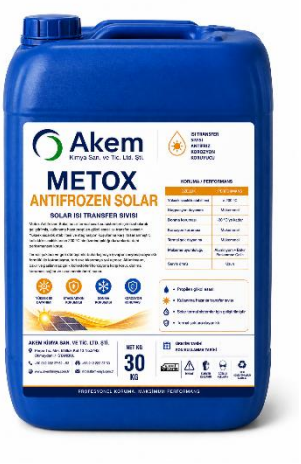
Pre-mixed heat transfer fluid with antifreeze and corrosion protection for solar applications

Product Description

Metox Antifrozen Solar is a physiologically harmless, clear liquid based on an aqueous solution of higher-boiling glycols, used as a heat transfer medium in solar heating systems and in systems exposed to high thermal loads. The product is inhibited without nitrites, borates, silicates and phosphates and meets the requirements of DIN 4757 part 3 for solar heating systems. The corrosion protection system has been optimised without the use of CMR substances (carcinogenic, mutagenic, reprotoxic).

Features and Benefits

- **Pre-mixed:** ready-to-use heat transfer fluid.
- **Antifreeze and corrosion protection:** for solar heating systems and high thermal loads.
- **Higher-boiling glycols:** safe operation at high temperatures.
- **Free of nitrites, borates, silicates and phosphates;** formulated without CMR substances.
- **DIN 4757-3** requirements for solar heating systems are met.



30 kg drum

Packaging

Metox Antifrozen Solar is supplied in 25 kg and 30 kg drums and 1,000 kg IBC containers.

Storage

- Metox Antifrozen Solar should be stored indoors in its original, tightly closed packaging in a dry place.
- Protect from direct sunlight and excessive heat.
- Keep containers upright and out of reach of unauthorised persons; keep lids closed when not in use.

Areas of Use

- Solar hot water and heating systems
- Closed-loop heating systems exposed to high thermal loads

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Technical Properties

Property	Limits	Method	Specification
Specific gravity at 15/15 °C	1.030 – 1.065	ASTM D 1122	1.04 – 1.06
pH (50 vol.% aqueous solution)	7.5 – 11.0	ASTM D 1287	7.5 – 8.5
Water content	max. 5%	ASTM D 1123	max. 4.5%
Reserve alkalinity	—	ASTM D 1121	min. 10
Ash	max. 5%	ASTM D 1119	max. 1.5%
Freezing point (50 vol.%)	max. −32 °C	ASTM D 1177	max. −32 °C
Boiling point	min. 155 °C	ASTM D 1120	min. 155 °C
Odour	Inoffensive	—	Inoffensive
Foaming (ml/s)	max. 150/5	ASTM D 1881	max. 50/2
Solubility in water	Complete	—	Complete
Hard water stability	Clear	NC 956-14	Clear
Maximum operating temperature (50 vol.%)	—	—	180 °C / 10 bar
Colour	—	—	Please consult us for colour options.

Freezing and boiling point table

Values obtained with Metox Antifrozen Solar at different concentrations in water:

% by vol.	Specific gravity (15 °C)	Freezing temperature, °C	Boiling temperature, °C
10	1.01	-3.2	101
20	1.018	-8	101
25	1.023	-11	102
30	1.028	-14	103
33	1.031	-15	103
35	1.033	-18	103
40	1.037	-22	103
50	1.047	-33	104
60	1.052	-48	106