



TECHNICAL DATA SHEET (TDS)

Product name: ANTI-FREEZE CONCENTRATE
Formulation code: UD020
Supplier: Kemetyl Polska, Sp. z o.o.
Al. Jerozolimskie 162, 02-342 Warszawa, tel. +48 22 822 5390
Pack size: 1-5 ltr HDPE

1. Composition/information on ingredients

Anti-Freeze are a nitrite-, amine-, phosphate free (NAP free) engine coolant based on mono ethylene glycol, which must be diluted before use with water. The technology of inhibitors provides a particularly good corrosion protection in cooling systems.

Anti-Freeze meets the requirements of the standards: *ASTM D3306, BS 6580:2010, AFNOR NF R15-601 and SAE J1034.*

2. Application

Anti-Freeze coolant is designed for all types of cooling systems, also for aluminum cooling system. Anti-Freeze is for all types and kinds of cars. It can be used in industrial cooling systems especially where is required resistance at low temperatures and corrosion protection.

Anti-Freeze fulfilling its basic function or to dissipate excess heat in the system also protects the system from corrosion and scale deposition, has anti-foaming agents.

For coolant change intervals follow the vehicle manufacturer recommendations. Safe for all car parts, in which has contact.

3. Usage

Anti-Freeze solution must be diluted with water in a ratio of 1:1 before filling the cooling system. Recommended final fluid concentration is between 33% and 50% by volume.

Table dilutions

Number of parts Anti-Freeze concentrate	1	1	1
Number of parts Water	1	1,5	2
Freezing protection °C	-38°C	-25°C	-18°C

To ensure maximum protection of the cooling system is recommended to completely drain the system, rinsed, then filled with liquid of Anti-Freeze concentrate and water in a ratio from the table above. Start the engine and warm it with the heater turned on, then fill to the end with the prepared mixture. Always follow the advice of your vehicle manufacturer.



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4. Physical and chemical properties

Chemical nature Monoethylene glycol with inhibitors
Physical state liquid
Colour: green-blue
Properties tests results according to ASTM D3306

Parameter	Method	Unit	Specification	Typical Value
Density at 15°C	ASTM D1112	-	1,110 to 1,145	1,1345
Freezing point (50% v/v)	ASTM D1177	°C	≤ -35	-35,1
Boiling point	ASTM D1120	°C	> 163	168
Boiling point (50% v/v)	ASTM D1120	°C	> 107,5	108,0
Effect on lacquer	ASTM D1882	-	no effect	No effect
Ash content	ASTM D1119	mass %	< 5	2,11
pH value (50% v/v)	ASTM D1287	-	7,5 to 11,0	7,8
Chlorides content	ASTM D3634	ppm	< 25	< 10
Water content	ASTM D1123	mass %	< 5	3,86
Reserve alkalinity	ASTM D1121	ml	min. 20	28
Glassware Test weight loss	ASTM D1384			
	copper	mg	< 10	1,0
	solder	mg	< 30	2,2
	brass	mg	< 10	1,3
	steel	mg	< 10	+ 1,3
	cast iron	mg	< 10	+ 2,5
	cast aluminium	mg	< 30	+ 3,3
Simulated Service Corrosion Test weight loss	ASTM D2570			
	copper	mg	< 20	2,7
	solder	mg	< 60	9,8
	brass	mg	< 20	5,1
	steel	mg	< 20	0,2
	cast iron	mg	< 20	+ 1,2
	cast aluminium	mg	< 60	+ 3,5
Heat Transfer Corrosion Test	ASTM D4340	mg/cm ² /week	< 1,0	0,64
Foaming characteristics temp. 88°C	ASTM D1881			
	objętość	ml	< 150	35
	czas	sec	< 5	2,1



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5. Miscibility

Anti-Freeze can be mixed with other silicate containing engine coolants based on mono ethylene glycol, but always it is recommended to follow the instruction of car manufacturer and in longer term replace mixture fluid on the homogeneous coolant.

The product is compatible with hard water and can be diluted with tap water, but distilled water is recommended for dilution.

Anti-Freeze is miscible with water in any proportion.

6. Test Method

Method ASTM (American Society for Testing Materials) are published by the American Society for Testing Materials, 1916 Race Street, Philadelphia, PA 19 103, USA and can be purchased in Europe from ASTM European Office, 26/29 Knowl Piece, Wilbury Way, Hitchin, Herts , SG4 OSX, Great Britain. BS methods are published by the British Committee for Standardization (British Standards Institution), Linford Wood, Milton Keynes, MK146LE, Great Britain.

DIN standards are published by Beuth Verlag GmbH, 1 Berlin, Burggrafenstrasse 4-7, Germany.

AFNOR test methods are published by L'Association Francaise de Normalisation (French Committee for Standardization), Tour Europe, Cedex 7, 92 049, Paris La Defense, France.

7. Storage

Anti-Freeze is stable for at least 3 years when stored in tight containers. Because of corrosion galvanised containers should not be used.

8. HSE information.

A safety data sheet according to regulations (EC) 1907/2006 is available.

The product is classified as harmful: Xn harmful R22 Harmful if swallowed.

No UN number.

For details, see Safety Data Sheet. Safety Data Sheet is complying with the rules EC 1907/2006.

The information contained in this specification is based on the present state of our knowledge and experience. Taking into account the diversity of factors that may affect the product during its use, these data do not relieve users of responsibility for carrying out their own tests and experiments; not also mean any legally binding assurances, or suitability for a particular purpose. The responsibility lies with the users of our product that all property rights and legal provisions are respected.