

## PRODUCT SHEET

Updated in May 2009

# MB444D COOLANT LIQUIDE CONCENTRATED FOOD QUALITY

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### DEFINITION/USES:

**Concentrated** fluid with an inhibited glycol mono propylene base.  
It does not include nitrates, amines and phosphates.

Thanks to its high-performance formula, MB444D COOLANT meets the main water system requirements:

- **Bactericidal and Fungicidal** action limiting the development of silt in low temperature systems (<40 C°) such as **heated flooring**.
- **Anti-tarter, Anti-corrosion** action limiting the risks of obstruction and alteration of different materials comprising the systems.
- **Anti-freeze** action allowing bursting risks of parts comprising the systems to be limited.

#### Uses:

- Improvement of the calorific transfer power in heating or cooling systems.
- Antifreeze for central heating systems for the production of domestic hot and/or cold water.
- Coolant for air conditioning or refrigerating systems.
- Antifreeze for water storage containers.
- Protection from corrosion of aqueous solutions additive.
- Bactericide and fungicide aqueous solutions additive.
- Mechanical de-icer, de-froster.
- Coolant for solar panels, geothermal energy, fuel cells.
- Lubricant.

### REGULATIONS/VALIDATIONS:

Product validated by the Ministry of Health (Decree dated 14/03/2008).  
favourable recommendation of the AFSSA 2007-SA-0152(dated 26/02/2008)  
Pre-recording REACH (25/11/2008)

### APPEARANCE:

Red coloured clear liquid.



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#### PACKAGING:

20 LITRES/30 JERRICANS per pallet EUR.  
210 LITRES/2 or 4 BARRELS per pallet EUR.  
1000 LITRES/1 CONTAINER per pallet  
LOOSE 5 to 24 tonnes.

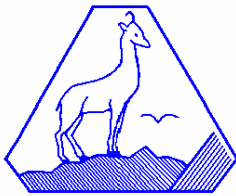
To hold safe from the light and heat

#### INSTRUCTIONS FOR USE:

- To be diluted in water (see table page 3/3 for the proportions depending on the desired antifreeze protection).
- For good protection of your installation, to control the system every five years.
- Keep out of reach of children.

#### PHYSICAL AND CHEMICAL CHARACTERISTICS:

CHARACTERISTICS	UNITS	SPECIFICATIONS	TEST METHODS
Pure volumic mass at 20°C	g/l	1 048+/-4	NF R 15-602-1
Pure volumic mass at 30°C	g/l	1 044+/-4	
Pure volumic mass at 40°C	g/l	1 037+/-4	
Pure volumic mass at 50°C	g/l	1 027+/-4	
Pure volumic mass at 60°C	g/l	1 018+/-4	
Pure volumic mass at 70°C	g/l	1 010+/-4	
pH aqueous sol. 33% vol	pH	7.5+/-1	NF T 78-103
Alkalinity level	ml	≥14	NF T 78-101
Water content	% mass	6.9 max	NF T 78-104
Boiling point	°C	178+/-2	NF R 15-602-4



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**PHYSICAL AND CHEMICAL CHARACTERISTICS:**

Freezing points	C°		NF T 78-102
pure		< -50	
50% fluid vol.: water (density : 1 040 g/l)		-30+/-2	
40% fluid vol.: water (density : 1 032 g/l)		-18+/-2	
<b>33% fluid vol.: water (density : 1 026 g/l)</b>		<b>-12+/-2</b>	
25% fluid vol.: water (density : 1 018 g/l)		-8+/-2	

**Recommended minimum dosage: 33%**

CHARACTERISTICS	UNITS	SPECIFICATION	TEST METHOD
<b>Viscosity</b>	Pascal second		
Diluted at 30% at 80°C		0.7	
Diluted at 30% at 40°C		1.6	
Diluted at 30% at 30°C		2.3	
Diluted at 30% at 10°C		4.9	
Diluted at 30% at 0°C		7	
Diluted at 30% at - 10°C		10.2	
Diluted at 50% at 80°C		1.2	
Diluted at 50% at 40°C		3.2	
Diluted at 50% at 30°C		5	
Diluted at 50% at 10°C		10.2	
Diluted at 50% at 0°C		20	
Diluted at 50% at - 10°C		37	
Diluted at 50% at - 20°C		76	
Diluted at 50% at - 30°C		200	

Test tube corrosion test	mg		NF R15-602/91
Copper		0.1	
Brass		-0.2	
Cast iron aluminium		0.6	
Cast iron		0.8	
Steel		2.4	
Solder		-0.2	

Protection from bacteria test	Mo/ml	Without treatment	With MB444D fluid
Inoculation No. 1 after 1 day	2.4 10 <sup>9</sup>	Rare development	No development
Inoculation No. 2 after 1 day	2.5 10 <sup>9</sup>	Moderate development	No development
Inoculation No. 3 after 1 day	2.5 10 <sup>9</sup>	Total development	No development
Protection from fungi test			
Fungic standard inoculation		Total development	No development

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