

A close-up photograph of industrial machinery, likely a heat exchanger or condenser, featuring copper coils and brass-colored metal components. A thick, white, viscous liquid is dripping from the top of the structure, creating a sense of active industrial process. The background is blurred, showing more of the same equipment.

ROKAmid MRZ4

RAPSEED OIL FATTY ACIDS
MONOETHANOLAMIDE, ETHOXYLATED

GENERAL INFORMATION & USES

ROKamid MRZ4 (CAS: 85536-23-8) is an emulsifier of natural origin. The raw material is rapeseed oil (canola). It is suitable for many applications such as: metal processing, detergents and cosmetics. ROKamid MRZ4 is characterized by its emulsifying properties and acts as a coemulsifier assisting the emulsifier responsible for the formation of emulsions in O/W (oil-in-water) systems with waxes and mineral oils, among others.

CHEMICAL DESCRIPTION

- High concentration
- Non-ionic emulsifier with corrosion inhibiting properties
- Acting as a strong solubilizer
- Easy to use due to low viscosity
- Based on renewable rapeseed oil
- Good biodegradability

ADVANTAGES OF USE

- Secondary corrosion inhibitor particularly recommended for use on iron
- Great performance
- Functioning at room temperature
- Improved cold-temperature stability of metal treatment concentrates and emulsions
- Perfect choice for formulations with high water content, especially for synthetic and semi-synthetic formulations

HEALTH AND ENVIRONMENTAL HAZARDS

- Harmless to aquatic organisms (no H412)
- Water hazard class (WGK 1)
- Irritant to skin H315
- Contains no harmful substances such as nitrosamines
- Readily biodegradable



GENERAL INFORMATION:

Parameters	ROKamid MRZ4
Appearance at 20-25°C	liquid
Concentration [%]	approx. 93
Gardner colour at 25°C	max. 7
Free MEA, %(m/m)	max. 1.4
Water content [%, by weight]	6.5-8.5
Solidification point [°C]	approx. 0
pH, at 20°C (method B or method C) 1% solution	8-10
Density at 25°C [g/cm³]	approx. 1.00
Viscosity at 25°C [cP]	approx. 60



SOLUBILITY

Solubility according to PN-EN 13955: 25°C, 1%, 5% and 10% [w/w].

Product name	Demineralized water	Paraffinic base oil	Naphthenic base oil	Rapeseed oil	Rapeseed oil methyl esters (RME)	Acetone	Methanol
1%	1	3	3	2	1	4	1
5%	1	4	4	3	3	4	1
10%	1	4	4	4	3	4	1
Total	3	11	11	9	7	12	3

- 3 very good soluble
4-6 soluble
7-9 weak soluble
10-12 macroscopic phase separation

FOAMING CAPABILITY

Determination of the foaming capability was preformed according to PN-ISO 696:1994 (modified Ross-Miles method) for solution with a concentration of 1.0 g/l in demineralized and hard water at a temperature of 25°C.

Product name	Demineralized water	Hard water
ROKAmid MRZ4	moderate	poor

Foam value [ml]	Description
100-200	moderate
70-100	low
20-70	poor
0-20	none

WETTING CAPABILITY

The capability of wetting cotton fabric was determined according to EN 1772:2001. Wetting time (time in seconds necessary for wetting the textile material) was measured at ROKAmid MRZ4 solution with a concentration of 0.5, 1.0 and 1.5 g/l in demineralized water at a temperature of 25°C.

Concentration	Demineralized water
0.5	low
1.0	low
1.5	moderate

Time (s)	Description
<20	excellent
20-50	good
50-100	moderate
100-300	low
>300	poor



ALKALI AND ACID RESISTANCE

The analysis of this stability for low foaming surfactants has been performed in accordance with the PN-EN 14712:2005 standard.

- macroscopic phase separation
- homogenous, cloudy solution
- clear, homogenous solution
- homogenous, opalescent solution

NaOH conc. [g/l]	10	20	30	40	60	70	300	360
Product name								
ROKAmid MRZ4	●	●	●	●	●	○		

Acid resistance (Sulphuric acid); concentration of 1%; temperature 20°C

HCL conc. [ml/l]	1	10	20	60	120	140	225
Product name							
ROKAmid MRZ4	●	●	●	●	●	●	●



CORROSION INHIBITION

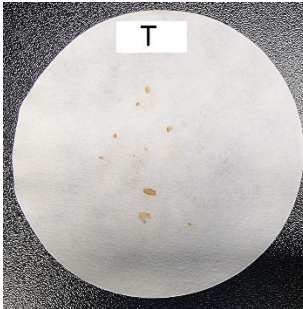

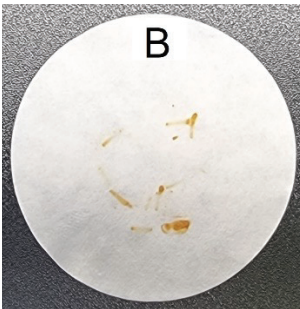
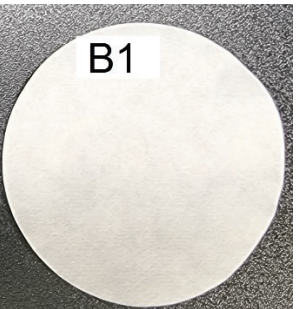
Chip/filter paper method (DIN-51360)

Test method description: cast iron chips are placed on filter paper and wetted with analyzed solution. The corroded area is evaluated after 2 h at a temperature of 20-25°C.

Composition of test samples:

Product name	T [%]	T1 [%]	B [%]	B1 [%]
Hard water 20 dH	97	90	99.35	92.35
ROKAmid MRZ4		7		7
Boric acid			0.5	0.5
MEA	3	3	0.15	0.15

Test results

T	T1	B	B1
2	0	2	0
			

Result of Chip/filter paper method

Result	Description of the result	Degree of surface colouring
0	lack of corrosion	none
1	slight corrosion	a maximum of 3 tracks, none of which exceeds 1 mm in size
2	weak corrosion	surface stained by less than 1% but more marks or more than with result 1
3	medium corrosion	more than 1%, but less than 5% of the surface colour
4	strong corrosion	more than 5% surface staining



PCC Exol S.A.

Sienkiewicza 4
56-120 Brzeg Dolny
Poland

November 2022

Please visit our capital group business platform:

www.products.pcc.eu



Information in this catalogue is believed to be accurate and to the best of our knowledge, but should be considered as introductory only. Detailed information about our products is available in TDS and MSDS. Suggestions for product applications are based on the best of our knowledge.

The responsibility for the use of products in conformity or otherwise with the suggested application method and for determining product suitability for your own purposes rests with the user.

All copyright, trademark rights and other intellectual and industrial property rights and the resulting rights to use this publication and its contents have been transferred to PCC EXOL S.A. or its licensors. All rights reserved.

Users/readers are not entitled to reproduce this publication in whole or in part, nor are they entitled to reproduce it (excluding reproduction for personal use) or to transfer it to third parties.

Permission to reproduce it for personal use does not apply in respect to data used in other publications, in electronic information systems, or in other media publications. PCC EXOL S.A.– shall not be responsible for data published by users.

pcc

*More than
Chemistry*