ROKAmid MRZ4

RAPESEED OIL FATTY ACIDS MONOETHANOLAMIDE, ETHOXYLATED

pcc Exol

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/cm^3]	approx. 1.00
Viscosity at 25°C [cP]	approx. 60

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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] / Product name	10	20	30	40	60	70	300	360
ROKAmid MRZ4	●	●	●	●	●	○		

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

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

CORROSION INHIBITION

Chip/filter paper method (DIN-51360)

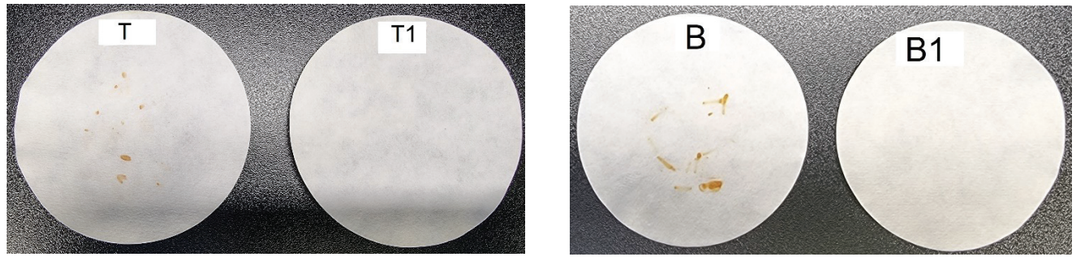
Test method description: cast iron chips are placed on filter paper and wetted with analyzed solution. The corroded area is evaluated after 2 h at a temperature of 20-25°C.

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

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