octima
organizzazione per la chimica e per la tecnologia innovativa dei materiali avanzati
organization for chemistry and innovation technology of advanced materials

LABEMA
corrosion inhibitors

January 31,2024

VEGERUST®
Bio-based additives

A bio-based range of anticorrosive materials for water based coatings

By Laurent Ceroni

Laboratoires LABEMA

- Creation in 1989 By Mr Laronze – Industrial Pharmacist Doctor
- Family-owned Company
- 1 Factory located in France; ISO 9001 certified
- International network of exclusive Distributors
- 70 % Sales exported in more than 40 Countries

Products Ranges:

AB RUST® and EMADOX®: Flash Rust inhibitors ; Traditional chemistry = fossil carbon

EMARUST®: Liquid corrosion inhibitors

VEGERUST®: Flash-rust inhibitors ; Sustainable chemistry = bio-sourced carbon

VEGERUST® Bio-based additives

Markets served

Architectural Paints

Metal working fluids

Industrial

Detergency

Marine

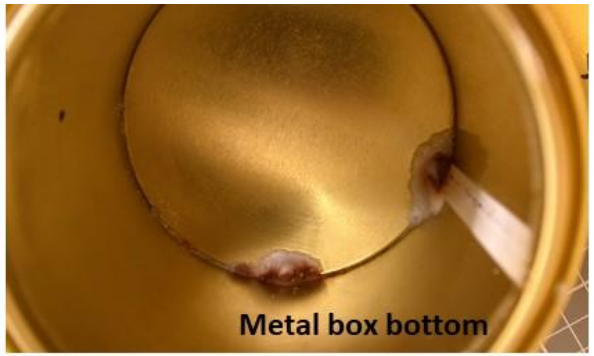
Temporary Protection

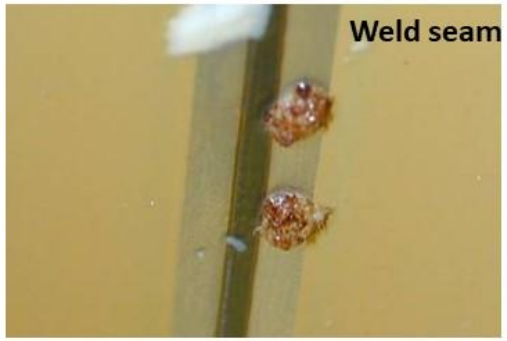
DTM

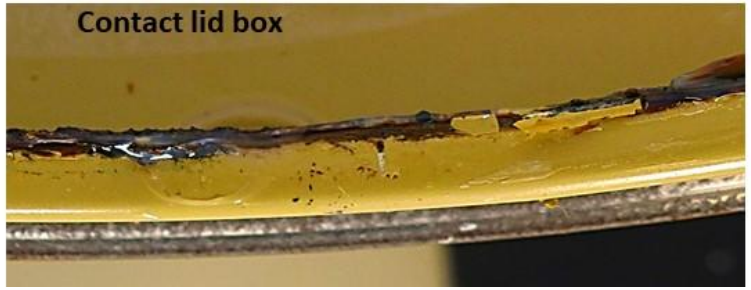
Heat exchanger fluids

VEGERUST Bio-based additives

Function n°1 : Protection of metal packaging







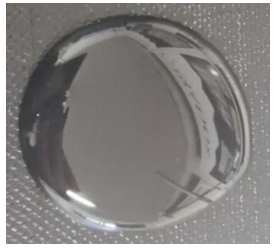
VEGERUST Bio-based additives

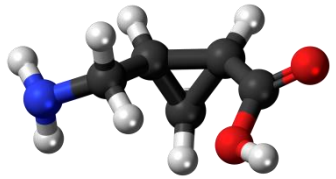
Function n°2 : Flash-rust inhibition

With additive

Without additive

More and more bio-based materials :





Resin

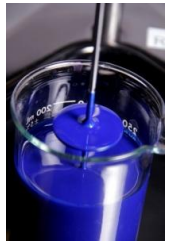
Defoamer

Dispersant

Co-solvent

Neutralizer

Corrosion inhibitors



VEGERUST Bio-based additives

VEGERUST® range : characteristics

- Raw materials of vegetal origin
- Provided by a plant not usable for human or animal food
- Carbon print reduced and CO2 balance improved in comparison with the corresponding traditional products AB RUST® or EMADOX®

Carbon 14 content: a reliable measurable indicator

SGS

REFERENCES

Cde : ACCORD DEVIS LE 03/11/2011
Devis : DR11-4761
Reçu Rouen, le 07/11/11
Demandeur: M CERONI Laurent
ClientID: VEGERUST NFP
Description:
Nature: SOLUTION AQUEUSE
Commentaire:

LABORATOIRES LABEMA
RUE DENIS PAPIN

42420 LORETTE
FRANCE

Rouen, le 30 novembre 2011

RAPPORT D'ESSAI
RN11-21198.001 Page 1 / 1

Paramètres	Unités	Résultats
Activité Carbone 14 (2)		
(selon ASTM-D6866 (AMS))		
Carbone d'origine biosourcée	% (m/m)	70
Carbone d'origine fossile	% (m/m)	30

Responsable Projet Tél : 02 35 07 91 72

VEGERUST Bio-based additives

VEGERUST® range : the figures

Renewable grade	Vegetal carbon (% of the total carbon content)
VEGERUST®A4	56,0
VEGERUST®FP	56,0
VEGERUST®ICP	57,3
VEGERUST®NFP	69,5
VEGERUST®HSA	44,3
VEGERUST®L4	56,0
VEGERUST®NFC	51,9
VEGERUST®SC	85,0

VEGERUST®SC :

- the HIGHEST bio-based carbon content : 85% of the total carbon
- Nitrite free, compliant with the European Ecolabel for paints and varnishes (Regulation 2014/312/EU)
- Not classified according to the CLP Regulation

Characteristics :

Aspect: Limpid liquid, colourless to yellow, slightly foaming

Miscible with water in all proportions

Density at 20°C : 1,11 ± 0,05

pH at 20 °C : 8,5 ± 0,5

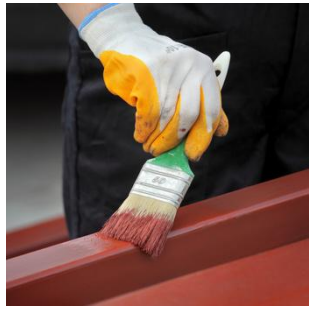
VEGERUST®SC in a WB acrylic decorative paint

Control without additive

VEGERUST SC at 1% of total weight

VEGERUST® range: Flash-rust inhibitors for paints

Renewable grades		Applications
VEGERUST®A4 VEGERUST®L4	With nitrite	WB decorative paints (Non Ecolabel) WB Direct-To-Metal Paints (deco and industrial) WB anticorrosive primers
VEGERUST®FP	Nitrite free	Coatings for wood
VEGERUST®HSA		Multi-metal coatings
VEGERUST®ICP VEGERUST®NFC VEGERUST®NFP		WB decorative paints (including Ecolabel) WB Direct-To-Metal Paints (deco and industrial)
VEGERUST®SC		WB decorative paints (including Ecolabel)

VEGERUST® range with regard to chemicals inventories

«there is a need for the right additives that comply with numerous regulations»

Renewable grade	Inventory compliance
VEGERUST®A4	
VEGERUST®FP	
VEGERUST®ICP	
VEGERUST®NFP	
VEGERUST®HSA	
VEGERUST®L4	
VEGERUST®NFC	
VEGERUST®SC	

VEGERUST® range : As effective as traditional products

- Comparative trials on the effectiveness of the VEGERUST® grades compared to the traditional AB RUST® and EMADOX® products
- based on 3 paints representative of the main water based segments
- based on 3 flash-rust inhibitors

DTM	PU dispersion modified with fatty acids siccatives
MATE	Acrylic
ANTICO	Acrylic copolymer in dispersion

Sodium Nitrite	**Fossil origin**	**Vegetal Origin**
YES	EMADOX A4	VEGERUST A4
NO	EMADOX ICP	VEGERUST ICP
NO	AB RUST NFP	VEGERUST NFP

Complete report available at : http://www.futureisvegetal.com/WP/

VEGERUST® Bio-based additives

Testing method : L-AF30 developed by LABEMA

- Drying artificially delayed
- Exposure of the metal metals in a salty and humidity saturated atmosphere
- Minimum duration = dry to touch time
- Flash-rust quotation according to a scale with 5 levels :

0 = no flash-rust

4 = more than 50% of the surface damaged by the flash-rust

VEGERUST® Bio-based additives

VEGERUST® range : As effective as traditional products

DTM : PU dispersion modified with fatty acids siccatives

Control without additive

EMADOX®A4
0.3% of total weight

VEGERUST®A4
0.3% of total weight

Complete report available at : http://www.futureisvegetal.com/WP/

VEGERUST® range : As effective as traditional products

MATE : Acrylic

Control without additive

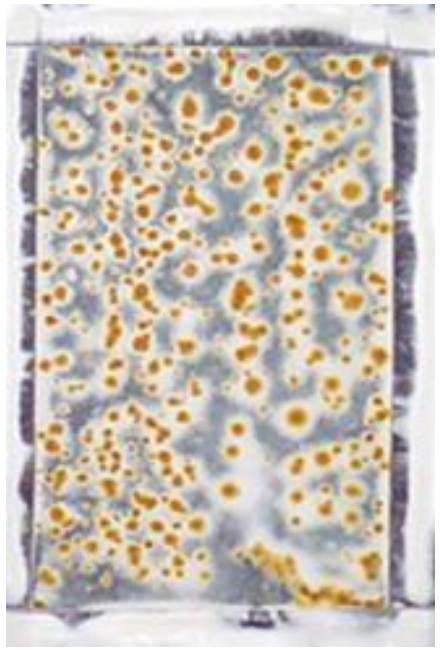
EMADOX®ICP
1% of total weight

VEGERUST®ICP
1% of total weight

Complete report available at : http://www.futureisvegetal.com/WP/

VEGERUST® range : As effective as traditional products

ANTICO : Acrylic copolymer in dispersion



Control without additive

AB RUST®NFP
1,5% of total weight

VEGERUST®NFP
1,5% of total weight

Complete report available at : http://www.futureisvegetal.com/WP/

Challenges and Opportunities

- Convincing the decision makers of the interest and performance of bio-based raw materials is still the main challenge.
- Decorative bio-sourced paints are a growing market segment : the increasing sensitivity of the young generations (under 30 years old) for eco-friendly paints plays a driving role.
- Water borne systems represent only 3 to 7% of the protective coatings segment

Source: European coatings journal – 04-2021

VEGERUST® Bio-based additives

Thank you for your attention.
More information on our web sites and our LinkedIn page.

http://www.labema.com/

http://www.futureisvegetal.com/WP/

www.rust-corrosion-testing.com

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