

EMADOX[®] Corrosion Inhibitors for Lubricants, Cooling and Cleaning Applications

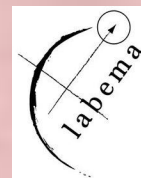
Laboratoires LABEMA[®]

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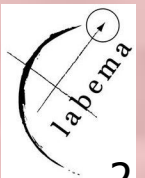
Web site : www.labema.com

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LABEMA Laboratories

- Created in 1989 by Mr Laronze – Industrial Pharmacist Doctor
- Certification ISO 9001 since 2001
- 2 main departments :
 - Corrosion inhibitors for water bases EMADOX[®] and AB RUST[®]
 - Ready to use fuels for reduced models



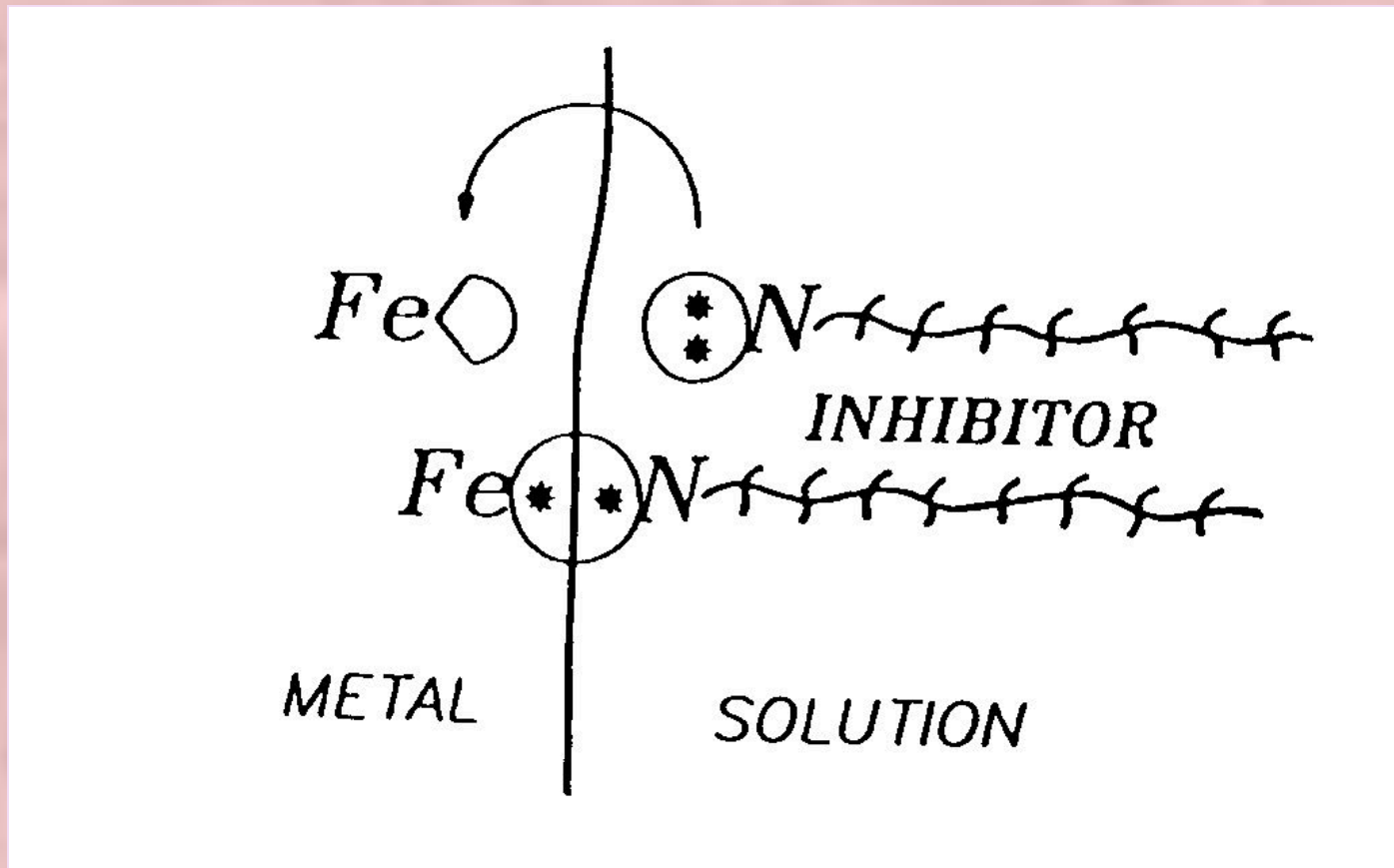
EMADOX[®] and AB RUST[®] characteristics

- Ready to use aqueous solutions (except EMADOX 301)
- Associations of different active materials in corrosion inhibition
- REINFORCED EFFICIENCY due to synergies and complementarity between the different active materials

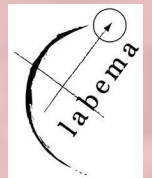


EMADOX[®], AB RUST[®]

Way of action : adsorption

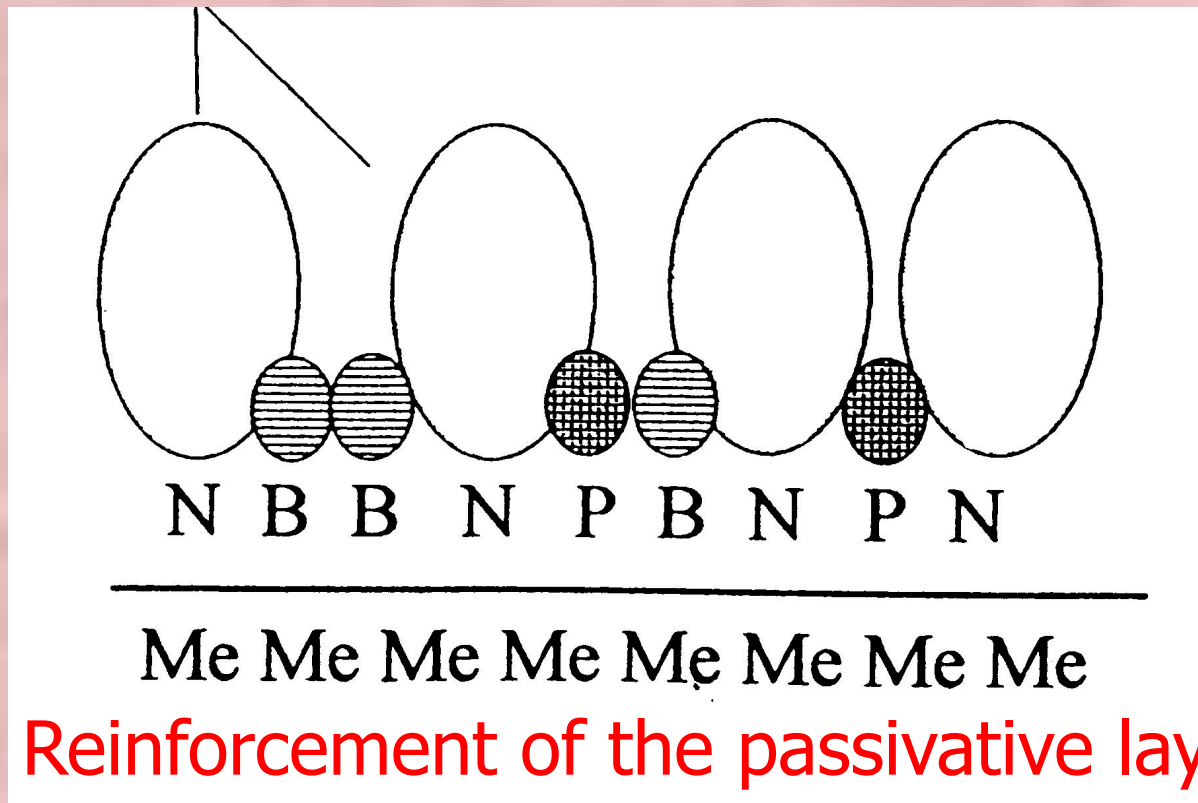


Physisorbed film which may be stabilized by chemisorption

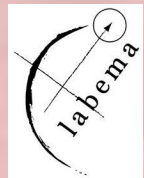


EMADOX[®], AB RUST[®]

Way of action : Reaction with oxidised metal

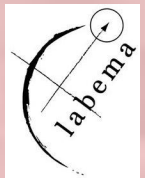


Passivating inhibitors are considered the most effective



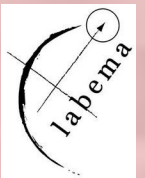
EMADOX[®], AB RUST[®]

- Create a physical barrier to the diffusion
- Block anodic/cathodic sites
- Interact with adsorbed corrosion reaction intermediates
- Modify the electrical layer and then the rate of electrochemical reactions
- Stabilize alkaline pH



Targeted markets for some EMADOX[®] grades

- Lubricants, temporary protection
- Cooling – Hydraulic fluids
- Detergency – Cleaning Products



Lubricants - Mechanics Industries

EMADOX BBA, BBC, 201 for :



- Water soluble lubricants, special oils
- Temporary protection
- Hydraulic tests



Cooling – Hydraulic fluids

EMADOX BBC for :

- Vehicles :
 - Antifreeze, Cooling liquids, Brake fluids



- Industries :
 - Cooling and heating circuits protection



Cooling – Hydraulic fluids

EMADOX BBC for :



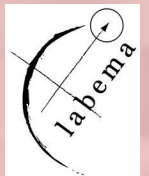
- Vehicles :

- Antifreeze, Brake fluids

Homologated at 1,0% in brake fluid tested according to ISO 4925:2005

- Industries :

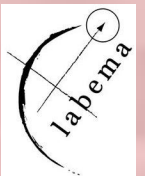
- ALSTOM POWER



Precautions

EMADOX BBA, BBC, 201 :

- Form calcium and magnesium salts in hard water
- Have cleaning properties : take care in old circuits not to seal the filters



Detergency – Cleaning Products



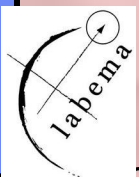
EMADOX D520, BBA, NC-AL for :

- Metal packagings protection such as aerosol boxes
- Industrial Cleaning machineries protection



EMADOX[®] in lubs, cooling and cleaning

Application	EMADOX [®]						
	D520	NCAL	BBA	BBC	201 BORON FREE	301 VCI	M
Lubricants/Special oils							
Temporary protection							
Hydraulic fluids							
Detergency/ Cleaning products							
Small scale models							



EMADOX[®] in lubs, cooling and cleaning

- EMADOX BBA, BBC, 201 in replacement of
- LUBRIZOL products
 - Alox and Lubrizol grades
- CIBA
 - Irgamet 42, Irgacor L190 and L184



Evaluation of liquid corrosion inhibitors formulated to protect multimetal systems

- Method L-14415 : derivated from ASTM Standard D 1384-93 for engine applications
- Weight losses measures after accelerated corrosion



Evaluation

- Sister Company Rust Corrosion Testing
www.rust-corrosion-testing.com
- Salt spray according to ISO 9227
- Humidity resistance according to ISO 6270-2

