

AIMS² Research Project in Materials/Corrosion Engineering

Research Duration: 2020-21 (September 15, 2020 – May 31, 2021)

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Title of Project: **Improving the durability of packaging materials using environmentally friendly vapor phase corrosion inhibitors**

Goals and Objectives of the Project, Expectations and Outcomes

On a global scale, the packaging industry is an enormous economic generator. Statistics from the well-recognized Smithers Pica organization indicate the world packaging industry's market value will reach \$1 trillion by 2020. That's up from \$839 billion in 2015. Consumer trends and industry trends for packaging drive this gigantic growth rate. Reduce, reuse and recycle is part of the green commitment to being responsible in the world. Today's consumers are far too aware of their environmental footprint. More people than ever are joining the ecological fight and doing their part to protect their share of the world. The packaging industry must recognize and respect consumers' desire to maintain a smaller carbon footprint. They can do that by making smaller and greener packages. Application of green corrosion inhibitor in packaging materials (wrap paper, film and box) will be investigated using standard corrosion and durability tests.

In this project, fellow researchers will conduct literature survey and internet search of packaging materials, and will evaluate the existing corrosion protection techniques used in packaging industries. The main objective of this project is to develop new green inhibitors to combat these corrosion problems.

During weekly Zoom meetings student progress will be monitored and weekly tasks will be assigned. Students are required to submit a summary report at conclusion each semester followed by PowerPoint presentation on Zoom.

