



INTERNATIONAL WORKSHOP ADVANCES IN CLEANER PRODUCTION

"KEY ELEMENTS FOR A SUSTAINABLE WORLD: ENERGY, WATER AND CLIMATE CHANGE"

Cryogenics Containers for Cargo Transport

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Abstract

This study aims to present cryogenics as an element in transportation systems, utilizing carbon dioxide as refrigerant. This technology is not current, although its effective application in transportation gain force after the Protocol of Kyoto, besides that studies found out new ways to sequest CO₂ at lower prices. Another feature to be considered is the difficulty and high costs of the technology, used nowadays, to transport frozen and cooled cargo, generically names reefer. This led the logistic community to search for alternatives that minimized costs and maximized profits. The market for frozen and cooled cargo has been increasing dramatically in emerging countries, such Brazil and China, and those countries don't own effective methods to evacuate and store the production of perishable goods, creating logistics bottlenecks. Comparatively the proposed technology is more ecologically correct, because uses recycle CO₂, which would be emitted to the atmosphere, in addition to that it doesn't use electrical power in its application. Studies corroborated that this technology is economically feasible, for the fact of being cheaper and is a bactericide agent, joining to the legislation related to food security.

Keywords: Transportation, Cryogenics, Carbonic Dioxide.
