



# **Pneumatic Dry Bulk Tanker**

## **Recommission and Product change**

# Pneumatic Dry Bulk Tanker – Product Change

## Project Brief

- Re-instate a decommissioned bulk tanker
- Ensure the tanker is suitable to transport food grade products

## Considerations

- Pressure vessel
  - Legal Compliance
- Previous product carried (SDS)
  - Urea (Carbonyl diamide) Raw material for fertilizers
    - Completely miscible – Dissolves 100% in water at room temperature
  - pH 9.4 to 10.2
    - Alkaline – Possible Corrosion
- Toxicological information
  - Acute oral toxicity – LD50: 8,471 mg/kg
- Biodegradability
  - Biodegradable; 14 days
- Not classified as dangerous in the meaning of transport





# Process



- Internal and External wash (Wash; Inspect; Repeat)
  - Water @ 60°C with food grade detergent
- Initial Pressure Test
- Pipes; gauges; valves and hoses
  - Pipes – Sandblast; Repair and Coat
  - Seals; Hoses – Replace all permeable surfaces
  - Valves; Gauges - Replaced
- Internal surfaces
  - Inspect; Repair; Coat (PPG Sigmaguard 720)
- Assemble
- Pressure and Functional Tests
- Recertify Pressure Vessel – Independent Inspector – Wall Thickness
- Curing time – 1 week
- Food Grade Wash
  - Water @ 60°C with food grade detergent
  - Certification - Independent Inspector





# Result



The project ran over 3 weeks. The successful recommissioning has extended the life of the old tanker and increased the eventual resale value of the asset.

PRODUCT NAME	a- INSTITUTE b- DATE OF REPORT/REF. c- VALIDITY d- PRODUCT SHEET/REF.	CONCLUSION
Sigmatguard EHB (SigmaGuard 720)	a- TNO Nutrition and Food Research b- 31-01-1997, DAS 97-0219/HAT-dia TNO sample number: 200064198 c- -- d- 7433	The values obtained for the overall migration into 3% acetic acid and 15% ethanol from the panel meet the overall migration limit as specified in the Packaging and Food Utensils Regulation (Commodity Act) of the Netherlands and in EU Directive 90/128/EEC for plastics intended for contact with food.
Sigmatguard EHB (SigmaGuard 720)	a- Shanghai Prophylactic & Control Center b- 14-06-1999, GB/T5009.70-1996 c- -- d- 7433	Items tested all meet the needs of GB9686-88

