



# PLANT SYSTEMS ENGINEERING

## DUST EXPLOSION PREVENTION: BIO-DEGRADABLE FOOD CONTAINER PLANT

Project Requirements: A new process had been developed to manufacture bio-degradable food containers from starch based products. The starch and other minor ingredients posed dust explosion hazards requiring a complete review and application of the codes.

### Scope of Work:

- Coordinate testing of materials at third party laboratory.
- Apply test results to NFPA 61, 68 and 69 to enable design of appropriate passive and active explosion protection systems.
- Review designs and calculations with the authority having jurisdiction and owners insurance.
- Coordinate purchasing of all explosion protection equipment.
- Provide detailed engineering design of all systems and equipment interfaces.
- Oversee installation



*Sodium bi-carbonate active suppression on process vessel*



*Stainless steel explosion vent ducts to carry products of deflagration to outside.*



*Roof top dust collector with explosion vents*

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