



Safety alert 12/2009

Bulk dry powder discharge tanker

Incident

During the unloading of a bulk dry powder discharge tanker, the tank (a pressure vessel) failed, causing the death of two workers. The tank was connected to a large portable compressor supplying compressed air to discharge the load, which was a mineral powder (barite).

Inspections revealed that the tanker had not been inspected by a competent person for some years, and had several repairs that were below acceptable pressure vessel standards.

While under pressure, the tank had a catastrophic failure.

Factors to consider

- The pressure vessel and its repairs were not inspected by a competent person.
- The air supply was not correctly regulated.
- The shell of the tank could not withstand the pressure imposed by the compressed air.

Recommendations

1. Follow the designer's and/or manufacturer's instructions for safe tanker operation.
2. Supplied air pressure must be displayed by a calibrated pressure gauge, should and not exceed the designer's and/or manufacturer's instructions.
3. Provide safety devices of the correct size to relieve excess pressure, without accumulation and set at or below the design pressure of the pressure vessel.
4. Pressure vessels must be inspected periodically, in accordance with AS/NZS 3788 Pressure equipment In-service Inspection.
5. Pressure vessel repairs and/or alterations must be inspected by a competent person.
6. Dry bulk powder discharge tankers are a category of pressure equipment which requires a current registration with WorkSafe or another regulatory authority responsible for plant safety.

Further information

- AS/NZS 3788 Pressure Equipment In-service Inspection
- AS 4458 Pressure Equipment - Manufacture

Further information can be obtained from WorkSafe's internet site www.worksafe.wa.gov.au or by contacting customer service on 1300 307 877 or email safety@commerce.wa.gov.au

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