

## SCOPE

This horizontal BAT Reference Document (BREF), entitled ‘Emissions from storage’, covers the storage and the transfer/handling of liquids, liquefied gases and solids, regardless of the sector or industry.

It addresses emissions to air, soil and water. However, most attention is given to emissions to air. Energy and noise are also addressed but to a lesser extent.

Of the following storage modes applied for the storage of liquids and liquefied gases, a short description is given and their main emission sources are identified:

Tanks:

- open top tank
- external floating roof tank
- fixed roof tank
- aboveground horizontal storage tanks (atmospheric)
- horizontal storage tanks (pressurised)
- vertical storage tanks (pressurised)
- spheres (pressurised)
- mounded storage tank (pressurised)
- lifter roof (variable vapour space) tank
- refrigerated storage tank
- underground storage tank.

Other storage modes:

- containers and the storage of containers
- basins and lagoons
- mined caverns
- salt leached caverns
- floating storage.

And, in particular for the storage of solids:

- heaps
- sacks and bulk bags
- silos and bunkers
- packaged dangerous solids.

For the transfer and handling of liquids and liquefied gases, techniques such as piping systems and loading and unloading equipment are addressed, such as valves, pumps, compressors, flanges and gaskets, etc.

For the transfer and handling of solids, techniques such as mobile unloading devices, grabs, dump pits, fill pipes, thrower belts, conveyors and feeders are described, and in each case the emission sources are identified.

For all significant emissions sources from the storage and transfer/handling of liquids and liquefied gases, emission reduction techniques are described, such as management tools and techniques, e.g., bunds, double wall tanks, level control instrumentation, seals, vapour treatment and fire protection.

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Information about air emissions from the storage and handling/transfer of solids focuses on dust. Techniques to prevent or reduce dust such as water spraying, covers, enclosed storage and handling facilities are described, together with some operational tools.

The storage and handling of gas is also in the scope of this document, however it is not described further in this document as no information was submitted. The main reason for this is that at most times gas is stored under pressure, as liquefied gas. The storage and handling of liquefied gases is described together with that of liquids, since similar techniques are applied.