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## Fire! A guide to the causes and prevention of cargo fires – Swedish Club

This guide from the Swedish Club addresses vessel fire statistics, self heating principles and other causes of fires and explosions.

It discusses regulations and controls relating to self-heating including:

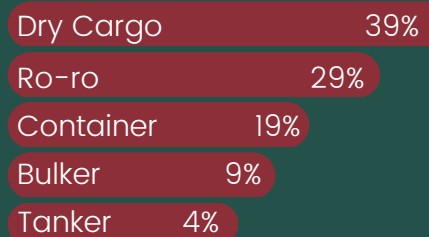
- closing/sealing holds - exclude oxygen and water
- flushing holds with inert gas to exclude oxygen
- adhering to maximum cargo loading temperature
- keeping cargos away from heat/out of direct sunlight
- proper ageing before loading/stuffing
- complying with packaging/stuffing requirements such as maximum package sizes

The guide considers specific self-heating cargos and controls including material and case studies on:

- bulk coal
- bulk direct reduced iron
- charcoal
- metal powder and turnings
- seed cake
- reactive solids
- biomass
- fertilisers
- batteries
- reactive liquids

The final section looks at other potential causes of cargo fires and explosions including: cargo hold lights, smoking and hot work, vehicles and refrigeration units, fumigation and flammable liquid cargo.

Cargo fire claims:



2007-2016, Swedish Club

Two main types of reaction can lead to cargo self-heating:

1

**OXIDISING**  
cargo reacts with oxygen in air or water

2

**SELF REACTION**  
or self-decomposition

LINK:

[https://www.swedishclub.com/media\\_upload/files/Loss%20Prevention/Fire/TSC%20Fire%20Guide%20%28web%29.pdf](https://www.swedishclub.com/media_upload/files/Loss%20Prevention/Fire/TSC%20Fire%20Guide%20%28web%29.pdf)