

1971, July 15

Port of Gothenburg, Sweden

**Sodium chlorate** (Class 5) in drums; solid powerful oxidizer that decomposes by heat to free oxygen and may cause fire and explosion in contact with combustibles

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**Summary:** The Danish dry cargo vessel **Poona** of 8000 dwt was loading steel structures in the port of Gothenburg. The hold contained a cargo of, among other things, 36 tons of **sodium chlorate** in 100 kg drums and 600 tons of **rapeseed oil** in 200 l drums. All drums of both substances were stowed on pallets in the same holds. Three heavy structures were going to be hoisted by a crane into the hold, one by one. The first structure started to swing and thereby punctured a drum of rape oil so that the content of 100 l ran out. When the last structure was handled, it struck a drum of sodium chlorate with the result that a part of its content came out and mixed with the rape oil. The structure then slid on the floor creating sparks that ignited the mixture. The sodium chlorate was decomposed by the heat to free oxygen, which started a violent fire in the hold. After one or two minutes, flames flared up out of the hold and after another few minutes three severe explosions occurred in rapid succession. They were so violent that hatch covers were thrown away onto the quay and some of them several hundred metres away. The fire fighting operation became very difficult and dangerous due to the ferocity of the fire and also due to the fact that the ship also contained **carbides**. The latter chemical prevented the use of water as fire extinguishing agent. The fire fighting went on for 4 days and had to be performed both from the quay and from the sea side. The work on final extinction of the fire continued for 10 days. Three persons were killed and six injured during the accident.

**Cause of Accident:** See above. It is highly inappropriate and reprehensible to stow oxidizers and combustibles in the same hold.

**Comments on Response:** This fire fighting operation was very complicated and perhaps the most difficult one ever happened in Gothenburg.

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**Source of Information:** Brief article (in Swedish) in the news magazine of the Swedish Fire Protection Association.  
(Abstracted April 1991 by Björn Looström, Swedish Coast Guard H.Q.)