

Discussion on Container Dangerous Goods Stockpile Management Based on Quantitative Risk Assessment

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Presentation Only: The particularly serious fire and explosion accident happened at the dangerous cargo container warehouse in Tianjin Port on August 12, 2015, causes a new thinking of management of dangerous goods containers in the port. On the basis of jointly complying with the requirements of the "international maritime dangerous goods code" on the separation distances between different classes of dangerous goods containers, all dangerous goods containers are required to be piled up centrally and set at special yards of the port in Mainland China. While, Ports in Belgium, Singapore and other countries take the principle of decentralized storage of dangerous goods containers. Containers of dangerous goods and ordinary cargo containers are mixed pile in these ports. Obviously, there is a lower probability of a major accident occurring in the decentralized way, but there are some special circumstances in Mainland China. This study attempts to explore the layout principle of the container of dangerous goods by quantitative risk assessment method. Under the precondition that the dangerous goods containers in the port are piled up centrally, three principles are obtained to reduce the risk. The first principle is to increase the spacing between different types of dangerous goods containers that may influence each other. The second principle is to divide the containers of flammable and explosive dangerous goods into several small areas. Controlling the number of containers with flammable or toxic substances is the third.
