

Casualty Circular No. 3 of 2004

F.No.11- NT(36)/2003

Dated 18th August 2004

Sub: Death on Board Log Carrier

1. NARRATION :

1.1 A log carrier was discharging cargo of timber logs alongside the quay. No.2 hold was opened during the morning, for the first time after having arrived from the load port, for discharge of cargo. Shore stevedores had entered the hold and were in the process of fastening the wire rope sling around the logs when one stevedore suddenly collapsed. Another stevedore rushed to the same spot to rescue the collapse persons but he also collapsed. On observing this, two more stevedores rushed inside the hold but they too collapsed.

1.2 Fire Service personnel of the port were thereafter called for help. They entered the hold with the help of self-contained breathing apparatus and brought all the four stevedores out of the hold. Rescued persons were rushed to the hospital, but all four were declared brought dead in the hospital.

1.3 The cargo handling of the vessel was suspended for 30 days till the safe working environment was ensured.

2. PROBABLE CAUSES:

2.1 Prior to the shipment, generally the wood is subjected to anti-termites anti-rodents and anti-marine borers treatment using suitable chemicals and the so called pesticides.

2.2 Chemical treatment may be by

(i) Methyl Bromide fumigation or

(ii) Phosphine fumigation generated either from Aluminium Phosphide or Magnesium Phosphide.

2.3 When the wood is not properly seasoned and the moisture content is not removed to the desirable extent, the fumigation gases which are sprayed, may not be absorbed completely. In this case, these gases may spread to the surroundings.

2.4 Out of all fumigants, Methyl Bromide is very effective against all stages of plant pests and is extensively used. It is also very toxic to humans and takes life on immediate exposure. Further, Methyl Bromide releases Methane gas.

2.5 Due to the stacking of wood without proper air circulation and ventilation, carbon Monoxide

(CO) in the traces, may be released.

2.6 Principle constituents of the wood are cellulose and lignin. These are complex organic compounds, which generally release some organic gases on their decomposition even in the absence of any chemical treatment. Therefore, influence of any organic gases certainly dominates the situation leading to the evolution of noxious compounds at very slow rate, which may lead to respiratory problems.

2.7 Stevedores working in the hold of the ship may have been exposed to any one of the above mentioned toxic chemicals/gas poisoning / asphyxiants. It is also a probability that stevedores may have been exposed to acute toxicity, most probably due to Methyl Bromide and thereafter died due to asphyxiation when they stepped down from the top of timber logs into the hold through the gaps in-between logs immediately after opening the hold No. 2 of vessel

3. LESSONS LEARNT:

3.1 Owners / Managers/ Operator or Ship Master must declare to the port authorities whether timber logs were subjected to chemical treatment. This declaration must be with substantiated with adequate certificates indicating the details of chemicals used and its effects.

3.2 If the timber logs are not subjected to chemical treatment, the Master shall ensure that the holds are kept open for adequate duration and forced ventilation/aeration is carried out. Prior commencement of cargo work, Master must ensure safe working environment in the cargo holds, i.e. absence of any harmful gases and presence of required oxygen level (20.9%).

3.3 If the timber logs are subjected to chemical treatment, holds may required to be ventilated for longer duration. Thereafter, the man entry should be permitted only on confirming the absence of harmful gases.

3.4 The Master of the ship may consider keeping ready the self-contained breathing apparatus and other personal protective equipment, to be used if necessary, prior to first entry in the holds after opening the hatches.

3.5 Master of the vessel carrying timber logs should, prior to commencement of cargo work educate shore stevedores about the dangers of toxic gases that may be present in the holds loaded with such cargos.

4. This issues with the approval of the Nautical Adviser to the Govt. of India.

Sd/-

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Nautical Surveyor

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