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## Special Requirements for the Transport of Heated Liquids and Powdery or Granulated Materials in Portable Tanks

Notice to shipowners, ship operators, masters, tank owners, tank operators and shippers of dangerous goods.

This Note supersedes Merchant Shipping Notice M1184

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### *Summary*

This note provides guidance on the carriage of heated liquids and powdery or granulated materials in portable tanks and draws attention to the provisions in the sections 13.1.27 and 13.1.28 of the General Introduction in the IMDG Code.

#### **Heated liquids**

1. The International Maritime Dangerous Goods (IMDG) Code in section 13.1.27 of the General Introduction sets out the special requirements relating to tanks for the transport of dangerous substances at elevated temperatures in liquid, molten or resolidified form. Guidance given in this note should be treated as complementing the above requirements. The principles in this note apply equally to heated liquids which do not fall into the classification of dangerous goods in the IMDG Code.
2. It should be noted that liquids with a flash point above 61°C when carried at or above their flashpoint and liquids carried at or above 100°C but below their flashpoint, if any, are considered dangerous substances under the IMDG Code provisions.
3. When temperatures are raised the vapour pressure increases and the design needs to take into account the increased pressures and lowering, if any, of the properties of the materials of construction. Filling ratios will need to be reduced to take into account greater bulk expansion of the liquid in accordance with paragraph 13.1.27.4.
4. Heated liquids carried above their flash point, if released inadvertently through the relief devices or failure of the shell or shell openings create a fire hazard at least in the vicinity of the tank. Heating may also give rise to toxic or corrosive vapours harmful to human health. The spill may make the deck slippery, inaccessible and affect the securing arrangements.
5. Electrical heating systems incorporate provisions for protection against explosion and all heating systems are included in the initial and periodic inspections required for the tank.
6. Consignors and tank operators should ensure that the surface temperature outside the insulation and cladding does not exceed 70°C.
7. The elevated temperature mark required to be displayed on the tank by 13.1.27.8 is given in sec.8.9.
8. If the tanks are to be heated on the ship, the consignor should ensure that the max carriage temperature envisaged does not exceed the design temperature and the pressure developed at this temperature is within the MAWP marked on the name plate. The degree of filling should be such that the tank is not more than 95% full on heating. When heating is requested, the master should be provided with written confirmation of the above as part of the dangerous goods documentation.

9. Temperature regulation devices particularly in the case of bulk heating cannot always be relied on and the temperature will need to be watched during the passage through frequent inspections.
10. A tank requiring heating, if stowed under deck, should be secured in a well ventilated location to take advantage of optimum air circulation.

**Solid dangerous substances (powdery or granulated materials)**

11. Section 13.1.28 of the General Introduction, IMDG Code sets out the special requirements relating to tanks for the carriage of powdery or granulated substances.

12. Solid substances may be carried in portable tanks when indicated as such in individual substance schedules. Other solid substances which are considered suitable for carriage in metallic Intermediate Bulk Containers (IBCs) in accordance with the table in Appendix 2 to section 26, General Introduction of the IMDG Code, may also be carried in portable tanks.
13. When authorisation by competent authority is required for the substance or is indicated by special requirement 7 or 12 in the table, particulars should be submitted to the Chief Surveyor, MSAS D, Marine Safety Agency, Spring Place, 105 Commercial Road, Southampton SO15 1EG.

MSAS D  
Marine Safety Agency  
Spring Place  
105 Commercial Road  
Southampton SO15 1EG

Tel 01703 329176  
Fax 01703 329204

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