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## PAINTING

### 1. USE AND STORAGE OF PAINTING AND THINNERS

- 1.1. Paints and thinners present significant fire and explosion hazards due to their volatile nature. They also have toxic properties if vapours are inhaled.
- 1.2. Paints must be stowed only in the designated paint lockers provided with fixed firefighting system and not in other spaces like engine room, steering gear room, accommodation, storerooms etc. Storing paint drums in undesignated spaces can result in fire hazards. Senior officers shall ensure that after completion of work, all paints are kept back in the designated paint store.
- 1.3. The paint locker must be kept clean and tidy.
- 1.4. MSDS must be available and posted up at the paint locker for all types of paints and thinners onboard, when preparing and using paints. The MSDS provided by the manufacturer must be consulted to determine any health or hazard warnings that must be complied with. Personnel who handle the paints must be aware as to the purpose and position of the MSDS.
- 1.5. Appropriate PPE shall be used when using paints.
- 1.6. Prior entering paint store ensure there are no paint vapours or gases. The space must be well ventilated. Paint store intrinsically safe light switches and light fitting are not to be opened without the Electrician or Chief Engineer's supervision.
- 1.7. No naked light or smoking or carriage of matches or lighters shall be allowed in paint stores or where painting is in progress.
- 1.8. Paint lockers should not contain any spark generating tools.
- 1.9. Drums of paint and thinners must be kept closed to reduce vapor release to minimum. Thinners have low flash points and strong smells and so should not be left in open containers.
- 1.10. All drums in paint store to be kept properly stowed and secured at all times to prevent uncontrolled movement.
- 1.11. Eye Wash and Protective Equipment (Aprons, Face shield and Rubber Gloves) shall be kept in paint store.
- 1.12. No type of hot work is to be carried out in or near the paint locker unless suitable precautions are taken, including removal of all paint drums.
- 1.13. The quantity of paint, thinners or other flammable liquid present in a work area should be kept to the minimum practicable.

- 1.14. Before applying paint ensure surface preparation is good and weather is dry.
- 1.15. Paint shall be applied only as per painting scheme /manufacturer's instructions. Read and observe precautionary notices on paint containers.
- 1.16. Care should be taken to avoid splashes on ropes, safety harness, lines, etc.
- 1.17. Interior and enclosed spaces should be well ventilated, both while painting is in progress and until the paint has dried.
- 1.18. When painting is done in the vicinity of machinery, the power supply should be isolated, and the machine immobilised in such a way that it cannot be moved or started up inadvertently. Appropriate warning notices should be posted.
- 1.19. Area should be clearly marked "wet paint" to prevent slipping and carrying paint marks to other areas.
- 1.20. Paint drums not to be hung on railings or kept close to ship side as they may fall overboard causing pollution.
- 1.21. All paint brushes, rollers and spray-painting machine shall be cleaned and kept ready for future use. Brushes and rollers should not be left in thinners for prolonged periods, especially when charged with two-pack paints (the paint in the brush or roller will harden in the thinners but at a slower rate).
- 1.22. The ingestion of paint or thinners should always be avoided. Food and drink should not be brought into, stored, prepared or consumed in the areas where paints are stored, handled or used. It is strongly recommended that after work, and especially before taking food, personnel who have been working with paint should thoroughly clean themselves with soap and water.
- 1.23. Spillages of paint should be cleaned up as soon as they occur. Ventilate the area to remove the fumes.
- 1.24. All used rags and painting materials are to be stowed on closed metal containers as they are combustible material and as such is to be kept safely until disposal.
- 1.25. Particular attention must be paid to the condition of the flame-proof electrical fittings in paint store.
- 1.26. The construction of the stowage racks in the paint store is such that paint drums (or tins) stowed on the top shelf could be higher than the sprinklers of the fire suppression system or at least high enough to impede the efficiency of the sprinkler heads. The general guidance as provided by the National Fire Protection Agency (NFPA) has been adopted which requires:

- Drums or tins or other items of any kind may not be stowed closer than 460mm (18 inches) from the bottom of the sprinkler; and
- If this minimum distance cannot be maintained using the uppermost rack, then that upper rack is to be left unused and explicit and clear instructions to that effect to be displayed prominently.
- Paint store bulkheads should be marked with a red line and stencilled instructions to provide quick reference to the maximum stowage height permissible in the compartment. This can be done by pasting red tape or painting a red line with appropriate instructions on the bulkheads. The red demarcation line need not be continuous but must be clearly visible and the instructions easily read and unambiguous.

## 2. ADDITIONAL PRECAUTIONS WHEN USING SPRAY EQUIPMENT

- 2.1. When paint spraying, the principal safeguards necessary to prevent fire or explosion and to minimize the risk to health are effective separation from other processes, enclosure and ventilation. All possible sources of ignition of both solvent vapours and solid residues must be removed from the vicinity of the work.
- 2.2. Airless spray-painting equipment is particularly hazardous because the paint is ejected at a very high pressure and can penetrate the skin or cause serious eye injuries. Spray should not be allowed to come into contact with the face or unprotected skin. During paint spraying, the body is to be kept fully covered to prevent accidental penetration of the skin.
- 2.3. Spray painting must not be carried out in enclosed spaces, unless in special circumstances when specific permission has been taken from office, and all prescribed safety precautions are taken.
- 2.4. Paint spraying equipment must only be operated in accordance with the manufacturer's instruction and with great care.
- 2.5. Airless spray gun must never be pointed at anyone. The paint would penetrate the skin at such high pressures or cause serious eye injuries.
- 2.6. The pressure in the system shall not exceed the recommended working pressure of the hose. The system shall be regularly inspected for defects and manufacturer's requirements strictly adhered with.
- 2.7. If a spray nozzle clogs, the trigger of the gun should be locked in a closed position before any attempt is made to clear the blockage.
- 2.8. Before a blocked spray nozzle is removed or any other dismantling is attempted, pressure should be relieved from the system. When blowing through a reversible nozzle to remove a blockage, all parts of the body should be kept clear of the nozzle mouth.