

## **G14H Storage of Flammable Liquids and Gases**

### **1. Petrol**

- 1.1. Small quantities of petrol are to be stored in steel jerry cans, or 5 litres specially designed plastic containers. These should be kept in well-ventilated bins or cupboards, which are of a minimum ½ hour fire resisting construction.
- 1.2. Quantities are to be kept to a minimum and should be stored at least 10m outside any building where possible.
- 1.3. All containers are to be:
  - a) Marked with Contents
  - b) Signed 'Highly Flammable'
  - c) Stored in locked ventilated steel boxes when not in use that are at least 6m from a building or flammable material.
  - d) Dry powder or foam extinguishers should be provided adjacent to any petrol storage area.
- 1.4. 2 Stroke must be clearly marked and mixed by measuring cup or marks on an oil bottle.

### **2. Highly Flammable Liquids (HFL's)**

- 2.1. This section includes solvent thinners, flammable adhesives, white spirit, oil based paints etc are to be stored in a modified container or roofed external storage area that is:
  - a. Bunded for largest drum contents plus 10%
  - b. Provided with suitable dry powder or foam fire extinguishers
  - c. Signed 'Flammable liquid - No Smoking, No Naked Lights'
  - d. Provided with ventilation and spark free electrics for the storage container
  - e. A minimum of 10m from building or flammable materials stored externally
- 2.2. HFLs should only be removed from storage in quantities to be used in 1 day
- 2.3. For less than 50 litres, a metal lockable metal bin (COSHH Box) may be used

### **3. Liquid Petroleum Gas**

- 3.1. There should be sufficient shelter to prevent cylinders from being exposed to extremes of weather with:
  - a) A concrete base
  - b) Segregation of full and empty bottles and signed
  - c) Bottles stored minimum 1.5mts from compound fence
  - d) Secure fence and lockable gate
  - e) Fire extinguishers positioned, Foam and Powder
  - f) Signed "LPG Highly Flammable" – No Smoking and No Naked Lights

#### 4. Diesel Storage

- 4.1. Provide drainable bund walls for the storage capacity of the tank plus 10%.
- 4.2. Suitable access for tankers, fire extinguishers, signs, etc., must be provided
- 4.3. Towed double skinned bunded bowzers are available and should be used to prevent possible ground contamination

#### 5. Acetylene

- 5.1. Acetylene gas cylinders can be very unstable in any fire situation and the Fire Service will usually impose a 200m-exclusion zone, spray cool cylinders for at least 24hrs or even decide not to fight the fire. Water damage and delay could cause major disruption out of all proportion to the scale of the original incident.
- 5.2. It is highly recommended that acetylene is never used where a practical alternative exists. e.g. Alternative cutting and welding techniques, such as cold-cutting, arc-based cutting and welding and brazing exist could be used.
- 5.3. If there are no practical alternative, their use must be formally justified by the contractor and approved by the Project Leader and HS&E Adviser and details of proposed stringent controls provided. These controls may include:
- 5.4. Prefabrication – to eliminate risk, measure and mark work on site and carry out any acetylene based cutting or welding within a controlled and approved workshop area, which is not adjacent to a structure.
- 5.5. Control of Cylinders - Where it is not reasonable to remove a work piece, the following controls must be considered:
  - a. Logging and Tagging of individual cylinders
  - f. Never leaving cylinders unattended at the workplace
  - g. Safe storage for cylinders at least 200m from any building
  - h. Size of cylinders to be as small as possible, so as to be capable of being removed easily by a single person as soon as work is finished

#### 6. Pressurised Gases

- 6.1. Remember “empty” cylinders are potentially as dangerous and the guidelines below must be complied with. HSE Guidance “Safe Use of Gas Cylinders”
- 6.2. Training
  - 6.2.1. Anybody who handles or uses gas cylinders must have reviewed appropriate training and have the necessary skills to carry out the work safely and understand the risks associated with the gas cylinder and its contents
- 6.3. Handling and Use
  - 6.3.1. Gas cylinders should only be used vertically unless specifically designed to be used otherwise

- 6.3.2. Cylinders must be restrained to prevent them falling over
- 6.3.3. Gas cylinders must not be dropped, rolled or dragged.
- 6.3.4. Except when properly connected and secured for use, the valve must be protected by a valve cap or collar designed to withstand impact if dropped.
- 6.4. Lifting
  - 6.4.1. Use suitable cradles, slings, clamps or other effective means when lifting cylinders with a hoist or crane.
  - 6.4.2. Do not use valves, shrouds and caps for lifting cylinders unless they have been designed and manufactured for this purpose.
  - 6.4.3. Gas cylinders should not be raised or lowered on the forks of lift trucks unless adequate precautions are taken to prevent them from falling.
- 6.5. Transport
  - 6.5.1. Fit suitable protective valve caps and covers to cylinders, when necessary, before transporting.
  - 6.5.2. Securely stow gas cylinders to prevent them from moving or falling. This is normally in the vertical position, unless instructed otherwise
  - 6.5.3. Disconnect regulators and hoses from cylinders wherever practicable.
  - 6.5.4. Do not let gas cylinders project beyond the sides or end of a vehicle
- 6.6. Storage
  - 6.6.1. Gas cylinders must be clearly marked to show what they contain and the hazards associated with their contents.
  - 6.6.2. Store gas cylinders securely when they are not in use. They should be properly restrained, unless designed to be freestanding.
  - 6.6.3. Store gas cylinders in a dry, safe place on a flat surface in the open air. If this is not reasonably practicable, store in an adequately ventilated building or part of a building specifically reserved for this purpose.
  - 6.6.4. Store cylinders where they are not vulnerable to hazards caused by impact, e.g. from vehicles such as forklift trucks.
  - 6.6.5. Gas cylinders should not be stored for excessive periods of time. Only purchase sufficient quantities of gas to cover short-term needs.
  - 6.6.6. Rotate stocks of gas cylinders to ensure first in are the first used.
  - 6.6.7. Gas cylinders containing flammable gas should not be stored in part of a building used for other purposes.
  - 6.6.8. Protect gas cylinders from external heat sources that may adversely affect their mechanical integrity and stored away from sources of ignition and other flammable materials.



- 6.6.9.        Avoid storing gas cylinders so that they stand or lie in water.
- 6.6.10.      Ensure valves are kept shut on empty cylinders to prevent contamination.

.....end of Guidance Note G14H