## REQUIREMENTS FOR STORAGE OF FLAMMABLE MATERIAL IN LABORATORY

<table>
<thead>
<tr>
<th>Lab Unit Hazard Class</th>
<th>Liquid Class</th>
<th>Excluding Qty in Cabinet</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Max Qty Liters per sq m</td>
<td>Max Qty Liters per lab unit</td>
</tr>
<tr>
<td>Laboratory other than lab in hospital and health care occupancy</td>
<td>I</td>
<td>0.8</td>
<td>250 (350)</td>
</tr>
<tr>
<td></td>
<td>I, II, III</td>
<td>1.6</td>
<td>350 (500)</td>
</tr>
<tr>
<td>Laboratory in hospital and health care occupancy</td>
<td>I</td>
<td>0.4</td>
<td>150 (250)</td>
</tr>
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<td>0.4</td>
<td>150 (250)</td>
</tr>
</tbody>
</table>

(*) = max quantity allowed for sprinkler protected lab

**Liquid class:**
- Class I: Flash point below 37.8 degree C
- Class II: Flash point between 37.8 to 60 degree C
- Class III: Flash point above 60 degree C

**Note:**
1. The classification and the allowable quantity of flammable/combustible liquid may be revised later base on the new revision of CP40;
2. Each safety cabinet is restricted to 250L;
MAXIMUM ALLOWABLE QUANTITY FOR GASSES PER LAB WORK AREA
(WITH SPRINKLER SYSTEM)

1. **Flammable gasses**
   
   170 L for 50 sq meters and less
   
   \[ Y (L) = 3.4 \times \text{Lab work area for > 50 sq meters} \]

2. **Oxidizing gasses**
   
   170 L for 50 sq meters and less
   
   \[ Y (L) = 3.4 \times \text{Lab work area for > 50 sq meters} \]

3. **Liquefied flammable gasses**
   
   30 L for 50 sq meters and less
   
   \[ Y (L) = 0.6 \times \text{Lab work area for > 50 sq meters} \]

4. **Toxic gasses**
   
   8 L for 50 sq meters and less
   
   \[ Y (L) = 0.16 \times \text{Lab work area for > 50 sq meters} \]

**Note:**

(1) For 1 to 3, the MAQ shall be half if the lab is without any sprinkler system;

(2) Spacing of 3 m (6 m for lab without sprinkler system) apart for each group;

(3) To provide the detailed proposal to FSSD for further comment before the actual submission for plan approval to ensure the full compliance of the Fire Code and NFPA 45.