CCPS An AIChE Technology Alliance
Center for Chemical Process Safety

Process Safety Beacon 製程安全明燈

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提供給製造業人員的訊息

化學製程安全中心 (CCPS) 的支持者贊助

2009 年 1 月號

當加滿可移式容器時起火!

如果您讀過2008年12月號「**明燈**」，您會注意到本期的圖片還是一樣！ 是的，仍然是同一事件。火災起自於某包裝區，其時300加侖可移式的鋼桶(“tote”搬運桶)正在加滿 乙酸乙酯。 請參見12月號「**明燈**」以得更多資訊。 在12月號中，我們論到所有導電性設備適當的等電位**聯結**(Bonding)並**接地**(Grounding)以防止靜電火花放電而可能點燃易燃性空氣(atmosphere)的重要性。 我們經常在「**明燈**」中強調：所有事件皆有多個教訓可供借鏡學習，故我們要就此一個事件再提出幾個觀點。

請注意：如圖1 (頂圖)所示，正使用一段**短的**管嘴加滿tote桶，而易燃性的乙酸乙酯則成一道水流狀通過空氣落入tote桶，無疑地也形成了小滴和霧狀微粒。**液體自由落下通過空氣會產生靜電荷**，並且會導致火花放電而可能點燃易燃性的空氣。

要加滿可移式金屬桶，由美國國家消防協會- NFPA 77所推薦的實務是從底部加液，可利用汲液管(dip pipe)而行之。 您應該使用每秒1米(每秒3.3英尺)以下的慢速加料，直到汲液管被淹沒至約150毫米(6吋)高為止。 圖2 (底圖)顯示所推薦的系統。

我們仍然未結束此一事件！ 我們將在2月號「明燈」再談論更多教訓。

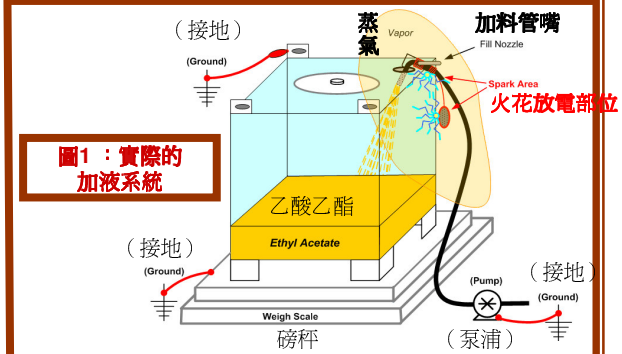

圖1 ：實際的加液系統

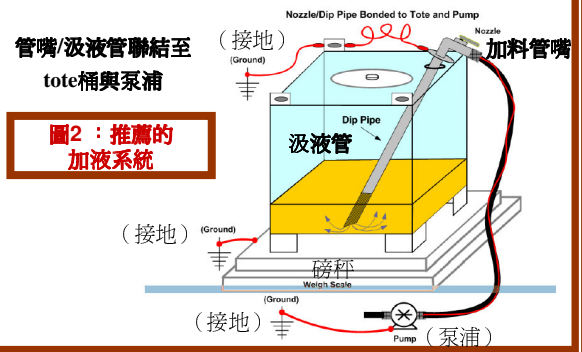

圖2 ：推薦的加液系統

PSID會員可再免費查尋「Static Charge靜電」

你能作什麼？

- 任何容器要加滿易燃性液體時，永遠要使用適當地設計的設備。要考慮下列事項：
  - 使用汲液管或由底部加料。
  - 當可能有自由落下的液體時，採用適當低的流率。
  - 所有設備和容器皆適當的等電位**聯結**(Bonding)並**接地**(Grounding)。
  - 使用供操作易燃性物料的加料管嘴和軟管，例如：具有整體鋼絲編織**聯結**至相連管道或配件的之軟管。
- 當您閱讀「**明燈**」時，要從所描述的事件尋找其他教訓。 我們的篇幅有限，而所談論的事件有比我們在單一頁中所能描述者多得多的借鏡可供學習!

當加滿容器或儲槽時，要避免易燃性液體的自由落下!

與我們聯繫： ccps_beacon@aiche.org 或 212-591-7319

本刊通常以南非荷蘭文、阿拉伯文、中文、丹麥文、荷蘭文、英文、法文、德文、古吉拉特文、希伯來文、印度文、匈牙利文、印尼文、義大利文、日文、韓文、馬來文、馬拉地文、波斯文、波蘭文、葡萄牙文、俄文、西班牙文、瑞典文、 泰文、越南文等版本發行

On behalf of all of the readers of the Beacon in 29 languages, CCPS and the CCPS Process Safety Beacon Committee would like to thank all of our volunteer translators for their efforts on behalf of process safety throughout the world in 2008.

All translators are volunteers, and the only compensation that they receive is the knowledge that their efforts are helping to improve process safety throughout the process industries. Because of their volunteer efforts, CCPS is able to distribute the Process Safety Beacon in 29 languages as of December 2008. If you know, or meet, any of our translators in the course of your work, please thank them personally for their work. If you are interested in translating the Beacon into a language which is not currently available, please contact us at ccps_beacon@aiche.org and we will provide you with information on the procedure for translation.

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