



教育部112年度 全國大專校院

安衛有序 環境永續

環境安全衛生主管聯席會議



↓CO₂



FACTORY
6S



LAB
SAFETY



與談人：雲科大 洪肇嘉

日期：2023.11.21



近年實驗室事故案例



民視新聞台

| 22.1k 人追蹤

☆ 追蹤

台大實驗室屢傳事故！今年已3起失火事件



民視新聞網

2023年8月17日



民視新聞 / 莊立誠、嚴文謙 台北報導



台大校園內週四（8月17日）驚傳實驗氣爆意外，校方已經將現場進行封鎖，事故的原因仍在調查中。不過全台最高學府實驗意外頻傳，光是今年（2023年）7月及4月，化學系、工科系就曾發生過氣爆及火警意外。實驗安全亮起紅燈，校方表示會持續努力，避免實驗意外再發生。



實驗室爆炸不到兩週 台大校園又傳火警



台視新聞網

2023年8月30日





100 -105 年校園實驗室重大事故災害分析

前勞動部及職業安全衛生研究所組長 李聯雄

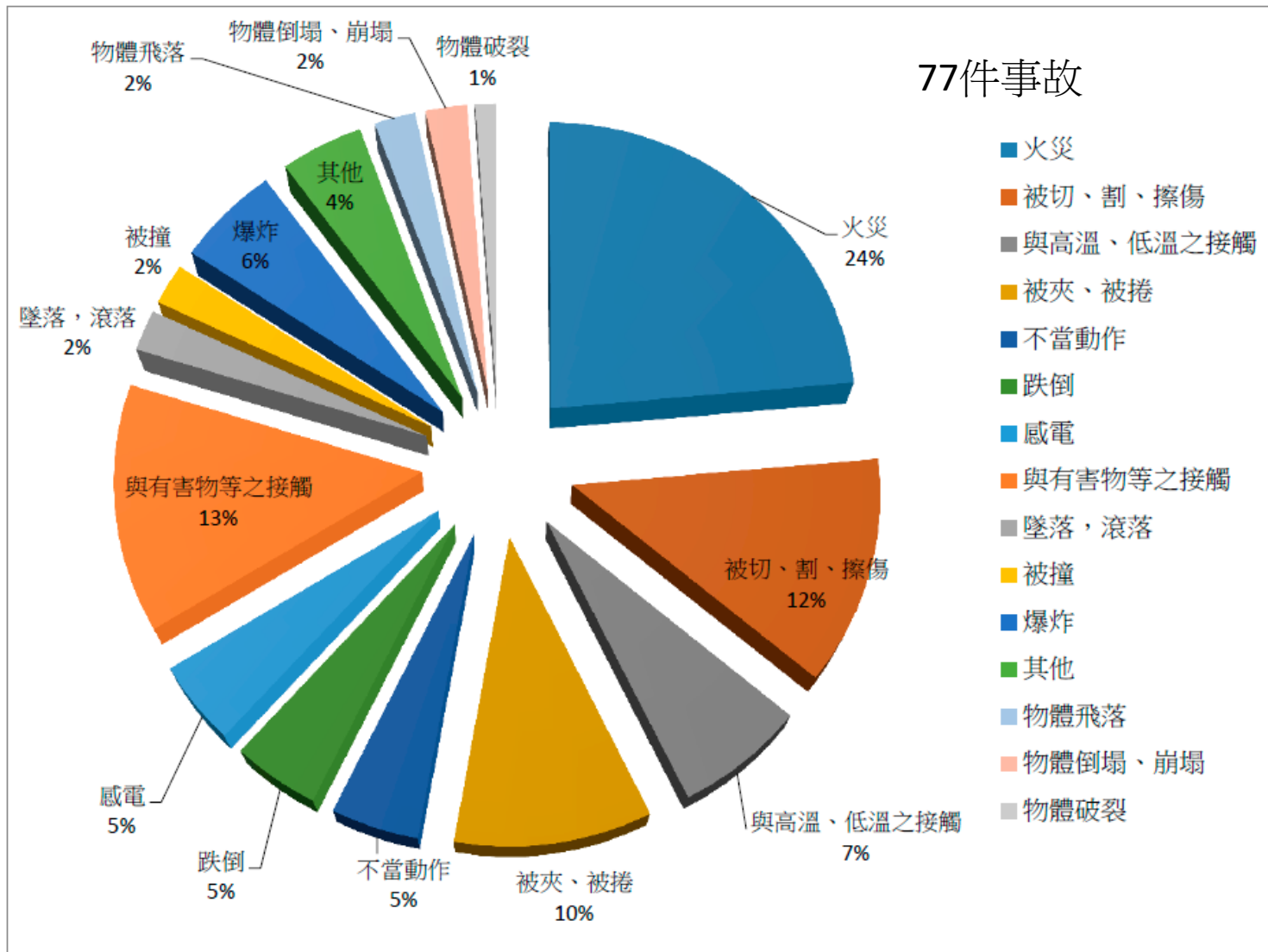


圖 1、重大事故災害類型分析





UCLA 實驗室重大事故



- Dec. 29, 2008, Sheharbano “Sheri” Sangji was working on a chemical synthesis in a lab at the University of California, Los Angeles. One of the reagents she was using was tert-butyllithium (t-BuLi), which ignites spontaneously in air.
- The t-BuLi ignited, along with Sangji’s clothes. She wore nitrile gloves, no lab coat, and possibly no eye protection.
- Sangji died from her injuries on Jan. 16, 2009. She was 23 years old.



10 years after Sheri Sangji's death, are academic labs any safer?

Chemists discuss their efforts

by *Jyllian Kemsley*

December 28, 2018 | A version of this story appeared in **Volume 97, Issue 1**

We're not there yet

Honor Sangji's memory by encouraging safer laboratory practices

by *Chemjobber*

- Postdoc Meng Xiangjian died in a hydrogen explosion at Tsinghua University in 2015.
- Graduate student Preston Brown lost three fingers and damaged his eyes in a nickel hydrazine perchlorate explosion at Texas Tech University in 2010. And
- postdoc Thea Ekins-Coward lost one of her arms in a hydrogen-oxygen gas mixture explosion at the University of Hawaii at Manoa in 2016.





- 分類:
- 化學: 實驗室標準、抽氣櫃、標示及操作、化學、化學危害及毒性物質、化學安全計畫CHP
- 採樣及實驗: 採樣資訊、分析方法(NIOSH's NMAH)、皮膚暴露
- 生物: 生物安全櫃、小動物、微生物及生醫之生物安全、血液傳染安全、生物製劑等、
- 物理: 噪音、人體工學等
- 安全危害: 消毒釜、離心機、冷凍氣體及乾冰、電器危害





- <https://cls.ucla.edu/safety-video-library>

Safety Video Library

Resources

Chemical Safety

Featured Chemicals

SOP Library

Maker Spaces

Safety Tools

Safety Video Library

Organizations &

| | | | |
|-------------------|--|----------|------|
| Accidents | Experimenting with Danger | 24 min | 2011 |
| Animal Biosafety | Working Safety in Animal Biosafety Levels 1 | 11 min | |
| | Working Safety in Animal Biosafety Levels 2 | 20 min | |
| | Working Safety in Animal Biosafety Levels 3 | 23 min | |
| Autoclave Safety | Autoclave Safety Animation | 9 min | 2011 |
| Biosafety | Responding to a Biological Spill | 4:44 min | 2014 |
| | Management of Biomedical Waste in Florida | 23 min | 2012 |
| Biosafety Cabinet | Biological Safety Cabinets: How They Work to Protect You | 5 min | 2015 |





[Home](#)

Fires/Explosions

[Chemical Waste Bottle Exploded in Lab](#)



[Vacuum Pump Flash Fire](#)

[Accidental Flaming of Dioxane Bottle Causes Lab Fire and Second Degree Burns](#)

[Explosion during Attempted Ozonolysis Reaction](#)

[Lithium Borohydride Ignites Trash](#)



[Accidental Flaming of Methanol Bottle Causes 1st and 2nd Degree Burns](#)

[Paper Towel Used for Wiping Down Bench with Ethanol Catches Fire](#)

[Blast of Pressurized Reaction Vessel Injures Researcher](#)





全球化學品展望 Global Chemical Outlooks 2013



Figure 1. Chemical Industry Output: Developed Regions*

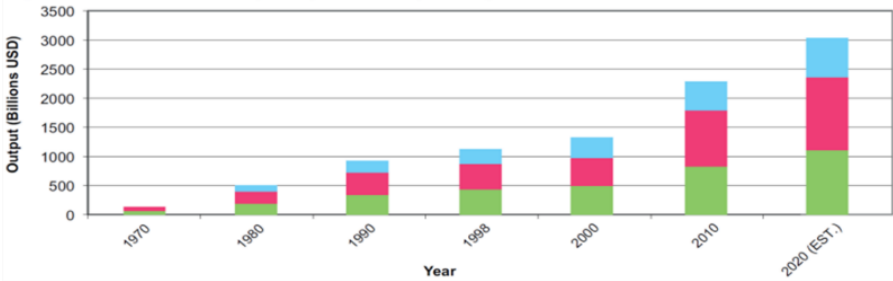
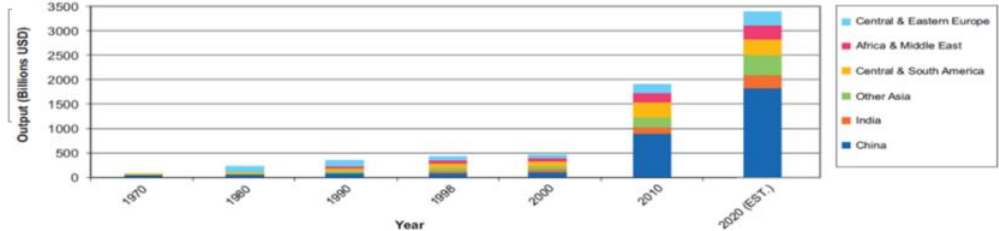


Figure 2. Chemical Industry Output: Developing Regions* & Countries with Economies in Transition

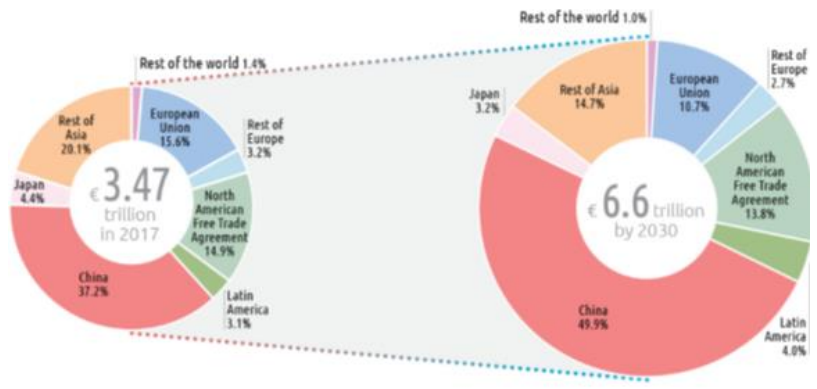


*As categorized by UN Statistics Division, <http://unstats.un.org/unsd/methods/m49/m49regin.htm>, accessed 24 November, 2011, with the exception of the Republic of Korea. 1970-1990 Source: U.S. Chemical Manufacturers Association (1998). U.S. Chemical Industry Statistical Handbook: Chemical Manufacturers Association, Inc. 2000-2010 Source: American Chemistry Council (2011). "Global Business of Chemistry: Global Chemical Shipments by Country/Region (billions of dollars)." Retrieved from: <http://www.americanchemistry.com/Jobs/EconomicStatistics/IndustryProfile/GlobalBusinessofChemistry>. Accessed: 11 August, 2011. 2020 Estimation Source: American Chemistry Council, Mid-Year 2011 Situation & Outlook, June 2011.

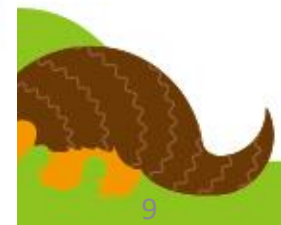
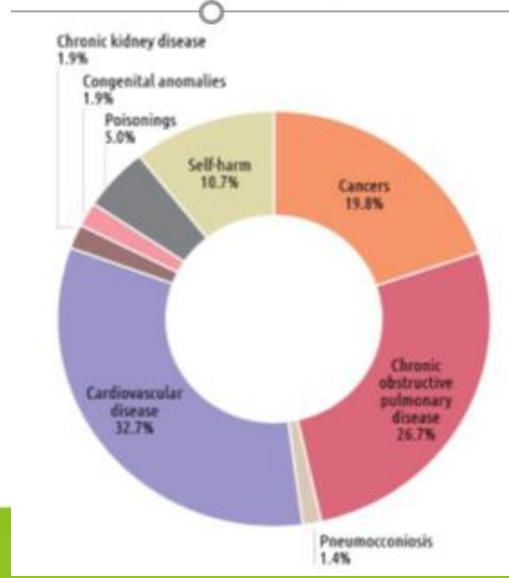


Global Chemical Outlooks II, 2019

- 2017-2030年世界化學品銷售額 (不含藥品) 預測



WHO, 2018





面對化學品數與量及研發需求的思考



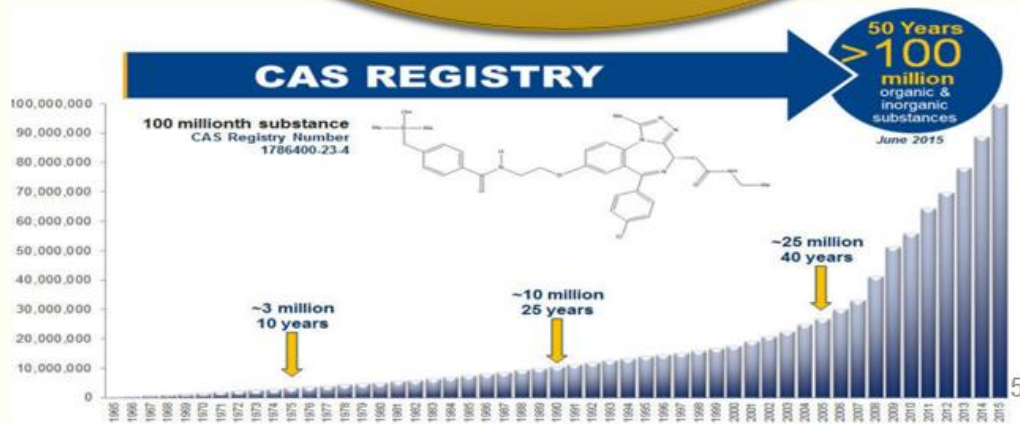
全球化學品現況



促進工業及經濟發展

提高生活水平

產製高科技產品及藥物





**簡報結束
恭請指導**

