

What is Process Safety Management (PSM)?

什么是过程安全管理？

Process Safety Management (PSM) is a systematic tool that: 是一个系统化的工具，即：

- Blend of engineering and management skills; 工程和管理技能的融合
- Prevention or mitigation of catastrophic failures; 防止或减轻重大事故风险
- Applicable to high-hazard industries. 适用于高风险化工行业



Development of Process Safety Management (PSM)

过程安全管理发展历程



1976 Seveso Disaster, Italy

1976 年意大利赛维索泄漏事故

Release of highly toxic dioxin TCDD

二恶英泄漏

3 000 farm animals and pets death

3000 只动物中毒死亡

70 000 animals were killed

70000 只动物被扑杀



1989 Phillip Petroleum Company, Texas

1989 德克士菲利浦石油公司事故

Explosions

爆炸事故

23 deaths

23 人死亡

132 injuries

132 人受伤



1984 Bhopal Incident, India

1984 年印度波帕尔泄漏事故

Release of Methyl Isocyanate

异氰酸甲酯泄漏

More than 2 800 deaths

超过 2800 人死亡

10 000 injured

约 10000 人受伤



Introduced 1910.119- Process Safety Management of highly hazardous chemical in 1992

于 1992 发布 1910.119 重大风险化学品

过程安全管理



Introduced Guidelines for Process Safety Management of Petrochemical Corporation in 2010

于 2010 发布化工企业工艺安全管理实施导则

Why we have Process Safety Management (PSM)?

为什么需要过程安全管理？

To prevent occurrence of unexpected releases of toxic, reactive, or flammable liquids and gases in processes involving highly hazardous chemicals.

防止生产装置和设施可能发生的危险化学品意外泄漏及火灾、爆炸事故。

Benefits of Process Safety Management

过程安全管理的好处

- Ensure proper and continuous development of plant systems and procedures
确保工艺和程序持续发展
- Improve operability, productivity, stability and quality of the outputs of hazardous chemical processes
提高危化品工艺操作的可操作性、生产率、稳定性和质量
- Improve the design and specifications of safeguards against undesirable events.
改进各类事故事件的防范措施的设计和规范

