SAFETY ALERT 安全警示

JAN 23
NO. 005

Fire Incident Involving Laboratory "Oil Bath"

Incident Overview

On May 12, 2024, at 2:20 AM, a fire broke out in a laboratory at a university in Shanghai. The fire damaged some equipment, affecting an area of about 1m². Fortunately, there were no injuries reported.

Cause of the Incident

1. The laboratory's "oil bath" (a heated constant temperature magnetic stirrer) operated for an extended period, which leads to a failure in the temperature control system that caused the rising temperature and then a fire.
2. The experiment was left unattended overnight.

Important Reminders

1. Investigations revealed that the equipment involved was manufactured by certain companies. Laboratory personnel should be aware of the risks associated with this type of equipment and exercise caution in both purchasing and using it.

Collector type thermostatic heating magnetic stirrer

2. Overnight experiments should be evaluated for potential risks and implement appropriate safety measures. Overnight experiments involving reactive, high-temperature, high-pressure, vacuum, and non-sealed Class 3B lasers, as well as running water require the completion of an "Overnight Experiment Application Form." This form must be signed by the PI and submitted to the laboratory safety officer and the safety director and then to HSE.
3. Safety Guidelines for Equipment Use:
   - Ensure the instrument is placed on a stable, clean, non-slip, dry, and fireproof surface, away from heat sources. Do not block the ventilation openings or heat dissipation areas.
   - Select suitable protective gear. When handling toxic or volatile substances, use closed containers and conduct all work within a suitable fume hood.
   - Before operating the equipment, set the speed control knob to the lowest setting.
   - Never allow the device to run dry! Exercise caution with high temperatures!
   - Regularly replace the heating medium in the "oil bath". If the equipment will not be used for an extended period, drain any remaining water or oil, wipe it dry, unplug it, and store it in a cool, dry place.
   - If there are any unusual odors or sounds, immediately disconnect the power.
   - The layout of the laboratory should carefully consider the placement of equipment that carries higher risks, such as high-temperature and high-pressure devices. In labs with elevated operational risks, it may be beneficial to install monitoring systems and increase the frequency of training for staff working in those areas.

安全警示

SAFETY ALERT

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实验室“油浴锅”着火事件

事故描述

2024年5月12日2:20AM，上海某高校一实验室发生火灾，火灾烧毁该实验室部分实验器具，过火面积约1平方米，事件未造成人员伤亡。

事故原因

1. 实验设备“油浴锅”（集热式恒温加热磁力搅拌器）因长时间工作，导致温控装置失效，温度过高引发火灾；
2. 夜间高温实验无人值守，无远程报警装置。

温馨提示

1. 经调查发现，上海岐*仪器设备有限公司、上海予*仪器有限公司等生产的DF-101S集热式恒温加热磁力搅拌器，产品质量存在一定风险，提醒各位实验室师生注意，严把采购和使用关，并落实设备定期运维。
2. 过夜实验需先评估风险，做好防范措施，确保安全方可运行；从事反应性、高温、高压、真空、非密封性3B以上激光、使用实验流水等有机会失控可能导致严重后果的过夜实验（23:30-8:00之间），需填写《过夜实验申请单》，经PI签字，并报实验室安全员、安全主任备案。安全主任确认后，需通知HSE后方可进行。
3. 设备使用安全须知：

集热式恒温加热磁力搅拌器

- 将仪器放置于平稳、清洁、防滑、干燥和防火的台面，远离热源，不要堵住集热式恒温加热磁力搅拌器的通风口或散热窗。
- 根据搅拌介质的种类，选择合适的防护装置，以防可能会出现液体飞溅、释放有毒或可燃气体等危险。处理有毒、易挥发介质时，使用密闭容器并在合适的通风橱中进行。
- 仪器操作前，将调速旋钮旋至最小刻度。
- 严禁干烧！小心高温！切忌裸手触碰集热锅，仪器关闭后也请注意余温。
- 定期更换集热锅内的加热介质；长期不用需将集热锅内的水或油排尽、擦干，电源拔下，并放置在阴凉干燥处。
- 如果在使用过程中，发现仪器有异味或有异常噪音时，应立即切断电源。
- 实验室布局宜综合考虑高温高压等风险相对较高的设备的摆放。实验操作风险较高的实验室，可考虑设置监控和增加本实验室实验人员的培训频率。