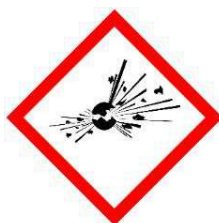


Standard Operating Procedure

Potentially Explosive Compounds (PEC's)

Hazard Description: PEC's can become explosive over time as a result of contamination, concentration, evaporation, or loss/decomposition of chemical inhibitors. An explosive is any chemical compound or mechanical mixture that, when subject to heat, impact, friction, detonation, or other suitable initiation, undergoes rapid chemical change, evolving large volumes of highly heated gases – typically N_2 or CO_2 – that exert pressure on the surrounding medium. The term applies to materials that either detonate or deflagrate. Before using any PEC, it is essential to understand the potential triggers which leads to explosion or violent decomposition.

Labeling: Labeling must adhere to the requirements outlined in the Chemical Hygiene Plan. In general explosives have the following GHS pictogram; however not all PEC's carry this symbol.



Storage: Storage of PEC's must adhere to the requirements outlined in the Chemical Hygiene Plan. PEC's may require a dedicated refrigerator or blast cage reinforced desiccators. If you find an explosive chemical container that is damaged, bulging, past expiration, leaking or otherwise compromised in any way, do not handle the container. Move away from the area and prevent others from entering the area. Contact EH&S immediately.

Handling: In addition to the requirements outlined in the Chemical Hygiene Plan the following should be considered when handling PEC's.

- Never return excess chemicals to the original container. Small amount of impurities may be introduced into the container which may cause a fire or explosion.
- Immediately close all containers of PCE's after use and return them to storage location.
- Work in a glovebox or fume hood with sash closed as much as possible.
- The use of blast shield may be necessary in certain cases.
- Avoid use of metal spatulas and needles when working with compounds for which metal ions may catalyze explosive decomposition reactions.
- Avoid the use of ground-glass joints when working with compounds for which friction or mechanical shock may trigger explosion.

Personal Protective Equipment: Cotton or other static-reducing gloves should be considered when working with static-sensitive PEC's. Reference SDS

Spill and Decontamination: Avoid dry sweeping into metal dustpan if PCE is shock sensitive or react with metals. Reference SDS.