PICRIC ACID INFO SHEET

HAZARD
Picric Acid is normally stored under water (wetted), but is highly explosive when dry. The greatest risk of injury or incident is from the drying out of containers or the formation of explosive shock sensitive picrate salts, which can form if Picric Acid is stored for a long time or inappropriately.

GHS CLASSIFICATION
Acute Toxicity: Skin: Category 2
Acute Toxicity: Oral: Category 3
Serious Eye Damage/ Eye Irritation : Category 1
Skin Sensitization: Category 1

DANGEROUS GOODS CLASSIFICATION
Picric Acid (when > 10% water) is a Flammable Solid, class 4.1 (packing group I) dangerous good
Picric acid when dehydrated is an Explosive, Class 1.1 dangerous good
- Dehydrated picric acid appears as a bright yellow, dry crystalline solid
- When wet with 10-11% water, picric acid is a yellow, compact crystalline solid with the consistency of wet sand
- When dissolved in water or organic solvent, picric acid forms a bright yellow solution

MANAGEMENT

PURCHASING
- Actively seek to eliminate the use of picric acid.
- Consider alternate chemicals and processes.
- Complete a detailed chemical risk assessment before the initial purchase of picric acid. This risk assessment must be approved by Head of School or equivalent.
- Do not source or order picric acid until needed.
- Only purchase picric acid in solution.
- Order the smallest volume and lowest concentration possible for the required purpose. For example picric acid is sold as a 1% solution – this should be preferentially ordered if applicable.
- Label containers with date received and date opened.

HANDLING
- Develop a safe work procedure for the activity using picric acid and train staff and students in that procedure.
- Only use in a laboratory that has safety showers and eye wash.
- Use picric acid in a lab fume cupboard to reduce risk of inhalation.
- Use only glass or plastic containers. Picric acid is highly reactive with metals. Do not use metal lids or spatulas.
- Clean the bottleneck, cap and threads with a wet cloth before resealing.
- Wipe down and decontaminate work area when work is complete.
- Wear appropriate laboratory PPE, nitrile or neoprene gloves are suitable.
**STORAGE**

- Store in original container.
- Store separately from oxidisers, reducing agents, inorganic salts, metals (copper, lead, zinc, aluminum + water), ammonia, concrete, plaster, salts, gelatin, alkaloids and albumin.
- Store separately in a spill tray.
- Check regularly (monthly) the integrity of the picric acid solution and its container.
- Keep wet – at least greater than 30% water by volume. If there is no crystal formation, contents can be routinely rehydrated with deionized water every 6 months (or as needed if appreciable changes in volume) by an experienced laboratory worker. Rehydration dates should be marked on bottle.
- Ensure that the storage location is secure, cool, dry, well-ventilated area away from sources of heat.
- Regularly (e.g. annually) confirm if picric acid is still required. No use for a period of 2 years or more is a clear trigger for disposal.

**EMERGENCY RESPONSE**

- Check for evidence of dried crystal formation, especially around bottle or cap. If acid appears dry or crystallisation has occurred, do not open or move the container, secure access. Immediately contact Safety Health and Wellbeing. Dried crystals within threads of a screw top container may detonate if the container is opened.
- Immediately clean up spills and do not allow spilt material to become dry. Very small spills (< 30mLs) may be absorbed with wet paper towel, which should be kept wet for disposal. Collect waste in plastic residue container.

**FURTHER REFERENCES**

- AS 3780 -2008 The storage and handling of corrosive substances