



# OHS ALERT!

<b>Type of Incident or hazard</b>	<b>Picric Acid (Trinitrophenol or 2,4,6-Trinitrophenol) Explosion hazard when dry CAS number 88-89-1</b>
<b>Date Occurred</b>	23 <sup>rd</sup> May 2007
<b>WHAT HAPPENED</b>	<p>A disposal request was received for a 500 gram jar of picric acid that had dried out.</p> <p>Normally, water is added to picric acid, otherwise the dry material is a touch sensitive explosive. It is supplied with not less than 30% water by weight and <u>must</u> always be stored wet.</p> <p>Arranging disposal is much more difficult and hazardous when the picric acid is dry. It requires an experienced professional to make the material safe.</p>
<b>WERE THERE ANY INJURIES</b>	Not applicable
<b>Cause</b>	Material was not regularly inspected and was allowed to dry out.
<b>Corrective Action</b>	<ul style="list-style-type: none"> <li>• Check all Picric Acid stored to make sure it has not dried out.</li> <li>• All storage of picric acid must be checked periodically to make sure that it is kept moist. The frequency will depend on storage conditions such as temperature and humidity.</li> <li>• Never store quantities in excess of needs.</li> <li>• <u>Never</u> handle dried out picric acid. Seek expert advice from the OHS &amp; Workers Compensation Unit.</li> <li>• Carry out, and document a risk assessment for any picric acid stored or used.</li> <li>• Develop and follow a safe work procedure for any use or storage of picric acid.</li> </ul>
<b>Further Information</b>	<ul style="list-style-type: none"> <li>◆ Picric acid is flammable, and when dry is explosive by shock, friction or rapid heating. It is spontaneously explosive above 500°C. Forms salts with many metals, some of which (lead, mercury, copper or zinc) are more sensitive to heat, friction or impact than picric acid itself.</li> <li>◆ <u>CAUTION!</u> Because of its sensitivity to friction, care should be taken in unscrewing any container of picric acid</li> </ul>

in which there is, or might be, dry picric acid at the seal. It is recommended that the container be submerged in water before this procedure is carried out even during periodic checks of the material.

- ◆ Material Safety Data Sheet (MSDS) available from ChemAlert at [http://www.hr.unsw.edu.au/ohswc/ohs/ohs\\_substances.htm](http://www.hr.unsw.edu.au/ohswc/ohs/ohs_substances.htm)
- ◆ Video 24.1 at [http://chemed.chem.purdue.edu/demos/Movie\\_index.html](http://chemed.chem.purdue.edu/demos/Movie_index.html)
- ◆ Video at: <http://www.youtube.com/>, then type "picric acid" in the search box and select "search". View the video "Picric Acid Explosion".

Image 1 – Plastic jar of picric acid submerged in bucket of water following rehydration.

