THE AUSTRALIAN NATIONAL UNIVERSITY

Centrifuge Incident (2007)

Hazard Alert No. 45 (2007)

A recent incident occurred on campus where an older model of bench-top centrifuge (see Figure 1) was discovered to be spinning at a speed that did not correspond to the speed on the dial of the machine.

Figure 1 – Centrifuge

The centrifuge was being used with a new rotor that had a maximum speed of 2000 rpm. The rotor was spun at a higher speed, which resulted in a warping of the rotor (see Figure 2). Luckily no catastrophic failure of the rotor occurred.

Figure 2 – Warping of the Rotor

It was found that the speed marked as '2000 rpm' on the dial at the front of the centrifuge was actually causing the rotor to spin at 3000 rpm.

An adjustment can be made to some centrifuges, which allows changes to the rotor speed. If an adjustment has been made it is possible that the rotor will spin at a higher or lower speed than that marked on the dial at the front of the centrifuge. This is potentially very dangerous.

Older centrifuges (those not under a service contract) should be tested and if not running correctly should be calibrated so that the rotor speed corresponds to the speed on the dial.