

IRR99 Requirements

HSE NOTIFICATION LEVEL: for work 1 MBq
 for inadvertent release or spill 100 GBq
 for loss or theft 10 MBq

CONTROLLED AREA needs to be considered:

in relation to internal hazard if activity exceeds 650 MBq
 in relation to external hazard when the dose-rate exceeds 7.5 microsieverts per hour.

SUPERVISED AREA will be required if activity exceeds 10 MBq

Supervised Area Limits (NB - based on internal hazard assessment only -permitted area limits will be dependent on nature of experiments)

Grade C lab - non-volatile work - up to 2.6 GBq
 - volatile work in FC - up to 650 MBq

Grade B lab - non-volatile work - up to 26 GBq
 - volatile work in FC - up to 6.5 GBq

ANNUAL LIMIT OF INTAKE (ALI) 21.7 MBq
 (equivalent to dose of 20 mSv)

Special Considerations and Monitoring

Fe-55 is an electron capture isotope with a very low energy x-ray emission of 5.9 keV. This is easily shielded and a 10mm perspex screen (as used for P-32) should provide sufficient protection for most work at a supervised area level. A leaded acrylic screen can be used for work with large quantities.

As the internal hazard is low it will be the external hazard which will determine the need for a controlled area. Each project will be individually assessed.

Monitoring should be performed on a regular basis to ensure that contamination is kept below 200 Bq cm⁻² . (This is the lowest practicable level that still enables ready detection of contamination.) Expected monitor responses at this level are as follows:-

	Mini 5.44A	Mini 5.44B
Counts above Bg for 200 Bq cm ⁻²	13	113

It is intended that each monitor will have advised action levels marked on it.