



## High Dose Dosimetry Service

All prices are in Australian dollars (AUD).

All prices are valid from 1 July 2015 until 30 June 2016.

For Australian customers, prices are exclusive of GST.

Where applicable, prices include cost of delivery of dosimeters to customer. The cost to return all dosimeters is the responsibility of the customer.

### General

ANSTO's dosimeters are calibrated in a cobalt-60 radiation field, in which the dose rate has been determined from reference dosimeter measurements made under similar conditions. The reference dosimeter measurements are traceable to the Australian standard for absorbed dose.

The overall uncertainty associated with an individual dosimeter reading includes both the uncertainty of calibration of the batch of dosimeters and the uncertainty due to variation within the batch.

This expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor of two, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with the *ISO Guide to the Expression of Uncertainty in Measurement*.

Radiation Technology maintains a quality management system that follows international best practice for dosimetry (ISO 17025 and ISO/ASTM standards for dosimetry for radiation processing).

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AUSTRALIAN NUCLEAR SCIENCE AND TECHNOLOGY ORGANISATION

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## Fricke Dosimetry

Dosimetric solutions are prepared by a method which closely follows ASTM E1026. Dosimeters are supplied in 5 ml plastic screw capped vials. The calibration of each batch is traceable to the Australian Standard for absorbed dose.

Calibrated dose range **50 – 350 Gy**.

Measurement uncertainty **2.0 %**.

Due to short term stability of this dosimeter, this service is available only to customers in Australia and New Zealand.

### Supply and Measurement

|   |        |
|---|--------|
| Minimum order 10 dosimeters. All dosimeters must be returned for measurement. | \$1870 |
| Includes report of results  |        |
| Each additional dosimeter   | \$35   |

### Supply only

|  |        |
|--|--------|
| Minimum order 16 dosimeters. All dosimeter vials must be returned after use. | \$1960 |
| Includes:<br>6 irradiated standards (2 at each dose point); 50, 200, 350 Gy  |        |
| Each additional dosimeter  | \$35   |

## Low Dose Ceric Cerous Dosimetry

Dosimetric solutions are prepared by a method which closely follows ISO/ASTM 51205. Dosimeters are supplied in 2 ml borosilicate glass ampoules. The calibration of each batch is traceable to the Australian Standard for absorbed dose.

Calibrated dose range **1 – 12 kGy**.

Measurement uncertainty **0.15 kGy or 3.0 % (whichever is greater)**.

### Supply and Measurement

|  |        |
|--|--------|
| Minimum order 6 dosimeters. All dosimeters must be returned for measurement. | \$1440 |
| Includes report of results   |        |
| Each additional dosimeter  | \$80   |

### Supply only

|   |                |
|---|----------------|
| Minimum order 100 dosimeters. Maximum order negotiable.<br><br>Includes:<br>8 irradiated standards per 100 dosimeters (2 at each dose point);<br>2, 5, 8, 10 kGy (other doses negotiable)<br>Data set to convert potentiometric readings to dose. | \$3260 per 100 |
|---|----------------|

### Irradiated Standards

|   |        |
|---|--------|
| 15 irradiated standards (3 at each dose point); 2, 4, 6, 8, 10 kGy or other doses negotiable.<br>Data set to convert potentiometric readings to dose. | \$2340 |
|---|--------|

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## High Dose Ceric Cerous Dosimetry

Dosimetric solutions are prepared by a method which closely follows ISO/ASTM 51205. Dosimeters are supplied in 2 ml borosilicate glass ampoules. The calibration of each batch is traceable to the Australian Standard for absorbed dose.

Calibrated dose range **10 – 35 kGy**.

Measurement uncertainty **0.6 kGy or 3.5 % (whichever is greater)**.

### Supply and Measurement

|  |        |
|--|--------|
| Minimum order 6 dosimeters. All dosimeters must be returned for measurement. | \$1440 |
| Includes report of results   |        |
| Each additional dosimeter  | \$80   |

### Supply only

|  |                |
|--|----------------|
| Minimum order 100 dosimeters. Maximum order negotiable.<br><br>Includes:<br>8 irradiated standards per 100 dosimeters (2 at each dose point);<br>15, 20, 25, 30 kGy (other doses negotiable)<br>Data set to convert potentiometric readings to dose. | \$3260 per 100 |
|--|----------------|

### Irradiated Standards

|   |        |
|---|--------|
| 15 irradiated standards (3 at each dose point); 10, 15, 20, 25, 30 kGy or other doses negotiable.<br>Data set to convert potentiometric readings to dose. | \$2340 |
|---|--------|

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## Irradiation of Dosimeters

At request, ANSTO can irradiate customer dosimeters in a calibrated Gammacell 220 cobalt-60 irradiator to specified doses. ANSTO's reference dosimeters (traceable to the Australian Standard for absorbed dose) would be used for quality assurance of dose delivery.

### Pre-requisites

Dose range should be between 50 Gy and 50 kGy (other doses negotiable).

Each dosimeter must be no greater than 17 mm diameter or width.

Irradiation temperature will be between 15 °C and 35 °C (and will be reported).

### Customer must specify

Number of dosimeters (maximum 10 per dose point)

Number of dose points

Target doses

## Irradiation of Dosimeters

|   |                      |
|---|----------------------|
| Irradiation of dosimeters (maximum 10 per dose point) | \$750 per dose point |
| Includes report of results                            |                      |

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