GENERAL INFORMATION

MINIMUM EXPOSURE REPORTED: All dosimeters have a minimum threshold below which an actual exposure cannot be measured with statistical accuracy. ALL EXPOSURES BELOW THIS MINIMUM WILL BE REPORTED AS AN ASTERISK(*) IN COLUMNS 17, 18, 19, 20. These minimal exposures will not be carried forward in the cumulative data. Refer to specification sheet for minmum reportable doses.

DOSE EQUIVALENT: The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest.

EXTERNAL DOSE: That portion of the dose equivalent received from radiation sources outside the body.

OCCUPATIONAL DOSE: Dose received by an individual in a restricted area or in the course of employment in which the individual's assigned duties involve exposure to radiation and to radioactive material from licensed and unlicensed sources of radiation whether in the possession of the licensee or other person. Occupational dose does not include dose received from background radiation, such as a patient from medical practices, from voluntary participation in medical research programs, or as a member of the general public.

EXTREMITY: Hand, elbow, arm below the elbow, foot, knee or leg below the knee.

WHOLE BODY: Head, trunk, arms above the elbow, legs above the knee.

DEEP DOSE EQUIVALENT: DDE Incremental measurement in rem for dose equivalent at a tissue depth of 1 cm (1000 mg/cm^2); applies to whole body exposure.

EYE DOSE EQUIVALENT: LDE Incremental measurement in rem for dose equivalent at a tissue depth of 0.3 cm (300 mg/cm^2); applies to external exposure of the lens of the eye.

SHALLOW DOSE EQUIVALENT: SDE - WB Incremental measurement in rem for dose equivalent at a tissue depth of 0.007 cm (7 mg/cm^2); applies to shallow dose of whole body.

SHALLOW DOSE EQUIVALENT: SDE - E Incremental measurement in rem for dose equivalent at a tissue depth of 0.007 cm (7mg/cm^2); applies to shallow dose of extremity.

TECHNICAL DATA: Mirion Technologies (GDS) Inc. performs calibrations of its dosimetry systems that are traceable to NIST and is accredited by the National Institute of Standards and Technology through NVLAP.

RADIATION TEST SOURCES

Mirion Technologies (GDS) Inc. has demonstrated satisfactory performance in accordance with the most recent version of ANSI N13.11 "Criteria for Testing Personnel Dosimetry Performance," DOE/EH-0027: "DOE" standard for the Performance Testing of Personnel Dosimetry System.

	10 CFR 20 LIMITS:	STATE LIMITS: (If applicable)
Whole Body:	**5000 mrem/year**	**1250 mrem/qtr**
Lens of eye	**15,000 mrem/year**	**1250 mrem/qtr**
Skin: SDE	**50,000 mrem/year**	**7500 mrem/qtr**
Extremity	**50,000 mrem/year**	**18,750 mrem/qtr**

REPORT IDENTIFICATION SECTION

ACCOUNT NO - Unique identifying number permanently assigned to a facility.
REPORT TO - Reporting address specified by customer.
SHIP TO - Shipping address for dosimeters specified by customer.
DATES BADGES RECEIVED & REPORT PREPARED - These dates indicate the elapsed time to process, evaluate and report dosimeter results.
"PAGE _____ OF _____"
Indicates number of report pages in this reporting sequence.
LICENSE NO. Radiological license number assigned by the Nuclear Regulatory Commission (NRC) or the state regulatory agency.
PURCHASE ORDER NO. - Indicates purchase order number on file.
REPORT APPROVED: FPM/TPM - Indicates technical approval to issue report.
NOTIFICATION LEVEL: Customer provided dose at which a phone notification is initiated.

WEARER IDENTIFICATION SECTION

COLUMN 1 - Unique individual wearer numbers assigned within an account. All exposure records are kept by wearer number.
COLUMN 2 - Badges may be further identified by assigning a slot number (optional).
COLUMN 3 - Specific reference group in which badge was processed.
COLUMN 4 - Individual's last name or other dosimeter designation.
COLUMN 5 - Individual's first initial.
COLUMN 6 - Individual's middle initial.
COLUMN 7 - Indicates individual's identification type printed in column 8.

Wearer ID Type

1. Social Security Number
2. Passport Number
3. Work Permit Number
4. Index Identification Number
5. Canadian Social Insurance Number
6. UK National Insurance Number
7. Other
Blank Not Designated

WEARER IDENTIFICATION SECTION - CONTINUED

COLUMN 8 - The individual's identification number corresponding with identification type indicated in column 7.
COLUMN 9 - Individual's birth date.
COLUMN 10 - M = Male / F = Female.
COLUMN 11 - Physical type of radiation detection media utilized in assigned dosimeter.

Badge Type

01 - Film Badge	16 - TLD 760 Badge
03 - TLD 802 Badge	17 - TLD 110 Environmental
08 - TLD 803 Badge	18 - Ultra Ring
09 - CR39 Fast Neutron Dosimeter	19 - MeasuRing®
11 - High Dose Dosimeter	20 - TLD 814 Environmental
12 - High Dose Chipstrate Dosimeter	21 - REMtrack® Card (1 chip)
13 - Finger Tip	22 - REMtrack® Card (2 chip)
14 - TLD 100 Badge	23 - REMtrack® Card (1 chip + In-115m)
15 - TLD 760 Badge + CR39	24 - REMtrack® Card (2 chip + In-115m)
	25 - CR39 in TLD 760 + In-115m
	26 - TLD 760 + In-115m
	27 - Eye Dosimeter
	35 - TLD 760 MCP + CR39
	36 - TLD 760 MCP

COLUMN 12 - General region of the body to be monitored if dosimeter is assigned to personnel. This column also reflects non-personal use of a dosimeter.

Monitored Region

WB & EW = Whole Body	NPU = Non Personnel Use
EYE = Lens of Eye	EQ = Equipment
URE = Upper Right Extremity	ARE = Area
ULE = Upper Left Extremity	UNK = Unknown
LRE = Lower Right Extremity	NSE = Non Specific Extremity
LLE = Lower Left Extremity	

COLUMN 13 - Specific body part to be monitored if dosimeter is assigned to personnel. This field is optional and is provided to help differentiate between multiple badges worn on the same body region identified in column 12.

Monitored Part of Body

Whole Body		Extremities		Non-Personnel
Blank	Not Identified	Blank	Not Identified	Blank Not Identified
HD	Head	FA	Forearm	
CL	Collar	EL	Elbow	
CH	Chest	WR	Wrist	
TR	Torso	HN	Hand	
GR	Groin	FN	Finger	
FS	Fetus	FP	Fingertip	
UA	Upper Arm	KN	Knee	
TH	Thigh	FL	Foreleg	
BA	Back	AN	Ankle	
		FT	Foot	
		TO	Toe	
		OT	Other	

COLUMN 14 - Length of assigned monitoring period.

Frequency of Dosimeter Exchange

W	= 1 week	Q	= 3 months
B	= 2 weeks	F	= 4 months
M	= 1 month	S	= 6 months
T	= 2 months	A	= 12 months
O	= User specified (end date not displayed)	H	= 1/2 months

DOSIMETER AND EXPOSURE HISTORY SECTION

COLUMN 15 - First day of the assigned monitoring period for the dosimeter evaluated.
COLUMN 16 - Last day of the assigned monitoring period for the dosimeter evaluated. If not designated by customer, last day will be last calendar date of the monitoring period.
COLUMN 17 - Deep dose. DDE (includes Neutron dose if indicated in column 20).
COLUMN 18 - Eye dose. LDE (includes Neutron dose if indicated in column 20).
COLUMN 19 - Shallow dose: SDE (includes Neutron dose if indicated in column 20).
COLUMN 20 - Neutron dose stated is part of reported deep, eye and shallow in current exposure and is included in columns 17, 18, 19. Non-personnel neutron badges are calibrated for response of dosimeter on a phantom.

DOSIMETER AND EXPOSURE HISTORY SECTION - CONTINUED

COLUMN 21 - Letters shown in this column indicated an unusual occurrence which may limit or preclude an exposure evaluation. Continued or frequent entries in this column require further investigation and elimination of cause if possible. See Explanation of Code Key.
COLUMN 22 - Deep: Cumulative quarter-to-date total of column 17 for all non-extremity dosimeters processed in the same quarter.
COLUMN 23 - Eye: Cumulative quarter-to-date total of column 18 for all whole body and eye dosimeters processed in the same quarter.
COLUMN 24 - Shallow: Cumulative quarter-to-date total of column 19 for all non-extremity dosimeters processed in the same quarter.
COLUMN 25 - Deep: Cumulative year-to-date total of column 17 for all non-extremity dosimeters reported in process year.
COLUMN 26 - Eye: Cumulative year-to-date total of column 18 for all whole body and eye dosimeters reported in process year.
COLUMN 27 - Shallow: Cumulative year-to-date total of column 19 for all non-extremity dosimeters reported in process year.
COLUMN 28 - Number Reports: Total number of reports issued in process year.
COLUMN 29 - Deep: Cumulative lifetime total of column 17 for all non-extremity dosimeters processed plus previous history and adjustments if provided by customer.
COLUMN 30 - Dose History Adjustments: Indication of an adjustment to an individual's radiation history.

Letter Adjustment Note

Letter	Adjustment Note
A	One or more additions to the year-to-date and lifetime doses.
B	One or more subtractions to the year-to-date and lifetime doses.
C	One or more additions to the lifetime dose only.
D	One or more subtractions to the lifetime dose only.
E	One or more addition(s) and subtraction(s) to the lifetime doses only.
F	Dose data provided by customer for the period prior to inception of service.
G	Dose data provided by customer for the period prior to inception of service; other changes have also been made.
H	Previous lifetime dose(s) and date of inception have been supplied by the customer.
I	Previous lifetime dose(s) and date of inception have been supplied by the customer; other changes have also been made.

COLUMN 31 - Inception Date of Lifetime Total: Date shown is starting date of service with Mirion Technologies (GDS) Inc. or actual lifetime start date if data supplied by customer.

EXPLANATION OF CODE KEY FOR PROCESS NOTES COLUMN 21

Control Badge

A. CONTROL BADGE NOT USED IN EVALUATION therefore limiting an accurate assessment of either a storage or transit dose. Some or all of the exposure reported may be due to exposure during storage or transit. A Mirion Technologies (GDS) Inc. dose. The reason for the control not being used may be one of the following:

1. Control badge was not created or was not returned for the monitoring period.
2. Control badge returned was not for the same monitoring period as dosimeter.
3. Control badge was received damaged.
4. Control badge was received contaminated.
5. Control badge exhibited an exposure.
6. Control badge exhibited an unusual response.
7. Customer's request. A Mirion Technologies (GDS) Inc. designated control was not used.
8. Components Missing.
9. Component Missing or Damaged.

B. CONTROL BADGE EXHIBITED EXPOSURE AND THE DOSIMETER EXHIBITED A SIMILAR EXPOSURE. The control badge was used in the evaluation.

C. DOSIMETER DAMAGED. No evaluation possible. Type of damage may be one of the following:

1. Light.
2. Chemical.
3. Water/Moisture.
4. Heat.
5. Radioactive Contamination found.
6. Components physically damaged.
7. Components missing.
8. Film damaged.
9. Component Missing or Damaged.

EXPLANATION OF CODE KEY FOR PROCESS NOTES COLUMN 21

D. DOSIMETER RESULT NOT VALID. No evaluation possible. Type of problem may be one of the following:

1. Exposure Through Back of Holder.
2. Side Exposure.
3. Unusual Exposure Pattern. May be due to an uneven or partially shielded exposure.
4. Film Worn Upside Down in Holder.
5. Internal Filters Missing. Check holder for possible damage. Request new holder if necessary.
6. Unusual Element Response. Response indicated suspect results.
7. Dosimeter Saturated. Delivered dose exceeds maximum reportable.
8. CR39 Dosimeter Damaged. Neutron component only.
9. CR39 Missing. Neutron component only.
10. Abnormal Glow Curve. Response indicated suspect results.

E. DOSIMETER EXHIBITED UNUSUAL EXPOSURE PATTERN. Reported dose is estimate only.

F. UNUSED BADGE. Per customer notice. No evaluation made.

G. OUTDATED BADGE. Badge received after the expiration date. No evaluation made.

H. OUTDATED BADGE. Badge received after the expiration date. Reported dose is estimate only.

I. CUSTOMER ESTIMATED DOSE. Customer provided dose in writing.

J. ESTIMATED DOSE. Dose calculated based on dose history.

1. Badge returned after dose estimate previously reported and updated in dose history.

K. TLD NEUTRON RESPONSE SUBSTITUTED FOR CR39 RESPONSE. Reasons may be one of the following:

1. CR39 Missing.
2. CR39 Damaged.
3. CR39 Exhibited Unusual Response.

L. NO BADGE RETURNED for the monitoring period indicated. The following action was taken:

1. No Evaluation Possible. Exposure history current through last monitoring period reported.
2. Customer Estimated Dose. Customer provided dose in writing.
3. Estimated Dose. Provided by customer. Based on dose history.

M. FILM PATTERN

1. Single or Stationary Exposure
2. Single and Angular Exposure
3. Double Exposure
4. Multiple or Motion Exposure
5. Multiple and Angular Exposure
6. No Filter

REFERENCES

1. For rules and regulations applying to Radiation Safety in your state contact your State Health Department.
2. Standards for Protection against Radiation are published in the Code of Federal Regulations and may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Ask for 10 CFR 20.
3. Regulatory Guide 8.7 Instructions for Recording and Reporting Occupational Exposure Data "provides guidance on":
   - * Determining the doses in the current monitoring year for all persons who must be monitored and recording them on an NRC Form 5.
   - * Submitting an annual report to the NRC of the results of individual monitoring (NRC Form 5).
   - * Acquiring records of prior exposure (NRC Form 4).

This report is furnished to you under the provisions of the Nuclear Regulatory Commission regulation 10 CFR part 19. You should preserve this report for further reference.