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EPA

Limiting Values of Radionuclide Intake And Air Concentration

and

Dose Conversion Factors For Inhalation, Submersion, And Ingestion

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Federal Guidance Report No.11

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FEDERAL GUIDANCE REPORT NO. 11

LIMITING VALUES OF RADIONUCLIDE INTAKE AND AIR CONCENTRATION AND DOSE CONVERSION FACTORS FOR INHALATION, SUBMERSION, AND INGESTION

Derived Guides for Control of Occupational Exposure and Exposure-to-Dose Conversion Factors for General Application, Based on the 1987 Federal Radiation Protection Guidance

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PREFACE

The Federal Radiation Council (FRC) was formed in 1959 to provide recommendations to the President for Federal policy on radiation matters affecting health. The first Federal radiation protection guidance was promulgated shortly thereafter, on May 13, 1960, and set forth basic principles for protection of both workers and members of the general population. Over the ensuing decade the FRC issued additional guidance on a number of radiation protection matters, but the general guidance issued in 1960 remained essentially unchanged.

The Council was abolished in 1970 and its functions transfered to the Administrator of the newly formed Environmental Protection Agency (EPA). In 1974 EPA initiated a review of the part of Federal guidance that then applied to occupational exposure. Two early components of this review were a re-evaluation by the National Academy of Sciences of risks from low levels of radiation (NAS 1980) and an analysis by EPA of the occupational exposures of U.S. workers (EPA 1980). These were completed and published in July and November of 1980, respectively.

In January of 1981 EPA published proposed recommendations for new Federal guidance for occupational exposure. Federal Guidance Report No. 10, issued in 1984, continued the process by presenting new numerical values for derived quantities (i.e., concentrations of radioactivity in air and water) that were obtained employing contemporary metabolic and dosimetric models, but which corresponded to the limiting annual doses recommended for workers in 1960. The values given in Report No. 10 were not implemented by Federal agencies, however, because of the anticipated adoption of new Federal guidance.

On January 20, 1987, the President approved recommendations by the Administrator of EPA for the new "Radiation Protection Guidance to Federal Agencies for Occupational Exposure." This guidance, which is consistent with (but in several ways is an extension of) current recommendations of the International Commission on Radiological Protection (ICRP), constituted a major revision of those parts of the 1960 guidance that pertained to the protection of workers.

This Federal Guidance Report No. 11, which supercedes Report No. 10, presents values for derived guides that make use of contemporary metabolic modeling and dosimetric methods and that are based upon the limits on committed dose equivalent stipulated in Recommendation 4 of the 1987 guidance. The Annual Limits on Intake (ALIs) and Derived Air Concentrations (DACs) tabulated herein are numerically identical, in most cases, to those recommended by the ICRP in

their Publication 30. Exceptions include values for plutonium and related elements, which are based upon information presented in ICRP Publication 48, and a few radionuclides not considered in Publication 30, for which nuclear decay data were presented in ICRP Publication 38. We plan to publish future editions of this Report on a regular basis to reflect improved information, as it becomes available and is accepted by the radiation protection community.

These new derived guides will be implemented by the various Federal agencies having regulatory responsibilities for workers in the public sector, such as the Nuclear Regulatory Commission and the Occupational Safety and Health Administration, and by Federal agencies with responsibilities for their own workers, such as the Department of Energy and the Department of Defense. Federal agencies are encouraged to reference the tables in this and future editions of this Federal Guidance Report in their regulations so as to assure a uniform and continuing application of the 1987 Federal guidance.

Recommendation 4 of the 1987 guidance is concerned not only with prospective control of the workplace through limitation of committed dose, but also with circumstances in which the conditions for control of intake have not been met for an individual worker. The present document addresses only the first of these issues; the difficult and controversial problem of future management of the over-exposed worker is not considered here. That remains primarily the responsibility of the on-site health physicist, who must account for the physical characteristics of the over-exposed individual and the unique conditions at the site.

Also tabulated in this Report are coefficients for conversion of exposure to committed effective dose equivalent, and to committed dose equivalent for individual organs. These are intended for general use in assessing average individual committed doses in any population that can be characterized adequately by Reference Man (ICRP 1975).

We gratefully acknowledge the thoughtful comments of Marvin Goldman, Roscoe M. Hall, Jr., Ronald L. Kathren, DeVaughn R. Nelson, John W. Poston, Sr., Jerome S. Puskin, Kenneth W. Skrable, J. Newell Stannard, Roy C. Thompson, Carl G. Welty, Jr., and Edward J. Vallario. Parts of Report No. 11 have been clarified and strengthened through their efforts. Its final form, however, is the sole responsibility of the Office of Radiation Programs. We would appreciate being informed of any remaining errors, so that they can be corrected in future editions. Comments should be addressed to Allan C.B. Richardson, Chief, Guides and Criteria Branch, ANR-460, U.S. Environmental Protection Agency, Washington, DC 20460.

Richard J. Guimond

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I. INTRODUCTION

Radiation protection programs for workers are based, in the United States, on a hierarchy of limitations stemming from Federal guidance approved by the President. This guidance, which consists of principles, policies, and numerical *primary guides*, is used by Federal agencies as the basis for developing and implementing their own regulatory standards.

The primary guides are usually expressed in terms of limiting doses to workers. The protection of workers against taking radioactive materials into the body, however, is accomplished largely through the use of regulations based on *derived guides* expressed in terms of quantities or concentrations of radionuclides. The values of these derived guides are chosen so as to assure that workers in work environments that conform to them are unlikely to receive radiation doses that exceed the primary guides.

The purpose of the present Report is to set forth derived guides that are consistent with current Federal radiation protection guidance. They are intended to serve as the basis for regulations setting upper bounds on the inhalation and ingestion of, and submersion in, radioactive materials in the workplace. The Report also includes tables of exposure-to-dose conversion factors, for general use in assessing average individual committed doses in any population that is adequately characterized by Reference Man (ICRP 1975).

Previous Guidance and Derived Guides

In 1960 President Eisenhower, acting on recommendations of the former Federal Radiation Council (FRC), established the first Federal radiation protection guidance for the United States (FRC 1960). That guidance was strongly influenced by and generally consistent with contemporary recommendations of the International Commission on Radiological Protection (ICRP) and the U.S. National Council on Radiation Protection and Measurements (NCRP). The primary guides included limits of 3 rem per quarter (and 5(N-18) rem cumulative, where N is the age of the worker) to the whole body, active blood-forming organs, and gonads; annual limits of 30 rem to thyroid and 15 rem to other organs; and a limiting body burden of 0.1 microgram of radium-226 or its equivalent for bone seeking radionuclides.

Although the FRC recognized the importance of protection against taking radioactive materials into the body, it did not publish numerical values for derived guides as part of its guidance. Rather, it endorsed the values in use by government agencies at that time. Those values were contained in National Bureau of Standards Handbook No.69 (NBS 1959) (later re-issued as NCRP Report No. 22 (NCRP 1959)), which was an abridgment of Publication 2* of the ICRP

*Revised and additional values appeared in ICRP Publication 6 (ICRP 1964).

(ICRP 1959). These reports also formed the basis for the well-known tables issued by the Atomic Energy Commission (Appendix B of 10 CFR 20), which still constitute a basic element of the regulations of its successor, the Nuclear Regulatory Commission.

Over the intervening years, substantial advances have been made in the dosimetric and metabolic models employed to calculate derived guides. Federal Guidance Report No. 10 (EPA 1984a) presented revised values for derived guides that were based on the 1960 primary guides for workers (FRC 1960) but that were obtained employing up-to-date dosimetric and metabolic models. These new models yielded a number of values significantly different from those in ICRP Publications 2 and 6. The values in Federal Guidance Report No. 10 were not implemented by Federal agencies, however, due to the expectation of imminent approval of new Federal guidance.

Current Guidance and Derived Guides

The FRC was abolished in 1970, through Reorganization Plan No. 3, and its functions transferred to the Administrator of the newly formed Environmental Protection Agency (EPA).

The Federal guidance for occupational radiation protection now in effect in the United States consists of recommendations by the Administrator of EPA approved by the President on January 20, 1987 (EPA 1987). This new guidance sets forth general principles for the radiation protection of workers and specifies the numerical primary guides for limiting occupational exposure. It is consistent with, but an extension of, recent recommendations of the ICRP (ICRP 1977).* It applies to all workers who are exposed to radiation in the course of their work, either as employees of institutions and companies subject to Federal regulation or as Federal employees. It is estimated that, in 1985, there were 1.6 million such workers (EPA 1984b).

The complete texts of the guidance issued in 1987 and in 1960 are reproduced in Appendices A and B of this Report. Major changes introduced in 1987 were:

- The ALARA principle, which requires that doses be maintained 'as low as reasonably achievable,' was elevated to the level of a fundamental requirement, and it now forms an integral part of the basic protection framework.
- Protection against stochastic effects on health is based upon limitation of the weighted sum of dose equivalents to all irradiated tissues (the effective dose equivalent†), rather than upon the "critical organ" approach of the 1960 guidance, which limited dose to each organ or tissue separately. Additional organ-specific limits are provided to protect against non-stochastic effects.
- The maximum occupational radiation dose normally allowed a worker was reduced from the previously permitted 3 rem per quarter (dose equivalent to the whole body) to 5 rem in a year (effective dose equivalent). The 5(N-18) limitation on cumulative dose equivalent has been deleted.

---

*Recommendations of the NCRP in their Report No. 91 (NCRP 1987b), in turn, are consistent with the Federal guidance.

†Effective dose equivalent, stochastic health effects, and other such entities are defined and discussed in Chapter II, Appendix C, and the Glossary.

- Maximum work-related dose equivalent to the unborn is limited to 0.5 rem during the gestation period. It is also recommended that exposure rates be maintained below the uniform monthly rate that would satisfy this limiting value.

- The establishment of administrative control levels below the limiting values is encouraged. Since such administrative control levels often involve ALARA considerations, they may be developed for specific categories of workers or work situations. Agencies should also encourage establishment of measures for assessing the effectiveness of, and for supervising, ALARA efforts.

- Recordkeeping, including cumulative (lifetime) doses, and education of workers on radiation risks and protection principles are specifically recommended for the first time.

- Control of internal exposure to radionuclides is based upon limitation of the sum of current and future doses from annual intake (i.e., the committed effective dose equivalent) rather than of annual dose. If it is found that limits on committed dose have been exceeded for an individual worker, then corrective action is required to re-establish control of the workplace and to manage future exposure of the worker. With respect to the latter requirement, provision should be made to monitor the annual dose received from radionuclides in the body as long as it remains significant.

This Report is concerned, in particular, with two types of derived guides that may be employed in the control of internal exposure to radionuclides in the workplace: the Annual Limit on Intake (ALI) and the Derived Air Concentration (DAC). An ALI is that annual intake of a radionuclide which would result in a radiation dose to Reference Man (ICRP 1975) equal to the relevant primary guide (i.e., to the limiting value of committed dose). A DAC is that concentration of a radionuclide in air which, if breathed for a work-year, would result in an intake corresponding to its ALI (or, in the case of submersion, to an external exposure corresponding to the primary guide for limiting annual dose). DACs are thus used for limiting radionuclide intake through breathing of, or submersion in, contaminated air. ALIs are used primarily for assessing doses due to accidental ingestion of radionuclides. Values of ALIs for ingestion and inhalation and of DACs are presented in Table 1 for radionuclides of interest in radiation protection.

These ALIs and DACs are based upon calculations originally carried out for the ICRP. In its Publication 30 (ICRP 1979a, 1979b, 1980, 1981a, 1981c, 1982a, 1982b), the ICRP issued revised derived limits which conform to its recommendations in Publication 26 (ICRP 1977). The derived limits in Publication 30 (which superseded those presented in ICRP Publications 2 and 6) incorporate the considerable advances in the state of knowledge of radionuclide dosimetry and biological transport in humans achieved in the past few decades. They also reflect the transition from limitation of dose to the critical organ to limitation of the weighted sum of doses to all organs. The relationship of the new to earlier derived guides is summarized in Fig. 1.

The ALI and DAC values tabulated in this first edition of Federal Guidance Report No. 11 are identical to those of ICRP 30, except for the isotopes of Np, Pu, Am, Cm, Bk, Cf, Es, Fm, and Md. For these, new values have been computed using the more recent metabolic information in

Modeling	Federal Guidance: FRC (1960)	Federal Guidance: EPA (1987)
ICRP 2 (1959)	NBS 69/NCRP 22	not applicable
ICRP 30 (1979–81)	Federal Guidance Report No. 10	Federal Guidance Report No. 11

Fig. 1. The relationship of various tabulations of derived guides to the applicable Federal guidance and to the dosimetric and metabolic models used in their derivation. For example, the tables in Report No. 10 make use of contemporary metabolic modeling, as described in ICRP Publication 30, but conform to the limits specified in the 1960 Federal guidance.

ICRP Publication 48 (ICRP 1986). We have, in addition, provided guides for a few radionuclides (Sr-82, Tc-95, Tc-95m, Sb-116, Pu-246, and Cm-250) not considered in ICRP Publication 30, but for which nuclear decay data were presented in ICRP Publication 38 (ICRP 1983).

TABLE 2.2

Exposure-to-Dose Conversion Factors for Ingestion

Explanation of Entries

For each radionuclide, values in SI units for the organ dose equivalent conversion factors, $h_{T,50}$, and the effective dose equivalent conversion factor, $h_{E,50}$, based upon the weighting factors set forth on page 6, are listed in Table 2.2 for ingestion.

The **bold-face entry for a radionuclide** indicates the factor used in determining the ALI for ingestion in Table 1.a.

f_1: The fractional uptake from the small intestine to blood (f_1) for common chemical forms of the radionuclide.

$h_{T,50}$: The tissue dose equivalent conversion factor for organ or tissue T (expressed in Sv/Bq), i.e., the committed dose equivalent per unit intake of radionuclide.

$h_{E,50}$: The effective dose equivalent conversion factor (expressed in Sv/Bq), i.e., the committed effective dose equivalent per unit intake of radionuclide:

$$h_{E,50} = \sum_T w_T \, h_{T,50} \, .$$

To convert to conventional units (mrem/μCi), multiply table entries by 3.7×10^9.

As an example, consider the factor for breast for ingestion of C-11:

$$h_{breast,50} = 2.98 \times 10^{-12} \text{ Sv/Bq} \times 3.7 \times 10^9 = 1.1 \times 10^{-2} \text{ mrem}/\mu\text{Ci}.$$

Table 2.2. Exposure-to-Dose Conversion Factors for Ingestion

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Hydrogen									
H-3	1.0	$1.73\ 10^{-11}$	$1.73\ 10^{-11}$	$1.73\ 10^{-11}$	$1.73\ 10^{-11}$	$1.73\ 10^{-11}$	$1.73\ 10^{-11}$	$1.73\ 10^{-11}$	**$1.73\ 10^{-11}$**
Beryllium									
Be-7	$5\ 10^{-3}$	$5.67\ 10^{-11}$	$6.97\ 10^{-12}$	$1.41\ 10^{-12}$	$1.23\ 10^{-11}$	$5.03\ 10^{-12}$	$6.08\ 10^{-13}$	$5.83\ 10^{-11}$	**$3.45\ 10^{-11}$**
Be-10	$5\ 10^{-3}$	$2.42\ 10^{-11}$	$2.42\ 10^{-11}$	$2.42\ 10^{-11}$	$7.23\ 10^{-10}$	$2.15\ 10^{-9}$	$2.42\ 10^{-11}$	$3.66\ 10^{-9}$	$1.26\ 10^{-9}$
								$1.29\ 10^{-8}$	LLI wall
Carbon									
C-11	1.0	$3.41\ 10^{-12}$	$2.98\ 10^{-12}$	$3.09\ 10^{-12}$	$3.18\ 10^{-12}$	$3.03\ 10^{-12}$	$2.97\ 10^{-12}$	$3.54\ 10^{-12}$	**$3.29\ 10^{-12}$**
C-14	1.0	$5.64\ 10^{-10}$	$5.64\ 10^{-10}$	$5.64\ 10^{-10}$	$5.64\ 10^{-10}$	$5.64\ 10^{-10}$	$5.64\ 10^{-10}$	$5.64\ 10^{-10}$	**$5.64\ 10^{-10}$**
Fluorine									
F-18	1.0	$4.97\ 10^{-12}$	$6.36\ 10^{-12}$	$6.54\ 10^{-12}$	$5.94\ 10^{-11}$	$6.02\ 10^{-11}$	$4.52\ 10^{-12}$	$7.03\ 10^{-11}$	$3.31\ 10^{-11}$
								$2.87\ 10^{-10}$	ST wall
Sodium									
Na-22	1.0	$2.81\ 10^{-9}$	$2.58\ 10^{-9}$	$2.51\ 10^{-9}$	$4.29\ 10^{-9}$	$5.54\ 10^{-9}$	$2.50\ 10^{-9}$	$3.18\ 10^{-9}$	**$3.10\ 10^{-9}$**
Na-24	1.0	$3.43\ 10^{-10}$	$2.71\ 10^{-10}$	$2.60\ 10^{-10}$	$3.74\ 10^{-10}$	$4.68\ 10^{-10}$	$2.60\ 10^{-10}$	$5.31\ 10^{-10}$	**$3.84\ 10^{-10}$**
Magnesium									
Mg-28	$5\ 10^{-1}$	$8.68\ 10^{-10}$	$2.72\ 10^{-10}$	$1.96\ 10^{-10}$	$9.24\ 10^{-10}$	$1.49\ 10^{-9}$	$1.68\ 10^{-10}$	$5.78\ 10^{-9}$	**$2.18\ 10^{-9}$**
Aluminum									
Al-26	$1\ 10^{-2}$	$3.01\ 10^{-9}$	$6.45\ 10^{-10}$	$3.76\ 10^{-10}$	$1.35\ 10^{-9}$	$9.71\ 10^{-10}$	$3.12\ 10^{-10}$	$9.47\ 10^{-9}$	**$3.94\ 10^{-9}$**
Silicon									
Si-31	$1\ 10^{-2}$	$1.14\ 10^{-13}$	$8.05\ 10^{-14}$	$7.55\ 10^{-14}$	$8.33\ 10^{-14}$	$7.58\ 10^{-14}$	$7.20\ 10^{-14}$	$4.86\ 10^{-10}$	**$1.46\ 10^{-10}$**
Si-32	$1\ 10^{-2}$	$1.17\ 10^{-10}$	$1.17\ 10^{-10}$	$1.17\ 10^{-10}$	$1.17\ 10^{-10}$	$1.17\ 10^{-10}$	$1.17\ 10^{-10}$	$1.69\ 10^{-9}$	$5.90\ 10^{-10}$
								$6.21\ 10^{-9}$	LLI wall
Phosphorus									
P-32	$8\ 10^{-1}$	$6.55\ 10^{-10}$	$6.55\ 10^{-10}$	$6.55\ 10^{-10}$	$8.09\ 10^{-9}$	$7.87\ 10^{-9}$	$6.55\ 10^{-10}$	$2.67\ 10^{-9}$	**$2.37\ 10^{-9}$**
P-33	$8\ 10^{-1}$	$9.37\ 10^{-11}$	$9.37\ 10^{-11}$	$9.37\ 10^{-11}$	$4.99\ 10^{-10}$	$1.32\ 10^{-9}$	$9.37\ 10^{-11}$	$3.22\ 10^{-10}$	**$2.48\ 10^{-10}$**
Sulphur									
S-35	$8\ 10^{-1}$	$7.63\ 10^{-11}$	$7.63\ 10^{-11}$	$7.63\ 10^{-11}$	$7.63\ 10^{-11}$	$7.63\ 10^{-11}$	$7.63\ 10^{-11}$	$2.25\ 10^{-10}$	**$1.21\ 10^{-10}$**
	$1\ 10^{-1}$	$9.53\ 10^{-12}$	$9.53\ 10^{-12}$	$9.53\ 10^{-12}$	$9.53\ 10^{-12}$	$9.53\ 10^{-12}$	$9.53\ 10^{-12}$	$6.39\ 10^{-10}$	$1.98\ 10^{-10}$
								$2.23\ 10^{-9}$	LLI wall
Chlorine									
Cl-36	1.0	$7.99\ 10^{-10}$	$7.99\ 10^{-10}$	$7.99\ 10^{-10}$	$7.99\ 10^{-10}$	$7.99\ 10^{-10}$	$7.99\ 10^{-10}$	$8.61\ 10^{-10}$	**$8.18\ 10^{-10}$**
Cl-38	1.0	$8.75\ 10^{-12}$	$8.52\ 10^{-12}$	$8.76\ 10^{-12}$	$8.12\ 10^{-12}$	$7.54\ 10^{-12}$	$7.06\ 10^{-12}$	$1.92\ 10^{-10}$	$6.36\ 10^{-11}$
								$8.96\ 10^{-10}$	ST wall
Cl-39	1.0	$1.06\ 10^{-11}$	$1.02\ 10^{-11}$	$1.05\ 10^{-11}$	$9.78\ 10^{-12}$	$8.93\ 10^{-12}$	$8.21\ 10^{-12}$	$1.42\ 10^{-10}$	$4.96\ 10^{-11}$
								$6.23\ 10^{-10}$	ST wall
Potassium									
K-40	1.0	$5.07\ 10^{-9}$	$4.89\ 10^{-9}$	$4.85\ 10^{-9}$	$4.91\ 10^{-9}$	$4.88\ 10^{-9}$	$4.85\ 10^{-9}$	$5.18\ 10^{-9}$	**$5.02\ 10^{-9}$**
K-42	1.0	$2.13\ 10^{-10}$	$2.08\ 10^{-10}$	$2.07\ 10^{-10}$	$2.08\ 10^{-10}$	$2.07\ 10^{-10}$	$2.06\ 10^{-10}$	$5.30\ 10^{-10}$	**$3.06\ 10^{-10}$**
K-43	1.0	$1.80\ 10^{-10}$	$1.65\ 10^{-10}$	$1.70\ 10^{-10}$	$1.78\ 10^{-10}$	$1.68\ 10^{-10}$	$1.62\ 10^{-10}$	$2.89\ 10^{-10}$	**$2.08\ 10^{-10}$**
K-44	1.0	$5.19\ 10^{-12}$	$5.17\ 10^{-12}$	$5.55\ 10^{-12}$	$4.69\ 10^{-12}$	$4.08\ 10^{-12}$	$3.65\ 10^{-12}$	$1.44\ 10^{-10}$	$4.67\ 10^{-11}$
								$6.65\ 10^{-10}$	ST wall
K-45	1.0	$3.33\ 10^{-12}$	$3.48\ 10^{-12}$	$3.77\ 10^{-12}$	$3.13\ 10^{-12}$	$2.65\ 10^{-12}$	$2.16\ 10^{-12}$	$9.26\ 10^{-11}$	$3.01\ 10^{-11}$
								$4.21\ 10^{-10}$	ST wall
Calcium									
Ca-41	$3\ 10^{-1}$	$2.71\ 10^{-12}$	$3.19\ 10^{-12}$	$2.84\ 10^{-12}$	$1.78\ 10^{-9}$	**$4.01\ 10^{-9}$**	$2.84\ 10^{-12}$	$2.74\ 10^{-11}$	$3.44\ 10^{-10}$
Ca-45	$3\ 10^{-1}$	$5.36\ 10^{-11}$	$5.36\ 10^{-11}$	$5.36\ 10^{-11}$	$3.47\ 10^{-9}$	$5.23\ 10^{-9}$	$5.36\ 10^{-11}$	$8.40\ 10^{-10}$	**$8.55\ 10^{-10}$**
Ca-47	$3\ 10^{-1}$	$7.46\ 10^{-10}$	$2.26\ 10^{-10}$	$1.54\ 10^{-10}$	$1.49\ 10^{-9}$	$4.07\ 10^{-9}$	$1.38\ 10^{-10}$	$4.06\ 10^{-9}$	**$1.76\ 10^{-9}$**
Scandium									
Sc-43	$1\ 10^{-4}$	$1.17\ 10^{-10}$	$1.81\ 10^{-11}$	$6.38\ 10^{-12}$	$2.73\ 10^{-11}$	$9.36\ 10^{-12}$	$6.44\ 10^{-13}$	$5.67\ 10^{-10}$	**$2.06\ 10^{-10}$**
Sc-44	$1\ 10^{-4}$	$2.00\ 10^{-10}$	$3.40\ 10^{-11}$	$1.26\ 10^{-11}$	$4.81\ 10^{-11}$	$1.68\ 10^{-11}$	$1.51\ 10^{-12}$	$1.08\ 10^{-9}$	**$3.87\ 10^{-10}$**

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Sc-44m	$1\ 10^{-4}$	$1.70\ 10^{-9}$	$2.01\ 10^{-10}$	$3.15\ 10^{-11}$	$3.38\ 10^{-10}$	$1.14\ 10^{-10}$	$4.60\ 10^{-12}$	$7.64\ 10^{-9}$	$2.79\ 10^{-9}$
Sc-46	$1\ 10^{-4}$	$2.01\ 10^{-9}$	$2.51\ 10^{-10}$	$4.86\ 10^{-11}$	$4.03\ 10^{-10}$	$1.39\ 10^{-10}$	$7.69\ 10^{-12}$	$3.78\ 10^{-9}$	$1.73\ 10^{-9}$
Sc-47	$1\ 10^{-4}$	$1.12\ 10^{-10}$	$1.21\ 10^{-11}$	$1.62\ 10^{-12}$	$3.13\ 10^{-11}$	$1.01\ 10^{-11}$	$1.19\ 10^{-13}$	$1.90\ 10^{-9}$	$6.04\ 10^{-10}$
								$6.14\ 10^{-9}$	LLI wall
Sc-48	$1\ 10^{-4}$	$2.04\ 10^{-9}$	$2.74\ 10^{-10}$	$5.98\ 10^{-11}$	$4.26\ 10^{-10}$	$1.46\ 10^{-10}$	$8.91\ 10^{-12}$	$4.47\ 10^{-9}$	$1.96\ 10^{-9}$
Sc-49	$1\ 10^{-4}$	$1.25\ 10^{-14}$	$3.80\ 10^{-15}$	$2.50\ 10^{-15}$	$4.45\ 10^{-15}$	$1.92\ 10^{-15}$	$4.38\ 10^{-16}$	$2.27\ 10^{-10}$	$6.80\ 10^{-11}$
Titanium									
Ti-44	$1\ 10^{-2}$	$4.70\ 10^{-9}$	$2.54\ 10^{-9}$	$2.35\ 10^{-9}$	$3.04\ 10^{-9}$	$2.56\ 10^{-9}$	$2.31\ 10^{-9}$	$1.30\ 10^{-8}$	$6.25\ 10^{-9}$
Ti-45	$1\ 10^{-2}$	$6.84\ 10^{-11}$	$1.15\ 10^{-11}$	$4.62\ 10^{-12}$	$1.64\ 10^{-11}$	$5.76\ 10^{-12}$	$5.60\ 10^{-13}$	$4.69\ 10^{-10}$	$1.62\ 10^{-10}$
Vanadium									
V-47	$1\ 10^{-2}$	$6.81\ 10^{-12}$	$2.26\ 10^{-12}$	$1.84\ 10^{-12}$	$2.56\ 10^{-12}$	$1.05\ 10^{-12}$	$1.65\ 10^{-13}$	$1.49\ 10^{-10}$	$4.73\ 10^{-11}$
								$4.54\ 10^{-10}$	ST wall
V-48	$1\ 10^{-2}$	$2.73\ 10^{-9}$	$3.54\ 10^{-10}$	$7.53\ 10^{-11}$	$5.93\ 10^{-10}$	$2.37\ 10^{-10}$	$1.92\ 10^{-11}$	$4.99\ 10^{-9}$	$2.32\ 10^{-9}$
V-49	$1\ 10^{-2}$	$5.32\ 10^{-13}$	$2.27\ 10^{-13}$	$2.23\ 10^{-13}$	$3.46\ 10^{-12}$	$8.78\ 10^{-12}$	$2.32\ 10^{-13}$	$5.24\ 10^{-11}$	$1.66\ 10^{-11}$
								$1.84\ 10^{-10}$	LLI wall
Chromium									
Cr-48	$1\ 10^{-1}$	$3.31\ 10^{-10}$	$5.01\ 10^{-11}$	$1.96\ 10^{-11}$	$9.38\ 10^{-11}$	$4.16\ 10^{-11}$	$1.40\ 10^{-11}$	$4.49\ 10^{-10}$	$2.40\ 10^{-10}$
	$1\ 10^{-2}$	$3.47\ 10^{-10}$	$4.13\ 10^{-11}$	$7.91\ 10^{-12}$	$8.41\ 10^{-11}$	$2.86\ 10^{-11}$	$2.02\ 10^{-12}$	$4.74\ 10^{-10}$	$2.47\ 10^{-10}$
Cr-49	$1\ 10^{-1}$	$1.10\ 10^{-11}$	$3.21\ 10^{-12}$	$2.40\ 10^{-12}$	$4.15\ 10^{-12}$	$1.69\ 10^{-12}$	$2.80\ 10^{-13}$	$1.51\ 10^{-10}$	$4.95\ 10^{-11}$
	$1\ 10^{-2}$	$1.11\ 10^{-11}$	$3.16\ 10^{-12}$	$2.33\ 10^{-12}$	$4.12\ 10^{-12}$	$1.61\ 10^{-12}$	$2.01\ 10^{-13}$	$1.53\ 10^{-10}$	$4.98\ 10^{-11}$
Cr-51	$1\ 10^{-1}$	$4.00\ 10^{-11}$	$7.51\ 10^{-12}$	$4.38\ 10^{-12}$	$1.25\ 10^{-11}$	$7.86\ 10^{-12}$	$3.71\ 10^{-12}$	$8.75\ 10^{-11}$	$3.98\ 10^{-11}$
	$1\ 10^{-2}$	$3.96\ 10^{-11}$	$4.49\ 10^{-12}$	$9.47\ 10^{-13}$	$8.52\ 10^{-12}$	$3.19\ 10^{-12}$	$4.26\ 10^{-13}$	$9.17\ 10^{-11}$	$3.93\ 10^{-11}$
Manganese									
Mn-51	$1\ 10^{-1}$	$1.16\ 10^{-11}$	$3.34\ 10^{-12}$	$2.46\ 10^{-12}$	$4.05\ 10^{-12}$	$1.80\ 10^{-12}$	$3.46\ 10^{-13}$	$2.36\ 10^{-10}$	$7.51\ 10^{-11}$
Mn-52	$1\ 10^{-1}$	$2.74\ 10^{-9}$	$4.55\ 10^{-10}$	$2.04\ 10^{-10}$	$7.59\ 10^{-10}$	$4.22\ 10^{-10}$	$1.04\ 10^{-10}$	$3.87\ 10^{-9}$	$2.05\ 10^{-9}$
Mn-52m	$1\ 10^{-1}$	$7.78\ 10^{-12}$	$3.36\ 10^{-12}$	$3.06\ 10^{-12}$	$3.36\ 10^{-12}$	$1.53\ 10^{-12}$	$3.44\ 10^{-13}$	$1.52\ 10^{-10}$	$4.88\ 10^{-11}$
								$5.18\ 10^{-10}$	ST wall
Mn-53	$1\ 10^{-1}$	$2.09\ 10^{-12}$	$1.55\ 10^{-12}$	$1.53\ 10^{-12}$	$2.18\ 10^{-11}$	$2.25\ 10^{-10}$	$1.62\ 10^{-12}$	$6.28\ 10^{-11}$	$2.92\ 10^{-11}$
Mn-54	$1\ 10^{-1}$	$9.48\ 10^{-10}$	$2.77\ 10^{-10}$	$2.29\ 10^{-10}$	$4.89\ 10^{-10}$	$5.71\ 10^{-10}$	$1.33\ 10^{-10}$	$1.21\ 10^{-9}$	$7.48\ 10^{-10}$
Mn-56	$1\ 10^{-1}$	$8.53\ 10^{-11}$	$1.76\ 10^{-11}$	$8.80\ 10^{-12}$	$2.43\ 10^{-11}$	$1.06\ 10^{-11}$	$2.40\ 10^{-12}$	$7.84\ 10^{-10}$	$2.64\ 10^{-10}$
Iron									
Fe-52	$1\ 10^{-1}$	$6.37\ 10^{-10}$	$1.08\ 10^{-10}$	$4.13\ 10^{-11}$	$1.59\ 10^{-10}$	$6.52\ 10^{-11}$	$1.95\ 10^{-11}$	$4.37\ 10^{-9}$	$1.51\ 10^{-9}$
Fe-55	$1\ 10^{-1}$	$1.07\ 10^{-10}$	$1.04\ 10^{-10}$	$1.02\ 10^{-10}$	$1.05\ 10^{-10}$	$1.05\ 10^{-10}$	$1.10\ 10^{-10}$	$3.00\ 10^{-10}$	$1.64\ 10^{-10}$
Fe-59	$1\ 10^{-1}$	$1.66\ 10^{-9}$	$7.37\ 10^{-10}$	$6.35\ 10^{-10}$	$8.45\ 10^{-10}$	$6.61\ 10^{-10}$	$6.03\ 10^{-10}$	$3.56\ 10^{-9}$	$1.81\ 10^{-9}$
Fe-60	$1\ 10^{-1}$	$3.51\ 10^{-8}$	$3.15\ 10^{-8}$	$3.14\ 10^{-8}$	$3.30\ 10^{-8}$	$3.06\ 10^{-8}$	$3.06\ 10^{-8}$	$6.04\ 10^{-8}$	$4.12\ 10^{-8}$
Cobalt									
Co-55	$5\ 10^{-2}$	$7.72\ 10^{-10}$	$1.10\ 10^{-10}$	$3.07\ 10^{-11}$	$1.68\ 10^{-10}$	$6.12\ 10^{-11}$	$9.57\ 10^{-12}$	$3.13\ 10^{-9}$	$1.18\ 10^{-9}$
	$3\ 10^{-1}$	$6.27\ 10^{-10}$	$1.20\ 10^{-10}$	$6.06\ 10^{-11}$	$1.66\ 10^{-10}$	$8.21\ 10^{-11}$	$4.23\ 10^{-11}$	$2.47\ 10^{-9}$	$9.46\ 10^{-10}$
Co-56	$5\ 10^{-2}$	$3.47\ 10^{-9}$	$6.18\ 10^{-10}$	$3.04\ 10^{-10}$	$8.70\ 10^{-10}$	$4.32\ 10^{-10}$	$2.32\ 10^{-10}$	$5.37\ 10^{-9}$	$2.73\ 10^{-9}$
	$3\ 10^{-1}$	$3.93\ 10^{-9}$	$1.61\ 10^{-9}$	$1.41\ 10^{-9}$	$1.88\ 10^{-9}$	$1.44\ 10^{-9}$	$1.32\ 10^{-9}$	$5.68\ 10^{-9}$	$3.41\ 10^{-9}$
Co-57	$5\ 10^{-2}$	$1.83\ 10^{-10}$	$4.10\ 10^{-11}$	$2.89\ 10^{-11}$	$8.84\ 10^{-11}$	$4.92\ 10^{-11}$	$1.93\ 10^{-11}$	$4.42\ 10^{-10}$	$2.01\ 10^{-10}$
	$3\ 10^{-1}$	$2.94\ 10^{-10}$	$1.58\ 10^{-10}$	$1.63\ 10^{-10}$	$2.67\ 10^{-10}$	$2.12\ 10^{-10}$	$1.15\ 10^{-10}$	$5.39\ 10^{-10}$	$3.20\ 10^{-10}$
Co-58	$5\ 10^{-2}$	$1.04\ 10^{-9}$	$1.79\ 10^{-10}$	$8.53\ 10^{-11}$	$2.60\ 10^{-10}$	$1.25\ 10^{-10}$	$6.31\ 10^{-11}$	$1.58\ 10^{-9}$	$8.09\ 10^{-10}$
	$3\ 10^{-1}$	$1.08\ 10^{-9}$	$4.50\ 10^{-10}$	$4.05\ 10^{-10}$	$5.40\ 10^{-10}$	$4.07\ 10^{-10}$	$3.64\ 10^{-10}$	$1.65\ 10^{-9}$	$9.68\ 10^{-10}$
Co-58m	$5\ 10^{-2}$	$4.71\ 10^{-12}$	$8.65\ 10^{-13}$	$4.81\ 10^{-13}$	$1.22\ 10^{-12}$	$6.59\ 10^{-13}$	$4.05\ 10^{-13}$	$7.69\ 10^{-11}$	$2.46\ 10^{-11}$
	$3\ 10^{-1}$	$5.52\ 10^{-12}$	$2.73\ 10^{-12}$	$2.58\ 10^{-12}$	$3.15\ 10^{-12}$	$2.57\ 10^{-12}$	$2.41\ 10^{-12}$	$6.38\ 10^{-11}$	$2.18\ 10^{-11}$
Co-60	$5\ 10^{-2}$	$3.19\ 10^{-9}$	$1.10\ 10^{-9}$	$8.77\ 10^{-10}$	$1.32\ 10^{-9}$	$9.39\ 10^{-10}$	$7.88\ 10^{-10}$	$4.97\ 10^{-9}$	$2.77\ 10^{-9}$
	$3\ 10^{-1}$	$7.23\ 10^{-9}$	$5.08\ 10^{-9}$	$4.96\ 10^{-9}$	$5.49\ 10^{-9}$	$4.81\ 10^{-9}$	$4.68\ 10^{-9}$	$1.06\ 10^{-8}$	$7.28\ 10^{-9}$

Table 2.2, Ingestion, Cont'd.

		Committed Dose Equivalent per Unit Intake (Sv/Bq)							
Nuclide	f_1	Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Co-60m	$5\ 10^{-2}$	$1.93\ 10^{-14}$	$7.75\ 10^{-15}$	$7.05\ 10^{-15}$	$9.17\ 10^{-15}$	$5.62\ 10^{-15}$	$3.32\ 10^{-15}$	$3.21\ 10^{-12}$	$9.70\ 10^{-13}$
	$3\ 10^{-1}$	$3.50\ 10^{-14}$	$2.33\ 10^{-14}$	$2.30\ 10^{-14}$	$2.54\ 10^{-14}$	$2.08\ 10^{-14}$	$1.86\ 10^{-14}$	$3.21\ 10^{-12}$	$9.82\ 10^{-13}$
								$1.36\ 10^{-11}$	ST wall
Co-61	$5\ 10^{-2}$	$4.36\ 10^{-12}$	$8.72\ 10^{-13}$	$4.76\ 10^{-13}$	$2.02\ 10^{-12}$	$7.49\ 10^{-13}$	$1.41\ 10^{-13}$	$2.32\ 10^{-10}$	$7.11\ 10^{-11}$
	$3\ 10^{-1}$	$4.64\ 10^{-12}$	$1.57\ 10^{-12}$	$1.24\ 10^{-12}$	$2.65\ 10^{-12}$	$1.50\ 10^{-12}$	$9.03\ 10^{-13}$	$2.14\ 10^{-10}$	**$6.60\ 10^{-11}$**
Co-62m	$5\ 10^{-2}$	$5.16\ 10^{-12}$	$2.34\ 10^{-12}$	$2.28\ 10^{-12}$	$2.12\ 10^{-12}$	$1.03\ 10^{-12}$	$2.61\ 10^{-13}$	$9.61\ 10^{-11}$	$3.10\ 10^{-11}$
	$3\ 10^{-1}$	$5.10\ 10^{-12}$	$2.36\ 10^{-12}$	$2.31\ 10^{-12}$	$2.13\ 10^{-12}$	$1.05\ 10^{-12}$	$2.97\ 10^{-13}$	$9.56\ 10^{-11}$	$3.09\ 10^{-11}$
								$3.56\ 10^{-10}$	ST wall
Nickel									
Ni-56	$5\ 10^{-2}$	$1.63\ 10^{-9}$	$2.36\ 10^{-10}$	$7.86\ 10^{-11}$	$3.81\ 10^{-10}$	$1.58\ 10^{-10}$	$5.24\ 10^{-11}$	$1.83\ 10^{-9}$	**$1.05\ 10^{-9}$**
Ni-57	$5\ 10^{-2}$	$1.03\ 10^{-9}$	$1.44\ 10^{-10}$	$3.68\ 10^{-11}$	$2.22\ 10^{-10}$	$8.05\ 10^{-11}$	$1.07\ 10^{-11}$	$2.34\ 10^{-9}$	**$1.02\ 10^{-9}$**
Ni-59	$5\ 10^{-2}$	$3.83\ 10^{-11}$	$3.58\ 10^{-11}$	$3.50\ 10^{-11}$	$3.66\ 10^{-11}$	$3.62\ 10^{-11}$	$3.90\ 10^{-11}$	$1.03\ 10^{-10}$	**$5.67\ 10^{-11}$**
Ni-63	$5\ 10^{-2}$	$8.50\ 10^{-11}$	$8.50\ 10^{-11}$	$8.50\ 10^{-11}$	$8.50\ 10^{-11}$	$8.50\ 10^{-11}$	$8.50\ 10^{-11}$	$3.20\ 10^{-10}$	**$1.56\ 10^{-10}$**
Ni-65	$5\ 10^{-2}$	$2.43\ 10^{-11}$	$5.63\ 10^{-12}$	$2.75\ 10^{-12}$	$7.26\ 10^{-12}$	$2.89\ 10^{-12}$	$6.79\ 10^{-13}$	$5.32\ 10^{-10}$	**$1.68\ 10^{-10}$**
Ni-66	$5\ 10^{-2}$	$6.79\ 10^{-11}$	$2.03\ 10^{-11}$	$1.46\ 10^{-11}$	$2.44\ 10^{-11}$	$1.69\ 10^{-11}$	$1.34\ 10^{-11}$	$1.07\ 10^{-8}$	$3.24\ 10^{-9}$
								$3.44\ 10^{-8}$	LLI wall
Copper									
Cu-60	$5\ 10^{-1}$	$1.36\ 10^{-11}$	$5.85\ 10^{-12}$	$5.32\ 10^{-12}$	$5.81\ 10^{-12}$	$2.84\ 10^{-12}$	$9.20\ 10^{-13}$	$1.55\ 10^{-10}$	$5.21\ 10^{-11}$
								$4.99\ 10^{-10}$	ST wall
Cu-61	$5\ 10^{-1}$	$5.46\ 10^{-11}$	$1.52\ 10^{-11}$	$1.09\ 10^{-11}$	$1.92\ 10^{-11}$	$1.12\ 10^{-11}$	$7.25\ 10^{-12}$	$3.28\ 10^{-10}$	**$1.18\ 10^{-10}$**
Cu-64	$5\ 10^{-1}$	$4.78\ 10^{-11}$	$1.59\ 10^{-11}$	$1.28\ 10^{-11}$	$1.94\ 10^{-11}$	$1.39\ 10^{-11}$	$1.13\ 10^{-11}$	$3.57\ 10^{-10}$	**$1.26\ 10^{-10}$**
Cu-67	$5\ 10^{-1}$	$1.18\ 10^{-10}$	$6.29\ 10^{-11}$	$5.94\ 10^{-11}$	$8.13\ 10^{-11}$	$6.76\ 10^{-11}$	$5.52\ 10^{-11}$	$9.84\ 10^{-10}$	**$3.55\ 10^{-10}$**
Zinc									
Zn-62	$5\ 10^{-1}$	$3.00\ 10^{-10}$	$1.07\ 10^{-10}$	$8.70\ 10^{-11}$	$2.04\ 10^{-10}$	$1.65\ 10^{-10}$	$7.76\ 10^{-11}$	$2.84\ 10^{-9}$	**$9.85\ 10^{-10}$**
Zn-63	$5\ 10^{-1}$	$8.96\ 10^{-12}$	$3.41\ 10^{-12}$	$2.92\ 10^{-12}$	$3.87\ 10^{-12}$	$2.07\ 10^{-12}$	$9.23\ 10^{-13}$	$1.85\ 10^{-10}$	$5.92\ 10^{-11}$
								$5.63\ 10^{-10}$	ST wall
Zn-65	$5\ 10^{-1}$	$3.56\ 10^{-9}$	$3.28\ 10^{-9}$	$3.08\ 10^{-9}$	$4.50\ 10^{-9}$	$4.50\ 10^{-9}$	$3.21\ 10^{-9}$	$4.59\ 10^{-9}$	**$3.90\ 10^{-9}$**
Zn-69	$5\ 10^{-1}$	$4.17\ 10^{-13}$	$4.17\ 10^{-13}$	$4.17\ 10^{-13}$	$5.36\ 10^{-13}$	$5.18\ 10^{-13}$	$4.17\ 10^{-13}$	$7.91\ 10^{-11}$	**$2.40\ 10^{-11}$**
Zn-69m	$5\ 10^{-1}$	$1.23\ 10^{-10}$	$4.42\ 10^{-11}$	$3.63\ 10^{-11}$	$9.15\ 10^{-11}$	$7.27\ 10^{-11}$	$3.28\ 10^{-11}$	$9.99\ 10^{-10}$	**$3.55\ 10^{-10}$**
Zn-71m	$5\ 10^{-1}$	$1.19\ 10^{-10}$	$3.26\ 10^{-11}$	$2.30\ 10^{-11}$	$4.86\ 10^{-11}$	$3.09\ 10^{-11}$	$1.59\ 10^{-11}$	$6.62\ 10^{-10}$	**$2.43\ 10^{-10}$**
Zn-72	$5\ 10^{-1}$	$1.08\ 10^{-9}$	$4.46\ 10^{-10}$	$3.74\ 10^{-10}$	$8.89\ 10^{-10}$	$1.19\ 10^{-9}$	$3.64\ 10^{-10}$	$3.20\ 10^{-9}$	**$1.49\ 10^{-9}$**
Gallium									
Ga-65	$1\ 10^{-3}$	$2.52\ 10^{-12}$	$1.23\ 10^{-12}$	$1.23\ 10^{-12}$	$1.30\ 10^{-12}$	$5.88\ 10^{-13}$	$1.02\ 10^{-13}$	$7.70\ 10^{-11}$	$2.42\ 10^{-11}$
								$2.89\ 10^{-10}$	ST wall
Ga-66	$1\ 10^{-3}$	$5.29\ 10^{-10}$	$7.65\ 10^{-11}$	$2.27\ 10^{-11}$	$1.13\ 10^{-10}$	$3.99\ 10^{-11}$	$3.64\ 10^{-12}$	$3.80\ 10^{-9}$	**$1.30\ 10^{-9}$**
Ga-67	$1\ 10^{-3}$	$1.58\ 10^{-10}$	$1.70\ 10^{-11}$	$2.38\ 10^{-12}$	$4.14\ 10^{-11}$	$1.40\ 10^{-11}$	$2.43\ 10^{-13}$	$5.49\ 10^{-10}$	**$2.12\ 10^{-10}$**
Ga-68	$1\ 10^{-3}$	$1.95\ 10^{-11}$	$4.56\ 10^{-12}$	$2.79\ 10^{-12}$	$5.81\ 10^{-12}$	$2.18\ 10^{-12}$	$2.61\ 10^{-13}$	$2.86\ 10^{-10}$	**$9.24\ 10^{-11}$**
Ga-70	$1\ 10^{-3}$	$3.13\ 10^{-14}$	$1.06\ 10^{-14}$	$9.40\ 10^{-15}$	$1.09\ 10^{-14}$	$4.93\ 10^{-15}$	$1.07\ 10^{-15}$	$6.75\ 10^{-11}$	$2.03\ 10^{-11}$
								$2.58\ 10^{-10}$	ST wall
Ga-72	$1\ 10^{-3}$	$8.52\ 10^{-10}$	$1.19\ 10^{-10}$	$3.18\ 10^{-11}$	$1.79\ 10^{-10}$	$6.23\ 10^{-11}$	$4.95\ 10^{-12}$	$3.31\ 10^{-9}$	**$1.25\ 10^{-9}$**
Ga-73	$1\ 10^{-3}$	$4.62\ 10^{-11}$	$6.51\ 10^{-12}$	$1.93\ 10^{-12}$	$1.17\ 10^{-11}$	$3.94\ 10^{-12}$	$1.93\ 10^{-13}$	$8.81\ 10^{-10}$	**$2.79\ 10^{-10}$**
Germanium									
Ge-66	1.0	$3.69\ 10^{-11}$	$3.31\ 10^{-11}$	$3.36\ 10^{-11}$	$3.51\ 10^{-11}$	$3.25\ 10^{-11}$	$3.23\ 10^{-11}$	$1.08\ 10^{-10}$	**$5.68\ 10^{-11}$**
Ge-67	1.0	$2.71\ 10^{-12}$	$3.25\ 10^{-12}$	$3.64\ 10^{-12}$	$3.09\ 10^{-12}$	$2.63\ 10^{-12}$	$2.17\ 10^{-12}$	$1.10\ 10^{-10}$	$3.52\ 10^{-11}$
								$5.09\ 10^{-10}$	ST wall
Ge-68	1.0	$2.42\ 10^{-10}$	$2.23\ 10^{-10}$	$2.28\ 10^{-10}$	$2.33\ 10^{-10}$	$2.25\ 10^{-10}$	$2.22\ 10^{-10}$	$4.22\ 10^{-10}$	**$2.89\ 10^{-10}$**
Ge-69	1.0	$7.44\ 10^{-11}$	$6.75\ 10^{-11}$	$6.86\ 10^{-11}$	$7.20\ 10^{-11}$	$6.65\ 10^{-11}$	$6.59\ 10^{-11}$	$1.72\ 10^{-10}$	**$1.01\ 10^{-10}$**
Ge-71	1.0	$1.94\ 10^{-12}$	$1.81\ 10^{-12}$	$1.75\ 10^{-12}$	$1.88\ 10^{-12}$	$1.86\ 10^{-12}$	$2.10\ 10^{-12}$	$4.31\ 10^{-12}$	**$2.60\ 10^{-12}$**

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Ge-75	1.0	$4.30\ 10^{-12}$	$4.31\ 10^{-12}$	$4.33\ 10^{-12}$	$4.34\ 10^{-12}$	$4.29\ 10^{-12}$	$4.24\ 10^{-12}$	$7.46\ 10^{-11}$	$2.54\ 10^{-11}$
								$3.29\ 10^{-10}$	ST wall
Ge-77	1.0	$8.62\ 10^{-11}$	$8.21\ 10^{-11}$	$8.30\ 10^{-11}$	$8.68\ 10^{-11}$	$8.21\ 10^{-11}$	$7.87\ 10^{-11}$	$3.21\ 10^{-10}$	$1.55\ 10^{-10}$
Ge-78	1.0	$2.82\ 10^{-11}$	$2.74\ 10^{-11}$	$2.76\ 10^{-11}$	$2.81\ 10^{-11}$	$2.69\ 10^{-11}$	$2.62\ 10^{-11}$	$1.75\ 10^{-10}$	$7.19\ 10^{-11}$
								$5.89\ 10^{-10}$	ST wall
Arsenic									
As-69	$5\ 10^{-1}$	$4.26\ 10^{-12}$	$1.71\ 10^{-12}$	$1.56\ 10^{-12}$	$1.86\ 10^{-12}$	$1.03\ 10^{-12}$	$5.22\ 10^{-13}$	$1.15\ 10^{-10}$	$3.62\ 10^{-11}$
								$4.24\ 10^{-10}$	ST wall
As-70	$5\ 10^{-1}$	$4.68\ 10^{-11}$	$1.50\ 10^{-11}$	$1.15\ 10^{-11}$	$1.68\ 10^{-11}$	$8.19\ 10^{-12}$	$3.37\ 10^{-12}$	$3.19\ 10^{-10}$	$1.13\ 10^{-10}$
As-71	$5\ 10^{-1}$	$3.06\ 10^{-10}$	$7.91\ 10^{-11}$	$5.84\ 10^{-11}$	$1.12\ 10^{-10}$	$7.03\ 10^{-11}$	$4.70\ 10^{-11}$	$9.82\ 10^{-10}$	$4.07\ 10^{-10}$
As-72	$5\ 10^{-1}$	$6.40\ 10^{-10}$	$1.94\ 10^{-10}$	$1.48\ 10^{-10}$	$2.38\ 10^{-10}$	$1.63\ 10^{-10}$	$1.28\ 10^{-10}$	$4.66\ 10^{-9}$	$1.64\ 10^{-9}$
As-73	$5\ 10^{-1}$	$4.78\ 10^{-11}$	$3.78\ 10^{-11}$	$3.74\ 10^{-11}$	$4.29\ 10^{-11}$	$4.02\ 10^{-11}$	$3.92\ 10^{-11}$	$5.38\ 10^{-10}$	$1.91\ 10^{-10}$
As-74	$5\ 10^{-1}$	$6.25\ 10^{-10}$	$2.58\ 10^{-10}$	$2.31\ 10^{-10}$	$3.04\ 10^{-10}$	$2.36\ 10^{-10}$	$2.03\ 10^{-10}$	$2.65\ 10^{-9}$	$1.07\ 10^{-9}$
As-76	$5\ 10^{-1}$	$2.16\ 10^{-10}$	$1.09\ 10^{-10}$	$9.83\ 10^{-11}$	$1.20\ 10^{-10}$	$1.02\ 10^{-10}$	$9.35\ 10^{-11}$	$4.35\ 10^{-9}$	$1.41\ 10^{-9}$
As-77	$5\ 10^{-1}$	$2.73\ 10^{-11}$	$2.42\ 10^{-11}$	$2.39\ 10^{-11}$	$2.46\ 10^{-11}$	$2.41\ 10^{-11}$	$2.38\ 10^{-11}$	$1.09\ 10^{-9}$	$3.44\ 10^{-10}$
								$3.18\ 10^{-9}$	LLI wall
As-78	$5\ 10^{-1}$	$3.07\ 10^{-11}$	$1.13\ 10^{-11}$	$8.92\ 10^{-12}$	$1.27\ 10^{-11}$	$8.05\ 10^{-12}$	$5.60\ 10^{-12}$	$5.63\ 10^{-10}$	$1.81\ 10^{-10}$
Selenium									
Se-70	$8\ 10^{-1}$	$4.00\ 10^{-11}$	$1.78\ 10^{-11}$	$1.56\ 10^{-11}$	$1.99\ 10^{-11}$	$1.35\ 10^{-11}$	$1.02\ 10^{-11}$	$2.64\ 10^{-10}$	$9.67\ 10^{-11}$
	$5\ 10^{-2}$	$6.54\ 10^{-11}$	$1.42\ 10^{-11}$	$7.46\ 10^{-12}$	$1.88\ 10^{-11}$	$7.04\ 10^{-12}$	$1.07\ 10^{-12}$	$3.90\ 10^{-10}$	$1.39\ 10^{-10}$
Se-73	$8\ 10^{-1}$	$1.07\ 10^{-10}$	$5.33\ 10^{-11}$	$5.07\ 10^{-11}$	$6.46\ 10^{-11}$	$5.08\ 10^{-11}$	$4.16\ 10^{-11}$	$4.83\ 10^{-10}$	$1.96\ 10^{-10}$
	$5\ 10^{-2}$	$2.27\ 10^{-10}$	$3.28\ 10^{-11}$	$1.07\ 10^{-11}$	$5.55\ 10^{-11}$	$1.98\ 10^{-11}$	$2.91\ 10^{-12}$	$1.21\ 10^{-9}$	$4.34\ 10^{-10}$
Se-73m	$8\ 10^{-1}$	$9.04\ 10^{-12}$	$4.59\ 10^{-12}$	$4.39\ 10^{-12}$	$5.44\ 10^{-12}$	$4.22\ 10^{-12}$	$3.43\ 10^{-12}$	$6.20\ 10^{-11}$	$2.30\ 10^{-11}$
	$5\ 10^{-2}$	$1.81\ 10^{-11}$	$2.85\ 10^{-12}$	$1.13\ 10^{-12}$	$4.55\ 10^{-12}$	$1.66\ 10^{-12}$	$2.53\ 10^{-13}$	$1.21\ 10^{-10}$	$4.19\ 10^{-11}$
Se-75	$8\ 10^{-1}$	$1.80\ 10^{-9}$	$1.45\ 10^{-9}$	$1.66\ 10^{-9}$	$2.07\ 10^{-9}$	$1.70\ 10^{-9}$	$1.13\ 10^{-9}$	$4.68\ 10^{-9}$	$2.60\ 10^{-9}$
	$5\ 10^{-2}$	$5.92\ 10^{-10}$	$1.41\ 10^{-10}$	$1.10\ 10^{-10}$	$2.43\ 10^{-10}$	$1.43\ 10^{-10}$	$7.14\ 10^{-11}$	$8.47\ 10^{-10}$	$4.72\ 10^{-10}$
Se-79	$8\ 10^{-1}$	$9.06\ 10^{-10}$	$9.06\ 10^{-10}$	$9.06\ 10^{-10}$	$9.06\ 10^{-10}$	$9.06\ 10^{-10}$	$9.06\ 10^{-10}$	$5.73\ 10^{-9}$	$2.35\ 10^{-9}$
	$5\ 10^{-2}$	$5.66\ 10^{-11}$	$5.66\ 10^{-11}$	$5.66\ 10^{-11}$	$5.66\ 10^{-11}$	$5.66\ 10^{-11}$	$5.66\ 10^{-11}$	$1.04\ 10^{-9}$	$3.51\ 10^{-10}$
Se-81	$8\ 10^{-1}$	$2.18\ 10^{-13}$	$2.07\ 10^{-13}$	$2.07\ 10^{-13}$	$2.07\ 10^{-13}$	$2.01\ 10^{-13}$	$1.97\ 10^{-13}$	$5.30\ 10^{-11}$	$1.60\ 10^{-11}$
	$5\ 10^{-2}$	$3.21\ 10^{-14}$	$1.53\ 10^{-14}$	$1.44\ 10^{-14}$	$1.67\ 10^{-14}$	$9.34\ 10^{-15}$	$4.52\ 10^{-15}$	$5.65\ 10^{-11}$	$1.70\ 10^{-11}$
								$2.17\ 10^{-10}$	ST wall
Se-81m	$8\ 10^{-1}$	$3.21\ 10^{-12}$	$3.02\ 10^{-12}$	$3.00\ 10^{-12}$	$3.09\ 10^{-12}$	$3.01\ 10^{-12}$	$2.95\ 10^{-12}$	$1.28\ 10^{-10}$	$4.05\ 10^{-11}$
	$5\ 10^{-2}$	$5.78\ 10^{-13}$	$1.80\ 10^{-13}$	$1.35\ 10^{-13}$	$2.81\ 10^{-13}$	$1.51\ 10^{-13}$	$8.30\ 10^{-14}$	$1.88\ 10^{-10}$	$5.67\ 10^{-11}$
Se-83	$8\ 10^{-1}$	$8.46\ 10^{-12}$	$4.69\ 10^{-12}$	$4.58\ 10^{-12}$	$4.65\ 10^{-12}$	$2.99\ 10^{-12}$	$1.87\ 10^{-12}$	$1.02\ 10^{-10}$	$3.47\ 10^{-11}$
								$3.19\ 10^{-10}$	ST wall
	$5\ 10^{-2}$	$9.40\ 10^{-12}$	$3.60\ 10^{-12}$	$3.17\ 10^{-12}$	$3.76\ 10^{-12}$	$1.68\ 10^{-12}$	$3.69\ 10^{-13}$	$1.33\ 10^{-10}$	$4.35\ 10^{-11}$
Bromine									
Br-74	1.0	$8.27\ 10^{-12}$	$8.73\ 10^{-12}$	$9.78\ 10^{-12}$	$7.88\ 10^{-12}$	$6.44\ 10^{-12}$	$5.52\ 10^{-12}$	$1.49\ 10^{-10}$	$5.05\ 10^{-11}$
								$6.34\ 10^{-10}$	ST wall
Br-74m	1.0	$1.57\ 10^{-11}$	$1.62\ 10^{-11}$	$1.76\ 10^{-11}$	$1.53\ 10^{-11}$	$1.33\ 10^{-11}$	$1.20\ 10^{-11}$	$2.35\ 10^{-10}$	$8.16\ 10^{-11}$
								$1.01\ 10^{-9}$	ST wall
Br-75	1.0	$1.52\ 10^{-11}$	$1.54\ 10^{-11}$	$1.65\ 10^{-11}$	$1.61\ 10^{-11}$	$1.46\ 10^{-11}$	$1.32\ 10^{-11}$	$1.28\ 10^{-10}$	$4.94\ 10^{-11}$
								$5.26\ 10^{-10}$	ST wall
Br-76	1.0	$3.17\ 10^{-10}$	$2.74\ 10^{-10}$	$2.76\ 10^{-10}$	$2.88\ 10^{-10}$	$2.72\ 10^{-10}$	$2.73\ 10^{-10}$	$5.39\ 10^{-10}$	$3.66\ 10^{-10}$
Br-77	1.0	$7.95\ 10^{-11}$	$6.80\ 10^{-11}$	$7.12\ 10^{-11}$	$7.99\ 10^{-11}$	$7.23\ 10^{-11}$	$6.71\ 10^{-11}$	$1.00\ 10^{-10}$	$8.24\ 10^{-11}$
Br-80	1.0	$7.98\ 10^{-13}$	$8.28\ 10^{-13}$	$8.49\ 10^{-13}$	$8.14\ 10^{-13}$	$7.91\ 10^{-13}$	$7.71\ 10^{-13}$	$5.07\ 10^{-11}$	$1.58\ 10^{-11}$
								$2.49\ 10^{-10}$	ST wall
Br-80m	1.0	$3.94\ 10^{-11}$	$3.91\ 10^{-11}$	$3.93\ 10^{-11}$	$3.99\ 10^{-11}$	$3.95\ 10^{-11}$	$3.90\ 10^{-11}$	$1.56\ 10^{-10}$	$7.45\ 10^{-11}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Br-82	1.0	$4.48\ 10^{-10}$	$3.81\ 10^{-10}$	$3.84\ 10^{-10}$	$4.14\ 10^{-10}$	$3.80\ 10^{-10}$	$3.83\ 10^{-10}$	$5.80\ 10^{-10}$	$4.62\ 10^{-10}$
Br-83	1.0	$7.35\ 10^{-12}$	$7.34\ 10^{-12}$	$7.35\ 10^{-12}$	$7.35\ 10^{-12}$	$7.33\ 10^{-12}$	$7.33\ 10^{-12}$	$6.54\ 10^{-11}$	$2.47\ 10^{-11}$
								$2.97\ 10^{-10}$	ST wall
Br-84	1.0	$6.75\ 10^{-12}$	$6.62\ 10^{-12}$	$6.99\ 10^{-12}$	$6.21\ 10^{-12}$	$5.56\ 10^{-12}$	$5.20\ 10^{-12}$	$1.48\ 10^{-10}$	$4.91\ 10^{-11}$
								$6.82\ 10^{-10}$	ST wall
Rubidium									
Rb-79	1.0	$2.74\ 10^{-12}$	$3.40\ 10^{-12}$	$3.86\ 10^{-12}$	$3.29\ 10^{-12}$	$2.87\ 10^{-12}$	$2.20\ 10^{-12}$	$8.58\ 10^{-11}$	$2.79\ 10^{-11}$
								$3.88\ 10^{-10}$	ST wall
Rb-81	1.0	$2.12\ 10^{-11}$	$2.01\ 10^{-11}$	$2.11\ 10^{-11}$	$2.56\ 10^{-11}$	$2.93\ 10^{-11}$	$1.85\ 10^{-11}$	$7.92\ 10^{-11}$	$3.91\ 10^{-11}$
Rb-81m	1.0	$2.82\ 10^{-12}$	$2.63\ 10^{-12}$	$2.72\ 10^{-12}$	$3.38\ 10^{-12}$	$3.92\ 10^{-12}$	$2.51\ 10^{-12}$	$1.44\ 10^{-11}$	$6.35\ 10^{-12}$
								$5.79\ 10^{-11}$	ST wall
Rb-82m	1.0	$8.05\ 10^{-11}$	$7.58\ 10^{-11}$	$7.74\ 10^{-11}$	$9.07\ 10^{-11}$	$8.84\ 10^{-11}$	$6.99\ 10^{-11}$	$1.86\ 10^{-10}$	$1.12\ 10^{-10}$
Rb-83	1.0	$1.98\ 10^{-9}$	$1.73\ 10^{-9}$	$1.79\ 10^{-9}$	$2.61\ 10^{-9}$	$3.02\ 10^{-9}$	$1.74\ 10^{-9}$	$2.17\ 10^{-9}$	$2.08\ 10^{-9}$
Rb-84	1.0	$2.52\ 10^{-9}$	$2.29\ 10^{-9}$	$2.29\ 10^{-9}$	$3.43\ 10^{-9}$	$4.41\ 10^{-9}$	$2.29\ 10^{-9}$	$2.79\ 10^{-9}$	$2.70\ 10^{-9}$
Rb-86	1.0	$2.15\ 10^{-9}$	$2.14\ 10^{-9}$	$2.14\ 10^{-9}$	$3.72\ 10^{-9}$	$6.86\ 10^{-9}$	$2.14\ 10^{-9}$	$2.33\ 10^{-9}$	$2.53\ 10^{-9}$
Rb-87	1.0	$1.14\ 10^{-9}$	$1.14\ 10^{-9}$	$1.14\ 10^{-9}$	$2.02\ 10^{-9}$	$3.80\ 10^{-9}$	$1.14\ 10^{-9}$	$1.17\ 10^{-9}$	$1.33\ 10^{-9}$
Rb-88	1.0	$2.78\ 10^{-12}$	$2.82\ 10^{-12}$	$2.91\ 10^{-12}$	$2.76\ 10^{-12}$	$2.75\ 10^{-12}$	$2.43\ 10^{-12}$	$1.50\ 10^{-10}$	$4.71\ 10^{-11}$
								$7.32\ 10^{-10}$	ST wall
Rb-89	1.0	$3.32\ 10^{-12}$	$3.38\ 10^{-12}$	$3.68\ 10^{-12}$	$3.53\ 10^{-12}$	$4.19\ 10^{-12}$	$2.21\ 10^{-12}$	$8.04\ 10^{-11}$	$2.65\ 10^{-11}$
								$3.63\ 10^{-10}$	ST wall
Strontium									
Sr-80	$3\ 10^{-1}$	$4.30\ 10^{-11}$	$1.26\ 10^{-11}$	$9.14\ 10^{-12}$	$1.55\ 10^{-11}$	$7.35\ 10^{-12}$	$5.09\ 10^{-12}$	$9.87\ 10^{-10}$	$3.12\ 10^{-10}$
	$1\ 10^{-2}$	$4.41\ 10^{-11}$	$8.94\ 10^{-12}$	$4.71\ 10^{-12}$	$1.20\ 10^{-11}$	$4.37\ 10^{-12}$	$5.65\ 10^{-13}$	$1.08\ 10^{-9}$	$3.38\ 10^{-10}$
Sr-81	$3\ 10^{-1}$	$1.32\ 10^{-11}$	$3.82\ 10^{-12}$	$2.92\ 10^{-12}$	$4.85\ 10^{-12}$	$2.25\ 10^{-12}$	$7.34\ 10^{-13}$	$1.79\ 10^{-10}$	$5.85\ 10^{-11}$
	$1\ 10^{-2}$	$1.46\ 10^{-11}$	$3.57\ 10^{-12}$	$2.44\ 10^{-12}$	$4.66\ 10^{-12}$	$1.81\ 10^{-12}$	$2.27\ 10^{-13}$	$1.88\ 10^{-10}$	$6.14\ 10^{-11}$
Sr-82	$3\ 10^{-1}$	$1.56\ 10^{-9}$	$7.95\ 10^{-10}$	$7.09\ 10^{-10}$	$4.90\ 10^{-9}$	$6.69\ 10^{-9}$	$6.95\ 10^{-10}$	$1.55\ 10^{-8}$	$6.04\ 10^{-9}$
	$1\ 10^{-2}$	$1.22\ 10^{-9}$	$1.62\ 10^{-10}$	$4.45\ 10^{-11}$	$3.92\ 10^{-10}$	$2.99\ 10^{-10}$	$2.59\ 10^{-11}$	$2.07\ 10^{-8}$	$6.61\ 10^{-9}$
								$7.10\ 10^{-8}$	LLI wall
Sr-83	$3\ 10^{-1}$	$3.87\ 10^{-10}$	$7.65\ 10^{-11}$	$4.15\ 10^{-11}$	$1.53\ 10^{-10}$	$2.40\ 10^{-10}$	$3.30\ 10^{-11}$	$1.31\ 10^{-9}$	$5.33\ 10^{-10}$
	$1\ 10^{-2}$	$4.88\ 10^{-10}$	$6.15\ 10^{-11}$	$1.31\ 10^{-11}$	$1.01\ 10^{-10}$	$4.04\ 10^{-11}$	$2.63\ 10^{-12}$	$1.75\ 10^{-9}$	$6.70\ 10^{-10}$
Sr-85	$3\ 10^{-1}$	$6.25\ 10^{-10}$	$2.53\ 10^{-10}$	$2.06\ 10^{-10}$	$5.97\ 10^{-10}$	$6.06\ 10^{-10}$	$2.05\ 10^{-10}$	$7.31\ 10^{-10}$	$5.34\ 10^{-10}$
	$1\ 10^{-2}$	$5.82\ 10^{-10}$	$7.34\ 10^{-11}$	$1.67\ 10^{-11}$	$1.30\ 10^{-10}$	$5.69\ 10^{-11}$	$8.14\ 10^{-12}$	$7.56\ 10^{-10}$	$4.03\ 10^{-10}$
Sr-85m	$3\ 10^{-1}$	$5.22\ 10^{-12}$	$1.29\ 10^{-12}$	$8.21\ 10^{-13}$	$2.23\ 10^{-12}$	$1.55\ 10^{-12}$	$2.72\ 10^{-13}$	$1.44\ 10^{-11}$	$6.23\ 10^{-12}$
	$1\ 10^{-2}$	$5.63\ 10^{-12}$	$1.16\ 10^{-12}$	$6.11\ 10^{-13}$	$1.92\ 10^{-12}$	$7.13\ 10^{-13}$	$5.37\ 10^{-14}$	$1.52\ 10^{-11}$	$6.46\ 10^{-12}$
Sr-87m	$3\ 10^{-1}$	$2.04\ 10^{-11}$	$4.13\ 10^{-12}$	$2.25\ 10^{-12}$	$6.12\ 10^{-12}$	$2.58\ 10^{-12}$	$9.20\ 10^{-13}$	$8.30\ 10^{-11}$	$3.17\ 10^{-11}$
	$1\ 10^{-2}$	$2.34\ 10^{-11}$	$3.87\ 10^{-12}$	$1.53\ 10^{-12}$	$6.10\ 10^{-12}$	$2.11\ 10^{-12}$	$1.62\ 10^{-13}$	$9.47\ 10^{-11}$	$3.58\ 10^{-11}$
Sr-89	$3\ 10^{-1}$	$2.40\ 10^{-10}$	$2.40\ 10^{-10}$	$2.40\ 10^{-10}$	$3.23\ 10^{-9}$	$4.81\ 10^{-9}$	$2.40\ 10^{-10}$	$6.11\ 10^{-9}$	$2.50\ 10^{-9}$
	$1\ 10^{-2}$	$8.05\ 10^{-12}$	$7.98\ 10^{-12}$	$7.97\ 10^{-12}$	$1.08\ 10^{-10}$	$1.61\ 10^{-10}$	$7.97\ 10^{-12}$	$8.25\ 10^{-9}$	$2.50\ 10^{-9}$
								$2.89\ 10^{-8}$	LLI wall
Sr-90	$3\ 10^{-1}$	$1.51\ 10^{-9}$	$1.51\ 10^{-9}$	$1.51\ 10^{-9}$	$1.94\ 10^{-7}$	$4.19\ 10^{-7}$	$1.51\ 10^{-9}$	$6.14\ 10^{-9}$	$3.85\ 10^{-8}$
	$1\ 10^{-2}$	$5.04\ 10^{-11}$	$5.04\ 10^{-11}$	$5.04\ 10^{-11}$	$6.45\ 10^{-9}$	$1.39\ 10^{-8}$	$5.04\ 10^{-11}$	$6.70\ 10^{-9}$	$3.23\ 10^{-9}$
Sr-91	$3\ 10^{-1}$	$2.10\ 10^{-10}$	$4.98\ 10^{-11}$	$3.05\ 10^{-11}$	$1.08\ 10^{-10}$	$7.90\ 10^{-11}$	$2.41\ 10^{-11}$	$1.98\ 10^{-9}$	$6.74\ 10^{-10}$
	$1\ 10^{-2}$	$2.48\ 10^{-10}$	$3.57\ 10^{-11}$	$9.81\ 10^{-12}$	$5.53\ 10^{-11}$	$2.02\ 10^{-11}$	$1.90\ 10^{-12}$	$2.54\ 10^{-9}$	$8.39\ 10^{-10}$
Sr-92	$3\ 10^{-1}$	$8.01\ 10^{-11}$	$2.69\ 10^{-11}$	$1.89\ 10^{-11}$	$3.87\ 10^{-11}$	$2.13\ 10^{-11}$	$1.35\ 10^{-11}$	$1.37\ 10^{-9}$	$4.43\ 10^{-10}$
	$1\ 10^{-2}$	$8.18\ 10^{-11}$	$1.70\ 10^{-11}$	$7.22\ 10^{-12}$	$2.29\ 10^{-11}$	$8.49\ 10^{-12}$	$1.30\ 10^{-12}$	$1.72\ 10^{-9}$	$5.43\ 10^{-10}$
Yttrium									
Y-86	$1\ 10^{-4}$	$1.21\ 10^{-9}$	$1.68\ 10^{-10}$	$4.27\ 10^{-11}$	$2.56\ 10^{-10}$	$8.81\ 10^{-11}$	$6.08\ 10^{-12}$	$2.56\ 10^{-9}$	$1.14\ 10^{-9}$
Y-86m	$1\ 10^{-4}$	$6.94\ 10^{-11}$	$9.68\ 10^{-12}$	$2.47\ 10^{-12}$	$1.50\ 10^{-11}$	$5.15\ 10^{-12}$	$3.35\ 10^{-13}$	$1.50\ 10^{-10}$	$6.61\ 10^{-11}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Y-87	$1\ 10^{-4}$	$6.97\ 10^{-10}$	$7.84\ 10^{-11}$	$1.15\ 10^{-11}$	$1.38\ 10^{-10}$	$4.60\ 10^{-11}$	$1.44\ 10^{-12}$	$1.51\ 10^{-9}$	$6.58\ 10^{-10}$
Y-88	$1\ 10^{-4}$	$2.56\ 10^{-9}$	$3.18\ 10^{-10}$	$6.74\ 10^{-11}$	$5.05\ 10^{-10}$	$1.78\ 10^{-10}$	$1.14\ 10^{-11}$	$2.85\ 10^{-9}$	$1.62\ 10^{-9}$
Y-90	$1\ 10^{-4}$	$1.43\ 10^{-14}$	$1.27\ 10^{-14}$	$1.26\ 10^{-14}$	$3.70\ 10^{-13}$	$3.67\ 10^{-13}$	$1.26\ 10^{-14}$	$9.68\ 10^{-9}$	$2.91\ 10^{-9}$
								$3.16\ 10^{-9}$	LLI wall
Y-90m	$1\ 10^{-4}$	$5.41\ 10^{-11}$	$8.62\ 10^{-12}$	$3.19\ 10^{-12}$	$1.37\ 10^{-11}$	$4.70\ 10^{-12}$	$3.00\ 10^{-13}$	$5.81\ 10^{-10}$	$1.91\ 10^{-10}$
Y-91	$1\ 10^{-4}$	$3.54\ 10^{-12}$	$5.54\ 10^{-13}$	$2.02\ 10^{-13}$	$6.59\ 10^{-12}$	$6.13\ 10^{-12}$	$1.29\ 10^{-13}$	$8.57\ 10^{-9}$	$2.57\ 10^{-9}$
								$3.02\ 10^{-9}$	LLI wall
Y-91m	$1\ 10^{-4}$	$6.94\ 10^{-12}$	$1.84\ 10^{-12}$	$1.28\ 10^{-12}$	$2.24\ 10^{-12}$	$8.71\ 10^{-13}$	$1.17\ 10^{-13}$	$2.92\ 10^{-11}$	$1.12\ 10^{-11}$
Y-92	$1\ 10^{-4}$	$1.96\ 10^{-11}$	$3.55\ 10^{-12}$	$1.39\ 10^{-12}$	$4.91\ 10^{-12}$	$1.75\ 10^{-12}$	$1.77\ 10^{-13}$	$1.70\ 10^{-9}$	$5.15\ 10^{-10}$
Y-93	$1\ 10^{-4}$	$2.20\ 10^{-11}$	$3.13\ 10^{-12}$	$8.67\ 10^{-13}$	$4.93\ 10^{-12}$	$1.73\ 10^{-12}$	$1.26\ 10^{-13}$	$4.09\ 10^{-9}$	$1.23\ 10^{-9}$
Y-94	$1\ 10^{-4}$	$3.61\ 10^{-12}$	$1.37\ 10^{-12}$	$1.25\ 10^{-12}$	$1.33\ 10^{-12}$	$6.07\ 10^{-13}$	$1.34\ 10^{-13}$	$1.73\ 10^{-10}$	$5.33\ 10^{-11}$
								$6.41\ 10^{-10}$	ST wall
Y-95	$1\ 10^{-4}$	$1.12\ 10^{-12}$	$5.55\ 10^{-13}$	$5.55\ 10^{-13}$	$4.97\ 10^{-13}$	$2.52\ 10^{-13}$	$6.80\ 10^{-14}$	$8.98\ 10^{-11}$	$2.75\ 10^{-11}$
								$3.75\ 10^{-10}$	ST wall
Zirconium									
Zr-86	$2\ 10^{-3}$	$1.16\ 10^{-9}$	$1.37\ 10^{-10}$	$2.36\ 10^{-11}$	$2.30\ 10^{-10}$	$7.89\ 10^{-11}$	$3.90\ 10^{-12}$	$2.31\ 10^{-9}$	$1.04\ 10^{-9}$
Zr-88	$2\ 10^{-3}$	$5.28\ 10^{-10}$	$7.36\ 10^{-11}$	$2.41\ 10^{-11}$	$1.58\ 10^{-10}$	$1.30\ 10^{-10}$	$1.06\ 10^{-11}$	$7.80\ 10^{-10}$	$4.03\ 10^{-10}$
Zr-89	$2\ 10^{-3}$	$9.34\ 10^{-10}$	$1.17\ 10^{-10}$	$2.27\ 10^{-11}$	$1.89\ 10^{-10}$	$6.57\ 10^{-11}$	$3.62\ 10^{-12}$	$2.15\ 10^{-9}$	$9.25\ 10^{-10}$
Zr-93	$2\ 10^{-3}$	$9.23\ 10^{-14}$	$1.97\ 10^{-13}$	$1.15\ 10^{-13}$	$7.42\ 10^{-10}$	$9.14\ 10^{-9}$	$7.31\ 10^{-14}$	$2.83\ 10^{-10}$	$4.48\ 10^{-10}$
Zr-95	$2\ 10^{-3}$	$8.16\ 10^{-10}$	$1.05\ 10^{-10}$	$2.34\ 10^{-11}$	$2.14\ 10^{-10}$	$4.86\ 10^{-10}$	$8.27\ 10^{-12}$	$2.53\ 10^{-9}$	$1.02\ 10^{-9}$
Zr-97	$2\ 10^{-3}$	$6.22\ 10^{-10}$	$8.12\ 10^{-11}$	$1.76\ 10^{-11}$	$1.30\ 10^{-10}$	$4.55\ 10^{-11}$	$2.66\ 10^{-12}$	$6.98\ 10^{-9}$	$2.28\ 10^{-9}$
Niobium									
Nb-88	$1\ 10^{-2}$	$3.55\ 10^{-12}$	$2.13\ 10^{-12}$	$2.34\ 10^{-12}$	$1.86\ 10^{-12}$	$9.47\ 10^{-13}$	$2.22\ 10^{-13}$	$7.41\ 10^{-11}$	$2.40\ 10^{-11}$
								$2.90\ 10^{-10}$	ST wall
Nb-89	$1\ 10^{-2}$	$8.06\ 10^{-11}$	$1.42\ 10^{-11}$	$6.04\ 10^{-12}$	$2.01\ 10^{-11}$	$7.65\ 10^{-12}$	$8.56\ 10^{-13}$	$8.38\ 10^{-10}$	$2.77\ 10^{-10}$
122 m									
Nb-89	$1\ 10^{-2}$	$5.09\ 10^{-11}$	$1.06\ 10^{-11}$	$5.90\ 10^{-12}$	$1.41\ 10^{-11}$	$5.39\ 10^{-12}$	$6.19\ 10^{-13}$	$3.81\ 10^{-10}$	$1.31\ 10^{-10}$
66 m									
Nb-90	$1\ 10^{-2}$	$1.35\ 10^{-9}$	$1.87\ 10^{-10}$	$5.12\ 10^{-11}$	$2.91\ 10^{-10}$	$1.09\ 10^{-10}$	$9.11\ 10^{-12}$	$3.50\ 10^{-9}$	$1.46\ 10^{-9}$
Nb-93m	$1\ 10^{-2}$	$3.34\ 10^{-11}$	$2.57\ 10^{-12}$	$2.45\ 10^{-12}$	$2.32\ 10^{-11}$	$5.98\ 10^{-11}$	$2.44\ 10^{-12}$	$4.25\ 10^{-10}$	$1.41\ 10^{-10}$
								$1.47\ 10^{-9}$	LLI wall
Nb-94	$1\ 10^{-2}$	$1.80\ 10^{-9}$	$3.47\ 10^{-10}$	$1.72\ 10^{-10}$	$7.39\ 10^{-10}$	$7.65\ 10^{-10}$	$1.23\ 10^{-10}$	$4.30\ 10^{-9}$	$1.93\ 10^{-9}$
Nb-95	$1\ 10^{-2}$	$8.05\ 10^{-10}$	$1.07\ 10^{-10}$	$2.74\ 10^{-11}$	$1.99\ 10^{-10}$	$2.94\ 10^{-10}$	$1.18\ 10^{-11}$	$1.47\ 10^{-9}$	$6.95\ 10^{-10}$
Nb-95m	$1\ 10^{-2}$	$9.30\ 10^{-11}$	$1.06\ 10^{-11}$	$2.82\ 10^{-12}$	$3.33\ 10^{-11}$	$4.31\ 10^{-11}$	$1.63\ 10^{-12}$	$1.97\ 10^{-9}$	$6.22\ 10^{-10}$
								$6.47\ 10^{-9}$	LLI wall
Nb-96	$1\ 10^{-2}$	$1.19\ 10^{-9}$	$1.59\ 10^{-10}$	$3.65\ 10^{-11}$	$2.54\ 10^{-10}$	$9.13\ 10^{-11}$	$6.37\ 10^{-12}$	$3.05\ 10^{-9}$	$1.27\ 10^{-9}$
Nb-97	$1\ 10^{-2}$	$1.45\ 10^{-11}$	$3.30\ 10^{-12}$	$1.98\ 10^{-12}$	$4.20\ 10^{-12}$	$1.60\ 10^{-12}$	$2.11\ 10^{-13}$	$1.94\ 10^{-10}$	$6.30\ 10^{-11}$
Nb-98	$1\ 10^{-2}$	$3.19\ 10^{-11}$	$8.45\ 10^{-12}$	$5.73\ 10^{-12}$	$9.97\ 10^{-12}$	$3.96\ 10^{-12}$	$6.38\ 10^{-13}$	$3.02\ 10^{-10}$	$1.02\ 10^{-10}$
Molybdenum									
Mo-90	$8\ 10^{-1}$	$2.42\ 10^{-10}$	$1.12\ 10^{-10}$	$1.12\ 10^{-10}$	$1.75\ 10^{-10}$	$1.84\ 10^{-10}$	$7.82\ 10^{-11}$	$6.90\ 10^{-10}$	$3.27\ 10^{-10}$
	$5\ 10^{-2}$	$6.21\ 10^{-10}$	$8.39\ 10^{-11}$	$2.37\ 10^{-11}$	$1.37\ 10^{-10}$	$5.37\ 10^{-11}$	$7.04\ 10^{-12}$	$1.77\ 10^{-9}$	$7.19\ 10^{-10}$
Mo-93	$8\ 10^{-1}$	$1.27\ 10^{-10}$	$9.96\ 10^{-11}$	$1.06\ 10^{-10}$	$2.82\ 10^{-10}$	$1.15\ 10^{-9}$	$9.42\ 10^{-11}$	$7.79\ 10^{-10}$	$3.64\ 10^{-10}$
	$5\ 10^{-2}$	$2.54\ 10^{-11}$	$6.78\ 10^{-12}$	$6.63\ 10^{-12}$	$1.97\ 10^{-11}$	$7.22\ 10^{-11}$	$5.89\ 10^{-12}$	$1.74\ 10^{-10}$	$6.52\ 10^{-11}$
Mo-93m	$8\ 10^{-1}$	$1.42\ 10^{-10}$	$6.03\ 10^{-11}$	$5.48\ 10^{-11}$	$7.68\ 10^{-11}$	$5.70\ 10^{-11}$	$3.64\ 10^{-11}$	$3.09\ 10^{-10}$	$1.56\ 10^{-10}$
	$5\ 10^{-2}$	$3.35\ 10^{-10}$	$5.78\ 10^{-11}$	$1.98\ 10^{-11}$	$8.40\ 10^{-11}$	$3.08\ 10^{-11}$	$4.12\ 10^{-12}$	$7.22\ 10^{-10}$	$3.22\ 10^{-10}$
Mo-99	$8\ 10^{-1}$	$2.21\ 10^{-10}$	$1.83\ 10^{-10}$	$1.93\ 10^{-10}$	$5.33\ 10^{-10}$	$7.69\ 10^{-10}$	$1.64\ 10^{-10}$	$2.08\ 10^{-9}$	$8.22\ 10^{-10}$
	$5\ 10^{-2}$	$2.18\ 10^{-10}$	$3.43\ 10^{-11}$	$1.51\ 10^{-11}$	$8.32\ 10^{-11}$	$6.32\ 10^{-11}$	$1.03\ 10^{-11}$	$4.28\ 10^{-9}$	$1.36\ 10^{-9}$
								$1.37\ 10^{-9}$	LLI wall
Mo-101	$8\ 10^{-1}$	$3.46\ 10^{-12}$	$1.92\ 10^{-12}$	$1.91\ 10^{-12}$	$1.92\ 10^{-12}$	$1.15\ 10^{-12}$	$5.86\ 10^{-13}$	$8.70\ 10^{-11}$	$2.78\ 10^{-11}$
								$3.24\ 10^{-10}$	ST wall

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Technetium									
Tc-93	$8\ 10^{-1}$	$3.46\ 10^{-11}$	$1.48\ 10^{-11}$	$1.21\ 10^{-11}$	$1.60\ 10^{-11}$	$1.04\ 10^{-11}$	$9.78\ 10^{-11}$	$8.74\ 10^{-11}$	$4.37\ 10^{-11}$
Tc-93m	$8\ 10^{-1}$	$1.23\ 10^{-11}$	$5.21\ 10^{-12}$	$4.34\ 10^{-12}$	$5.70\ 10^{-12}$	$3.66\ 10^{-12}$	$4.24\ 10^{-11}$	$4.53\ 10^{-11}$	$2.00\ 10^{-11}$
Tc-94	$8\ 10^{-1}$	$1.25\ 10^{-10}$	$5.08\ 10^{-11}$	$4.34\ 10^{-11}$	$5.77\ 10^{-11}$	$3.89\ 10^{-11}$	$4.84\ 10^{-10}$	$2.98\ 10^{-10}$	$1.56\ 10^{-10}$
Tc-94m	$8\ 10^{-1}$	$1.74\ 10^{-11}$	$8.24\ 10^{-12}$	$7.61\ 10^{-12}$	$8.63\ 10^{-12}$	$5.65\ 10^{-12}$	$1.94\ 10^{-10}$	$2.07\ 10^{-10}$	$7.57\ 10^{-11}$
Tc-95	$8\ 10^{-1}$	$1.14\ 10^{-10}$	$4.73\ 10^{-11}$	$4.12\ 10^{-11}$	$5.51\ 10^{-11}$	$3.97\ 10^{-11}$	$3.71\ 10^{-10}$	$2.21\ 10^{-10}$	$1.26\ 10^{-10}$
Tc-95m	$8\ 10^{-1}$	$3.17\ 10^{-10}$	$1.73\ 10^{-10}$	$1.67\ 10^{-10}$	$2.03\ 10^{-10}$	$1.63\ 10^{-10}$	$7.96\ 10^{-10}$	$7.15\ 10^{-10}$	$3.93\ 10^{-10}$
Tc-96	$8\ 10^{-1}$	$6.99\ 10^{-10}$	$3.35\ 10^{-10}$	$3.04\ 10^{-10}$	$3.84\ 10^{-10}$	$2.91\ 10^{-10}$	$1.55\ 10^{-9}$	$1.27\ 10^{-9}$	$7.45\ 10^{-10}$
Tc-96m	$8\ 10^{-1}$	$6.11\ 10^{-12}$	$2.94\ 10^{-12}$	$2.67\ 10^{-12}$	$3.35\ 10^{-12}$	$2.54\ 10^{-12}$	$1.99\ 10^{-11}$	$1.75\ 10^{-11}$	$8.61\ 10^{-12}$
Tc-97	$8\ 10^{-1}$	$1.68\ 10^{-11}$	$1.01\ 10^{-11}$	$1.02\ 10^{-11}$	$1.27\ 10^{-11}$	$1.17\ 10^{-11}$	$1.77\ 10^{-10}$	$1.07\ 10^{-10}$	$4.63\ 10^{-11}$
Tc-97m	$8\ 10^{-1}$	$5.75\ 10^{-11}$	$5.22\ 10^{-11}$	$5.24\ 10^{-11}$	$5.46\ 10^{-11}$	$5.37\ 10^{-11}$	$1.44\ 10^{-9}$	$8.54\ 10^{-10}$	$3.36\ 10^{-10}$
Tc-98	$8\ 10^{-1}$	$7.26\ 10^{-10}$	$4.61\ 10^{-10}$	$4.54\ 10^{-10}$	$5.08\ 10^{-10}$	$4.26\ 10^{-10}$	$3.54\ 10^{-9}$	$2.78\ 10^{-9}$	$1.32\ 10^{-9}$
Tc-99	$8\ 10^{-1}$	$6.04\ 10^{-11}$	$6.04\ 10^{-11}$	$6.04\ 10^{-11}$	$6.04\ 10^{-11}$	$6.04\ 10^{-11}$	$1.62\ 10^{-9}$	$1.02\ 10^{-9}$	$3.95\ 10^{-10}$
Tc-99m	$8\ 10^{-1}$	$9.75\ 10^{-12}$	$3.57\ 10^{-12}$	$3.14\ 10^{-12}$	$6.29\ 10^{-12}$	$4.06\ 10^{-12}$	$8.46\ 10^{-11}$	$3.34\ 10^{-11}$	$1.68\ 10^{-11}$
Tc-101	$8\ 10^{-1}$	$6.29\ 10^{-13}$	$4.06\ 10^{-13}$	$4.13\ 10^{-13}$	$4.36\ 10^{-13}$	$2.55\ 10^{-13}$	$3.89\ 10^{-12}$	$3.66\ 10^{-11}$ $1.50\ 10^{-10}$	$1.14\ 10^{-11}$ ST wall
Tc-104	$8\ 10^{-1}$	$4.73\ 10^{-12}$	$2.72\ 10^{-12}$	$2.70\ 10^{-12}$	$2.62\ 10^{-12}$	$1.59\ 10^{-12}$	$2.79\ 10^{-11}$	$1.60\ 10^{-10}$ $6.26\ 10^{-10}$	$5.11\ 10^{-11}$ ST wall
Ruthenium									
Ru-94	$5\ 10^{-2}$	$4.25\ 10^{-11}$	$8.57\ 10^{-12}$	$4.24\ 10^{-12}$	$1.15\ 10^{-11}$	$4.29\ 10^{-12}$	$6.66\ 10^{-13}$	$2.66\ 10^{-10}$	$9.37\ 10^{-11}$
Ru-97	$5\ 10^{-2}$	$2.38\ 10^{-10}$	$2.63\ 10^{-11}$	$6.43\ 10^{-12}$	$5.25\ 10^{-11}$	$1.93\ 10^{-11}$	$3.22\ 10^{-12}$	$3.89\ 10^{-10}$	$1.88\ 10^{-10}$
Ru-103	$5\ 10^{-2}$	$5.72\ 10^{-10}$	$1.20\ 10^{-10}$	$7.31\ 10^{-11}$	$1.66\ 10^{-10}$	$9.63\ 10^{-11}$	$6.25\ 10^{-11}$	$2.10\ 10^{-9}$	$8.24\ 10^{-10}$
Ru-105	$5\ 10^{-2}$	$9.67\ 10^{-11}$	$1.59\ 10^{-11}$	$6.21\ 10^{-12}$	$2.35\ 10^{-11}$	$8.89\ 10^{-12}$	$1.82\ 10^{-12}$	$8.54\ 10^{-10}$	$2.87\ 10^{-10}$
Ru-106	$5\ 10^{-2}$	$1.64\ 10^{-9}$	$1.44\ 10^{-9}$	$1.42\ 10^{-9}$	$1.46\ 10^{-9}$	$1.43\ 10^{-9}$	$1.41\ 10^{-9}$	$2.11\ 10^{-8}$ $7.09\ 10^{-8}$	$7.40\ 10^{-9}$ LLI wall
Rhodium									
Rh-99	$5\ 10^{-2}$	$6.93\ 10^{-10}$	$1.04\ 10^{-10}$	$4.37\ 10^{-11}$	$1.82\ 10^{-10}$	$8.17\ 10^{-11}$	$3.19\ 10^{-11}$	$1.29\ 10^{-9}$	$6.08\ 10^{-10}$
Rh-99m	$5\ 10^{-2}$	$8.22\ 10^{-11}$	$1.31\ 10^{-11}$	$4.64\ 10^{-12}$	$2.01\ 10^{-11}$	$7.13\ 10^{-12}$	$8.73\ 10^{-13}$	$1.73\ 10^{-10}$	$7.77\ 10^{-11}$
Rh-100	$5\ 10^{-2}$	$1.11\ 10^{-9}$	$1.56\ 10^{-10}$	$4.48\ 10^{-11}$	$2.37\ 10^{-10}$	$8.73\ 10^{-11}$	$1.43\ 10^{-11}$	$1.73\ 10^{-9}$	$8.56\ 10^{-10}$
Rh-101	$5\ 10^{-2}$	$6.47\ 10^{-10}$	$2.62\ 10^{-10}$	$2.43\ 10^{-10}$	$4.04\ 10^{-10}$	$3.12\ 10^{-10}$	$2.09\ 10^{-10}$	$1.11\ 10^{-9}$	$6.26\ 10^{-10}$
Rh-101m	$5\ 10^{-2}$	$3.24\ 10^{-10}$	$3.81\ 10^{-11}$	$1.06\ 10^{-11}$	$7.17\ 10^{-11}$	$2.75\ 10^{-11}$	$6.01\ 10^{-12}$	$5.64\ 10^{-10}$	$2.67\ 10^{-10}$
Rh-102	$5\ 10^{-2}$	$3.54\ 10^{-9}$	$1.50\ 10^{-9}$	$1.31\ 10^{-9}$	$1.83\ 10^{-9}$	$1.41\ 10^{-9}$	$1.28\ 10^{-9}$	$4.19\ 10^{-9}$	$2.82\ 10^{-9}$
Rh-102m	$5\ 10^{-2}$	$7.84\ 10^{-10}$	$2.94\ 10^{-10}$	$2.49\ 10^{-10}$	$3.57\ 10^{-10}$	$2.74\ 10^{-10}$	$2.35\ 10^{-10}$	$3.14\ 10^{-9}$ $9.69\ 10^{-9}$	$1.27\ 10^{-9}$ LLI wall
Rh-103m	$5\ 10^{-2}$	$4.02\ 10^{-14}$	$8.65\ 10^{-15}$	$4.93\ 10^{-15}$	$1.01\ 10^{-14}$	$5.29\ 10^{-15}$	$3.27\ 10^{-15}$	$1.04\ 10^{-11}$	$3.14\ 10^{-12}$
Rh-105	$5\ 10^{-2}$	$5.80\ 10^{-11}$	$8.97\ 10^{-12}$	$3.86\ 10^{-12}$	$1.47\ 10^{-11}$	$6.75\ 10^{-12}$	$2.91\ 10^{-12}$	$1.27\ 10^{-9}$ $3.79\ 10^{-9}$	$3.99\ 10^{-10}$ LLI wall
Rh-106m	$5\ 10^{-2}$	$1.30\ 10^{-10}$	$2.62\ 10^{-11}$	$1.26\ 10^{-11}$	$3.50\ 10^{-11}$	$1.30\ 10^{-11}$	$1.94\ 10^{-12}$	$4.38\ 10^{-10}$	$1.74\ 10^{-10}$
Rh-107	$5\ 10^{-2}$	$1.24\ 10^{-12}$	$4.80\ 10^{-13}$	$4.16\ 10^{-13}$	$5.85\ 10^{-13}$	$2.51\ 10^{-13}$	$3.76\ 10^{-14}$	$5.25\ 10^{-11}$ $1.87\ 10^{-10}$	$1.63\ 10^{-11}$ ST wall
Palladium									
Pd-100	$5\ 10^{-3}$	$1.43\ 10^{-9}$	$1.60\ 10^{-10}$	$2.77\ 10^{-11}$	$3.00\ 10^{-10}$	$1.03\ 10^{-10}$	$4.59\ 10^{-12}$	$2.44\ 10^{-9}$	$1.16\ 10^{-9}$
Pd-101	$5\ 10^{-3}$	$1.04\ 10^{-10}$	$1.27\ 10^{-11}$	$3.01\ 10^{-12}$	$2.19\ 10^{-11}$	$7.31\ 10^{-12}$	$3.71\ 10^{-13}$	$2.68\ 10^{-10}$	$1.12\ 10^{-10}$
Pd-103	$5\ 10^{-3}$	$4.13\ 10^{-11}$	$1.58\ 10^{-12}$	$1.28\ 10^{-13}$	$6.58\ 10^{-12}$	$2.00\ 10^{-12}$	$4.40\ 10^{-14}$	$6.72\ 10^{-10}$ $2.32\ 10^{-9}$	$2.13\ 10^{-10}$ LLI wall
Pd-107	$5\ 10^{-3}$	$9.91\ 10^{-15}$	$9.91\ 10^{-15}$	$9.91\ 10^{-15}$	$5.36\ 10^{-14}$	$1.43\ 10^{-13}$	$9.91\ 10^{-15}$	$1.35\ 10^{-10}$ $4.72\ 10^{-10}$	$4.04\ 10^{-11}$ LLI wall
Pd-109	$5\ 10^{-3}$	$7.90\ 10^{-12}$	$6.27\ 10^{-13}$	$1.49\ 10^{-13}$	$2.04\ 10^{-12}$	$1.02\ 10^{-12}$	$9.48\ 10^{-14}$	$1.95\ 10^{-9}$	$5.87\ 10^{-10}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Silver									
Ag-102	$5\ 10^{-2}$	$5.28\ 10^{-12}$	$2.78\ 10^{-12}$	$2.82\ 10^{-12}$	$2.57\ 10^{-12}$	$1.24\ 10^{-12}$	$2.86\ 10^{-13}$	$8.36\ 10^{-11}$ $3.00\ 10^{-10}$	$2.75\ 10^{-11}$ ST wall
Ag-103	$5\ 10^{-2}$	$1.48\ 10^{-11}$	$3.52\ 10^{-12}$	$2.18\ 10^{-12}$	$4.72\ 10^{-12}$	$1.81\ 10^{-12}$	$2.61\ 10^{-13}$	$1.17\ 10^{-10}$	$4.02\ 10^{-11}$
Ag-104	$5\ 10^{-2}$	$5.27\ 10^{-11}$	$1.25\ 10^{-11}$	$7.68\ 10^{-12}$	$1.55\ 10^{-11}$	$5.98\ 10^{-12}$	$9.26\ 10^{-13}$	$1.47\ 10^{-10}$	$6.22\ 10^{-11}$
Ag-104m	$5\ 10^{-2}$	$1.83\ 10^{-11}$	$4.63\ 10^{-12}$	$2.99\ 10^{-12}$	$5.65\ 10^{-12}$	$2.21\ 10^{-12}$	$3.58\ 10^{-13}$	$1.30\ 10^{-10}$	$4.55\ 10^{-11}$
Ag-105	$5\ 10^{-2}$	$6.43\ 10^{-10}$	$1.11\ 10^{-10}$	$9.56\ 10^{-11}$	$1.77\ 10^{-10}$	$7.95\ 10^{-11}$	$2.00\ 10^{-11}$	$1.13\ 10^{-9}$	$5.52\ 10^{-10}$
Ag-106	$5\ 10^{-2}$	$3.01\ 10^{-12}$	$1.18\ 10^{-12}$	$1.06\ 10^{-12}$	$1.27\ 10^{-12}$	$5.46\ 10^{-13}$	$9.84\ 10^{-14}$	$7.20\ 10^{-11}$ $2.42\ 10^{-10}$	$2.28\ 10^{-11}$ ST wall
Ag-106m	$5\ 10^{-2}$	$2.59\ 10^{-9}$	$3.84\ 10^{-10}$	$1.92\ 10^{-10}$	$5.83\ 10^{-10}$	$2.29\ 10^{-10}$	$3.92\ 10^{-11}$	$3.15\ 10^{-9}$	$1.75\ 10^{-9}$
Ag-108m	$5\ 10^{-2}$	$1.93\ 10^{-9}$	$5.14\ 10^{-10}$	$6.03\ 10^{-10}$	$6.63\ 10^{-10}$	$3.55\ 10^{-10}$	$1.30\ 10^{-10}$	$4.44\ 10^{-9}$	$2.06\ 10^{-9}$
Ag-110m	$5\ 10^{-2}$	$2.99\ 10^{-9}$	$7.51\ 10^{-10}$	$8.30\ 10^{-10}$	$9.42\ 10^{-10}$	$4.93\ 10^{-10}$	$1.81\ 10^{-10}$	$6.08\ 10^{-9}$	$2.92\ 10^{-9}$
Ag-111	$5\ 10^{-2}$	$3.58\ 10^{-11}$	$1.09\ 10^{-11}$	$8.84\ 10^{-12}$	$1.38\ 10^{-11}$	$9.67\ 10^{-12}$	$7.48\ 10^{-12}$	$4.51\ 10^{-9}$ $1.48\ 10^{-8}$	$1.37\ 10^{-9}$ LLI wall
Ag-112	$5\ 10^{-2}$	$4.44\ 10^{-11}$	$8.89\ 10^{-12}$	$4.30\ 10^{-12}$	$1.19\ 10^{-11}$	$4.86\ 10^{-12}$	$1.37\ 10^{-12}$	$1.42\ 10^{-9}$	$4.41\ 10^{-10}$
Ag-115	$5\ 10^{-2}$	$3.93\ 10^{-12}$	$1.13\ 10^{-12}$	$8.88\ 10^{-13}$	$1.34\ 10^{-12}$	$5.83\ 10^{-13}$	$1.29\ 10^{-13}$	$1.39\ 10^{-10}$ $4.13\ 10^{-10}$	$4.31\ 10^{-11}$ ST wall
Cadmium									
Cd-104	$5\ 10^{-2}$	$6.25\ 10^{-11}$	$1.17\ 10^{-11}$	$4.91\ 10^{-12}$	$1.64\ 10^{-11}$	$5.88\ 10^{-12}$	$7.37\ 10^{-13}$	$1.43\ 10^{-10}$	$6.30\ 10^{-11}$
Cd-107	$5\ 10^{-2}$	$1.05\ 10^{-11}$	$1.01\ 10^{-12}$	$3.28\ 10^{-13}$	$2.42\ 10^{-12}$	$8.11\ 10^{-13}$	$2.00\ 10^{-13}$	$2.15\ 10^{-10}$	$6.76\ 10^{-11}$
Cd-109	$5\ 10^{-2}$	$3.46\ 10^{-10}$	$3.10\ 10^{-10}$	$3.17\ 10^{-10}$	$3.70\ 10^{-10}$	$3.28\ 10^{-10}$	$2.75\ 10^{-10}$	$1.10\ 10^{-8}$ $4.08\ 10^{-8}$	$3.55\ 10^{-9}$ Kidneys
Cd-113	$5\ 10^{-2}$	$3.75\ 10^{-9}$	$3.75\ 10^{-9}$	$3.75\ 10^{-9}$	$3.75\ 10^{-9}$	$3.75\ 10^{-9}$	$3.75\ 10^{-9}$	$1.48\ 10^{-7}$ $6.16\ 10^{-7}$	$4.70\ 10^{-8}$ Kidneys
Cd-113m	$5\ 10^{-2}$	$3.44\ 10^{-9}$	$3.44\ 10^{-9}$	$3.44\ 10^{-9}$	$3.44\ 10^{-9}$	$3.44\ 10^{-9}$	$3.44\ 10^{-9}$	$1.37\ 10^{-7}$ $5.64\ 10^{-7}$	$4.35\ 10^{-8}$ Kidneys
Cd-115	$5\ 10^{-2}$	$3.17\ 10^{-10}$	$4.44\ 10^{-11}$	$1.65\ 10^{-11}$	$7.40\ 10^{-11}$	$3.06\ 10^{-11}$	$9.49\ 10^{-12}$	$4.81\ 10^{-9}$ $1.50\ 10^{-8}$	$1.54\ 10^{-9}$ LLI wall
Cd-115m	$5\ 10^{-2}$	$1.84\ 10^{-10}$	$1.66\ 10^{-10}$	$1.64\ 10^{-10}$	$1.68\ 10^{-10}$	$1.64\ 10^{-10}$	$1.61\ 10^{-10}$	$1.42\ 10^{-8}$	$4.37\ 10^{-9}$
Cd-117	$5\ 10^{-2}$	$8.74\ 10^{-11}$	$1.60\ 10^{-11}$	$6.68\ 10^{-12}$	$2.37\ 10^{-11}$	$8.83\ 10^{-12}$	$1.56\ 10^{-12}$	$9.17\ 10^{-10}$	$3.03\ 10^{-10}$
Cd-117m	$5\ 10^{-2}$	$2.08\ 10^{-10}$	$3.63\ 10^{-11}$	$1.44\ 10^{-11}$	$5.24\ 10^{-11}$	$1.91\ 10^{-11}$	$2.83\ 10^{-12}$	$8.51\ 10^{-10}$	$3.21\ 10^{-10}$
Indium									
In-109	$2\ 10^{-2}$	$7.34\ 10^{-11}$	$1.16\ 10^{-11}$	$4.10\ 10^{-12}$	$1.98\ 10^{-11}$	$7.06\ 10^{-12}$	$6.00\ 10^{-13}$	$1.77\ 10^{-10}$	$7.64\ 10^{-11}$
In-110 69.1 m	$2\ 10^{-2}$	$3.72\ 10^{-10}$	$6.00\ 10^{-11}$	$2.10\ 10^{-11}$	$8.69\ 10^{-11}$	$3.05\ 10^{-11}$	$3.06\ 10^{-12}$	$5.67\ 10^{-10}$	$2.86\ 10^{-10}$
In-110 4.9 h	$2\ 10^{-2}$	$3.15\ 10^{-11}$	$7.35\ 10^{-12}$	$4.49\ 10^{-12}$	$9.33\ 10^{-12}$	$3.57\ 10^{-12}$	$5.06\ 10^{-13}$	$2.77\ 10^{-10}$	$9.39\ 10^{-11}$
In-111	$2\ 10^{-2}$	$4.15\ 10^{-10}$	$4.37\ 10^{-11}$	$8.35\ 10^{-12}$	$1.08\ 10^{-10}$	$3.73\ 10^{-11}$	$2.10\ 10^{-12}$	$7.80\ 10^{-10}$	$3.59\ 10^{-10}$
In-112	$2\ 10^{-2}$	$5.08\ 10^{-13}$	$2.65\ 10^{-13}$	$2.66\ 10^{-13}$	$2.58\ 10^{-13}$	$1.19\ 10^{-13}$	$2.28\ 10^{-14}$	$2.07\ 10^{-11}$ $7.98\ 10^{-11}$	$6.46\ 10^{-12}$ ST wall
In-113m	$2\ 10^{-2}$	$9.58\ 10^{-12}$	$1.86\ 10^{-12}$	$9.25\ 10^{-13}$	$2.82\ 10^{-12}$	$1.02\ 10^{-12}$	$9.97\ 10^{-14}$	$8.37\ 10^{-11}$	$2.83\ 10^{-11}$
In-114m	$2\ 10^{-2}$	$2.49\ 10^{-10}$	$1.32\ 10^{-10}$	$1.23\ 10^{-10}$	$3.51\ 10^{-9}$	$1.81\ 10^{-9}$	$1.17\ 10^{-10}$	$1.34\ 10^{-8}$ $4.36\ 10^{-8}$	$4.61\ 10^{-9}$ LLI wall
In-115	$2\ 10^{-2}$	$4.86\ 10^{-9}$	$4.86\ 10^{-9}$	$4.86\ 10^{-9}$	$1.53\ 10^{-7}$	$7.91\ 10^{-8}$	$4.86\ 10^{-9}$	$6.41\ 10^{-8}$	$4.26\ 10^{-8}$
In-115m	$2\ 10^{-2}$	$2.20\ 10^{-11}$	$3.16\ 10^{-12}$	$1.03\ 10^{-12}$	$6.11\ 10^{-12}$	$2.19\ 10^{-12}$	$1.86\ 10^{-13}$	$2.88\ 10^{-10}$	$9.33\ 10^{-11}$
In-116m	$2\ 10^{-2}$	$3.19\ 10^{-11}$	$8.64\ 10^{-12}$	$5.73\ 10^{-12}$	$1.01\ 10^{-11}$	$4.04\ 10^{-12}$	$7.07\ 10^{-13}$	$1.60\ 10^{-10}$	$5.93\ 10^{-11}$
In-117	$2\ 10^{-2}$	$7.82\ 10^{-12}$	$2.15\ 10^{-12}$	$1.54\ 10^{-12}$	$2.88\ 10^{-12}$	$1.12\ 10^{-12}$	$1.38\ 10^{-13}$	$7.68\ 10^{-11}$	$2.59\ 10^{-11}$
In-117m	$2\ 10^{-2}$	$2.19\ 10^{-11}$	$3.60\ 10^{-12}$	$1.34\ 10^{-12}$	$6.31\ 10^{-12}$	$2.23\ 10^{-12}$	$2.12\ 10^{-13}$	$3.61\ 10^{-10}$	$1.15\ 10^{-10}$
In-119m	$2\ 10^{-2}$	$8.74\ 10^{-14}$	$3.42\ 10^{-14}$	$3.11\ 10^{-14}$	$3.70\ 10^{-14}$	$1.77\ 10^{-14}$	$4.99\ 10^{-15}$	$9.58\ 10^{-11}$ $3.70\ 10^{-10}$	$2.88\ 10^{-11}$ ST wall

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Tin									
Sn-110	$2\ 10^{-2}$	$2.13\ 10^{-10}$	$3.06\ 10^{-11}$	$8.68\ 10^{-12}$	$4.86\ 10^{-11}$	$1.72\ 10^{-11}$	$1.50\ 10^{-12}$	$1.16\ 10^{-9}$	$4.13\ 10^{-10}$
Sn-111	$2\ 10^{-2}$	$7.42\ 10^{-12}$	$1.58\ 10^{-12}$	$9.98\ 10^{-13}$	$2.23\ 10^{-12}$	$9.70\ 10^{-13}$	$1.06\ 10^{-13}$	$5.66\ 10^{-11}$	$1.95\ 10^{-11}$
Sn-113	$2\ 10^{-2}$	$3.88\ 10^{-10}$	$5.68\ 10^{-11}$	$2.54\ 10^{-11}$	$1.78\ 10^{-10}$	$2.34\ 10^{-10}$	$2.16\ 10^{-11}$	$2.32\ 10^{-9}$	$8.33\ 10^{-10}$
								$7.91\ 10^{-9}$	LLI wall
Sn-117m	$2\ 10^{-2}$	$2.23\ 10^{-10}$	$2.39\ 10^{-11}$	$5.50\ 10^{-12}$	$1.03\ 10^{-10}$	$4.78\ 10^{-10}$	$3.03\ 10^{-12}$	$2.37\ 10^{-9}$	$7.97\ 10^{-10}$
								$7.94\ 10^{-9}$	LLI wall
Sn-119m	$2\ 10^{-2}$	$4.11\ 10^{-11}$	$1.05\ 10^{-11}$	$9.20\ 10^{-12}$	$8.07\ 10^{-11}$	$1.82\ 10^{-10}$	$8.89\ 10^{-12}$	$1.16\ 10^{-9}$	$3.76\ 10^{-10}$
								$4.04\ 10^{-9}$	LLI wall
Sn-121	$2\ 10^{-2}$	$2.00\ 10^{-13}$	$2.00\ 10^{-13}$	$2.00\ 10^{-13}$	$2.23\ 10^{-12}$	$2.51\ 10^{-11}$	$2.00\ 10^{-13}$	$8.09\ 10^{-10}$	$2.44\ 10^{-10}$
								$2.36\ 10^{-9}$	LLI wall
Sn-121m	$2\ 10^{-2}$	$4.31\ 10^{-11}$	$2.95\ 10^{-11}$	$2.90\ 10^{-11}$	$2.32\ 10^{-10}$	$6.12\ 10^{-10}$	$2.86\ 10^{-11}$	$1.18\ 10^{-9}$	$4.19\ 10^{-10}$
								$4.47\ 10^{-9}$	LLI wall
Sn-123	$2\ 10^{-2}$	$3.80\ 10^{-11}$	$3.22\ 10^{-11}$	$3.15\ 10^{-11}$	$2.41\ 10^{-10}$	$6.62\ 10^{-10}$	$3.13\ 10^{-11}$	$7.35\ 10^{-9}$	$2.27\ 10^{-9}$
								$2.59\ 10^{-8}$	LLI wall
Sn-123m	$2\ 10^{-2}$	$1.62\ 10^{-12}$	$4.25\ 10^{-13}$	$2.90\ 10^{-13}$	$7.72\ 10^{-13}$	$2.98\ 10^{-13}$	$2.38\ 10^{-14}$	$9.57\ 10^{-11}$	$2.93\ 10^{-11}$
Sn-125	$2\ 10^{-2}$	$2.88\ 10^{-10}$	$4.41\ 10^{-11}$	$1.60\ 10^{-11}$	$2.08\ 10^{-10}$	$2.38\ 10^{-10}$	$9.78\ 10^{-12}$	$1.07\ 10^{-8}$	$3.33\ 10^{-9}$
								$3.67\ 10^{-8}$	LLI wall
Sn-126	$2\ 10^{-2}$	$2.41\ 10^{-9}$	$7.96\ 10^{-10}$	$5.99\ 10^{-10}$	$2.72\ 10^{-9}$	$5.06\ 10^{-9}$	$5.51\ 10^{-10}$	$1.33\ 10^{-8}$	$5.27\ 10^{-9}$
Sn-127	$2\ 10^{-2}$	$9.21\ 10^{-11}$	$1.75\ 10^{-11}$	$7.98\ 10^{-12}$	$2.48\ 10^{-11}$	$1.03\ 10^{-11}$	$1.20\ 10^{-12}$	$6.01\ 10^{-10}$	$2.10\ 10^{-10}$
Sn-128	$2\ 10^{-2}$	$5.00\ 10^{-11}$	$1.10\ 10^{-11}$	$6.34\ 10^{-12}$	$1.49\ 10^{-11}$	$5.57\ 10^{-12}$	$6.83\ 10^{-13}$	$4.39\ 10^{-10}$	$1.49\ 10^{-10}$
Antimony									
Sb-115	$1\ 10^{-1}$	$5.96\ 10^{-12}$	$2.02\ 10^{-12}$	$1.66\ 10^{-12}$	$2.28\ 10^{-12}$	$9.55\ 10^{-13}$	$1.68\ 10^{-13}$	$5.72\ 10^{-11}$	$1.95\ 10^{-11}$
	$1\ 10^{-2}$	$6.02\ 10^{-12}$	$2.01\ 10^{-12}$	$1.64\ 10^{-12}$	$2.28\ 10^{-12}$	$9.36\ 10^{-13}$	$1.45\ 10^{-13}$	$5.75\ 10^{-11}$	$1.96\ 10^{-11}$
Sb-116	$1\ 10^{-1}$	$4.76\ 10^{-12}$	$2.18\ 10^{-12}$	$2.10\ 10^{-12}$	$2.05\ 10^{-12}$	$9.67\ 10^{-13}$	$2.29\ 10^{-13}$	$5.64\ 10^{-11}$	$1.90\ 10^{-11}$
								$1.91\ 10^{-10}$	ST wall
	$1\ 10^{-2}$	$4.78\ 10^{-12}$	$2.18\ 10^{-12}$	$2.09\ 10^{-12}$	$2.04\ 10^{-12}$	$9.62\ 10^{-13}$	$2.21\ 10^{-13}$	$5.65\ 10^{-11}$	$1.90\ 10^{-11}$
								$1.91\ 10^{-10}$	ST wall
Sb-116m	$1\ 10^{-1}$	$5.02\ 10^{-11}$	$1.27\ 10^{-11}$	$8.22\ 10^{-12}$	$1.56\ 10^{-11}$	$6.25\ 10^{-12}$	$1.10\ 10^{-12}$	$1.62\ 10^{-10}$	$6.62\ 10^{-11}$
	$1\ 10^{-2}$	$5.12\ 10^{-11}$	$1.27\ 10^{-11}$	$8.05\ 10^{-12}$	$1.57\ 10^{-11}$	$6.09\ 10^{-12}$	$8.94\ 10^{-13}$	$1.64\ 10^{-10}$	$6.70\ 10^{-11}$
Sb-117	$1\ 10^{-1}$	$1.49\ 10^{-11}$	$2.36\ 10^{-12}$	$9.26\ 10^{-13}$	$5.03\ 10^{-12}$	$2.00\ 10^{-12}$	$1.65\ 10^{-13}$	$5.09\ 10^{-11}$	$2.01\ 10^{-11}$
	$1\ 10^{-2}$	$1.55\ 10^{-11}$	$2.34\ 10^{-12}$	$8.14\ 10^{-13}$	$5.04\ 10^{-12}$	$1.67\ 10^{-12}$	$6.35\ 10^{-14}$	$5.28\ 10^{-11}$	$2.08\ 10^{-11}$
Sb-118m	$1\ 10^{-1}$	$2.85\ 10^{-10}$	$5.04\ 10^{-11}$	$1.93\ 10^{-11}$	$7.36\ 10^{-11}$	$2.84\ 10^{-11}$	$4.81\ 10^{-12}$	$5.11\ 10^{-10}$	$2.44\ 10^{-10}$
	$1\ 10^{-2}$	$3.00\ 10^{-10}$	$5.06\ 10^{-11}$	$1.75\ 10^{-11}$	$7.47\ 10^{-11}$	$2.62\ 10^{-11}$	$2.48\ 10^{-12}$	$5.37\ 10^{-10}$	$2.56\ 10^{-10}$
Sb-119	$1\ 10^{-1}$	$3.57\ 10^{-11}$	$2.80\ 10^{-12}$	$1.14\ 10^{-12}$	$1.13\ 10^{-11}$	$2.04\ 10^{-11}$	$9.51\ 10^{-13}$	$2.61\ 10^{-10}$	$8.97\ 10^{-11}$
	$1\ 10^{-2}$	$3.81\ 10^{-11}$	$2.11\ 10^{-12}$	$1.84\ 10^{-13}$	$9.06\ 10^{-12}$	$4.01\ 10^{-12}$	$9.45\ 10^{-14}$	$2.84\ 10^{-10}$	$9.62\ 10^{-11}$
Sb-120	$1\ 10^{-1}$	$1.00\ 10^{-12}$	$4.97\ 10^{-13}$	$4.91\ 10^{-13}$	$4.93\ 10^{-13}$	$2.26\ 10^{-13}$	$4.48\ 10^{-14}$	$3.01\ 10^{-11}$	$9.49\ 10^{-12}$
15.89 m								$1.12\ 10^{-10}$	ST wall
	$1\ 10^{-2}$	$1.01\ 10^{-12}$	$4.95\ 10^{-13}$	$4.88\ 10^{-13}$	$4.91\ 10^{-13}$	$2.23\ 10^{-13}$	$4.13\ 10^{-14}$	$3.02\ 10^{-11}$	$9.51\ 10^{-12}$
								$1.12\ 10^{-10}$	ST wall
Sb-120	$1\ 10^{-1}$	$2.03\ 10^{-9}$	$2.98\ 10^{-10}$	$1.04\ 10^{-10}$	$5.04\ 10^{-10}$	$2.89\ 10^{-10}$	$5.57\ 10^{-11}$	$2.76\ 10^{-9}$	$1.46\ 10^{-9}$
5.76 d								$1.12\ 10^{-10}$	ST wall
	$1\ 10^{-2}$	$2.18\ 10^{-9}$	$2.73\ 10^{-10}$	$5.66\ 10^{-11}$	$4.70\ 10^{-10}$	$1.69\ 10^{-10}$	$1.22\ 10^{-11}$	$2.96\ 10^{-9}$	$1.54\ 10^{-9}$
								$1.12\ 10^{-10}$	ST wall
Sb-122	$1\ 10^{-1}$	$3.49\ 10^{-10}$	$6.29\ 10^{-11}$	$3.12\ 10^{-11}$	$1.45\ 10^{-10}$	$9.62\ 10^{-11}$	$2.40\ 10^{-11}$	$5.69\ 10^{-9}$	$1.83\ 10^{-9}$
								$1.00\ 10^{-8}$	LLI wall
	$1\ 10^{-2}$	$3.59\ 10^{-10}$	$4.54\ 10^{-11}$	$9.93\ 10^{-12}$	$7.90\ 10^{-11}$	$3.13\ 10^{-11}$	$3.27\ 10^{-12}$	$6.20\ 10^{-9}$	$1.97\ 10^{-9}$
								$1.97\ 10^{-8}$	LLI wall
Sb-124	$1\ 10^{-1}$	$1.74\ 10^{-9}$	$3.21\ 10^{-10}$	$1.65\ 10^{-10}$	$6.16\ 10^{-10}$	$7.99\ 10^{-10}$	$1.18\ 10^{-10}$	$6.81\ 10^{-9}$	$2.65\ 10^{-9}$
	$1\ 10^{-2}$	$1.78\ 10^{-9}$	$2.30\ 10^{-10}$	$5.40\ 10^{-11}$	$3.81\ 10^{-10}$	$1.89\ 10^{-10}$	$1.76\ 10^{-11}$	$7.34\ 10^{-9}$	$2.74\ 10^{-9}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Sb-124m	$1\ 10^{-1}$	$1.58\ 10^{-12}$	$5.55\ 10^{-13}$	$4.79\ 10^{-13}$	$6.35\ 10^{-13}$	$3.77\ 10^{-13}$	$6.51\ 10^{-14}$	$1.75\ 10^{-11}$	$5.88\ 10^{-12}$
								$5.37\ 10^{-11}$	ST wall
	$1\ 10^{-2}$	$1.60\ 10^{-12}$	$5.37\ 10^{-13}$	$4.55\ 10^{-13}$	$5.90\ 10^{-13}$	$2.60\ 10^{-13}$	$4.29\ 10^{-14}$	$1.77\ 10^{-11}$	$5.91\ 10^{-12}$
Sb-125	$1\ 10^{-1}$	$5.24\ 10^{-10}$	$1.00\ 10^{-10}$	$6.03\ 10^{-11}$	$2.26\ 10^{-10}$	$5.86\ 10^{-10}$	$4.62\ 10^{-11}$	$1.86\ 10^{-9}$	$7.59\ 10^{-10}$
	$1\ 10^{-2}$	$5.27\ 10^{-10}$	$6.22\ 10^{-11}$	$1.36\ 10^{-11}$	$1.21\ 10^{-10}$	$9.05\ 10^{-11}$	$5.58\ 10^{-12}$	$1.99\ 10^{-9}$	$7.57\ 10^{-10}$
Sb-126	$1\ 10^{-1}$	$2.73\ 10^{-9}$	$4.17\ 10^{-10}$	$1.66\ 10^{-10}$	$7.23\ 10^{-10}$	$5.17\ 10^{-10}$	$1.05\ 10^{-10}$	$6.29\ 10^{-9}$	$2.76\ 10^{-9}$
	$1\ 10^{-2}$	$2.89\ 10^{-9}$	$3.53\ 10^{-10}$	$6.85\ 10^{-11}$	$5.93\ 10^{-10}$	$2.27\ 10^{-10}$	$1.74\ 10^{-11}$	$6.77\ 10^{-9}$	$2.89\ 10^{-9}$
Sb-126m	$1\ 10^{-1}$	$5.24\ 10^{-12}$	$2.07\ 10^{-12}$	$1.91\ 10^{-12}$	$2.18\ 10^{-12}$	$1.01\ 10^{-12}$	$1.99\ 10^{-13}$	$7.72\ 10^{-11}$	$2.53\ 10^{-11}$
								$2.64\ 10^{-10}$	ST wall
	$1\ 10^{-2}$	$5.29\ 10^{-12}$	$2.06\ 10^{-12}$	$1.88\ 10^{-12}$	$2.16\ 10^{-12}$	$9.53\ 10^{-13}$	$1.73\ 10^{-13}$	$7.74\ 10^{-11}$	$2.54\ 10^{-11}$
								$2.64\ 10^{-10}$	ST wall
Sb-127	$1\ 10^{-1}$	$5.88\ 10^{-10}$	$9.76\ 10^{-11}$	$4.38\ 10^{-11}$	$2.11\ 10^{-10}$	$1.50\ 10^{-10}$	$3.16\ 10^{-11}$	$5.39\ 10^{-9}$	$1.81\ 10^{-9}$
								$1.79\ 10^{-8}$	LLI wall
	$1\ 10^{-2}$	$6.14\ 10^{-10}$	$7.60\ 10^{-11}$	$1.57\ 10^{-11}$	$1.33\ 10^{-10}$	$5.24\ 10^{-11}$	$4.64\ 10^{-12}$	$5.87\ 10^{-9}$	$1.95\ 10^{-9}$
								$1.96\ 10^{-8}$	LLI wall
Sb-128 10.4 m	$1\ 10^{-1}$	$3.92\ 10^{-12}$	$2.15\ 10^{-12}$	$2.27\ 10^{-12}$	$1.97\ 10^{-12}$	$9.59\ 10^{-13}$	$2.12\ 10^{-13}$	$4.70\ 10^{-11}$	$1.59\ 10^{-11}$
								$1.63\ 10^{-10}$	ST wall
	$1\ 10^{-2}$	$3.93\ 10^{-12}$	$2.15\ 10^{-12}$	$2.27\ 10^{-12}$	$1.97\ 10^{-12}$	$9.57\ 10^{-13}$	$2.09\ 10^{-13}$	$4.70\ 10^{-11}$	$1.59\ 10^{-11}$
								$1.63\ 10^{-10}$	ST wall
Sb-128 9.01 h	$1\ 10^{-1}$	$4.53\ 10^{-10}$	$7.22\ 10^{-11}$	$2.70\ 10^{-11}$	$1.17\ 10^{-10}$	$5.14\ 10^{-11}$	$1.14\ 10^{-11}$	$3.27\ 10^{-9}$	$1.13\ 10^{-9}$
								$1.63\ 10^{-10}$	ST wall
	$1\ 10^{-2}$	$4.78\ 10^{-10}$	$6.81\ 10^{-11}$	$1.91\ 10^{-11}$	$1.06\ 10^{-10}$	$3.73\ 10^{-11}$	$3.10\ 10^{-12}$	$3.49\ 10^{-9}$	$1.19\ 10^{-9}$
								$1.63\ 10^{-10}$	ST wall
Sb-129	$1\ 10^{-1}$	$1.46\ 10^{-10}$	$2.74\ 10^{-11}$	$1.22\ 10^{-11}$	$4.04\ 10^{-11}$	$1.95\ 10^{-11}$	$4.45\ 10^{-12}$	$1.38\ 10^{-9}$	$4.61\ 10^{-10}$
	$1\ 10^{-2}$	$1.51\ 10^{-10}$	$2.56\ 10^{-11}$	$9.39\ 10^{-12}$	$3.67\ 10^{-11}$	$1.34\ 10^{-11}$	$1.47\ 10^{-12}$	$1.45\ 10^{-9}$	$4.84\ 10^{-10}$
Sb-130	$1\ 10^{-1}$	$3.10\ 10^{-11}$	$8.87\ 10^{-12}$	$6.60\ 10^{-12}$	$1.04\ 10^{-11}$	$4.30\ 10^{-12}$	$7.94\ 10^{-13}$	$2.22\ 10^{-10}$	$7.77\ 10^{-11}$
	$1\ 10^{-2}$	$3.14\ 10^{-11}$	$8.82\ 10^{-12}$	$6.49\ 10^{-12}$	$1.04\ 10^{-11}$	$4.20\ 10^{-12}$	$6.66\ 10^{-13}$	$2.23\ 10^{-10}$	$7.83\ 10^{-11}$
Sb-131	$1\ 10^{-1}$	$1.12\ 10^{-11}$	$3.79\ 10^{-12}$	$3.07\ 10^{-12}$	$4.18\ 10^{-12}$	$2.01\ 10^{-12}$	$9.08\ 10^{-10}$	$1.67\ 10^{-10}$	$8.18\ 10^{-11}$
	$1\ 10^{-2}$	$1.13\ 10^{-11}$	$3.73\ 10^{-12}$	$3.00\ 10^{-12}$	$4.11\ 10^{-12}$	$1.84\ 10^{-12}$	$9.07\ 10^{-10}$	$1.69\ 10^{-10}$	$8.21\ 10^{-11}$
Tellurium									
Te-116	$2\ 10^{-1}$	$1.12\ 10^{-10}$	$2.31\ 10^{-11}$	$1.11\ 10^{-11}$	$3.22\ 10^{-11}$	$1.41\ 10^{-11}$	$4.05\ 10^{-12}$	$5.28\ 10^{-10}$	$1.96\ 10^{-10}$
Te-121	$2\ 10^{-1}$	$6.00\ 10^{-10}$	$1.31\ 10^{-10}$	$8.03\ 10^{-11}$	$2.91\ 10^{-10}$	$4.29\ 10^{-10}$	$7.11\ 10^{-11}$	$7.50\ 10^{-10}$	$4.54\ 10^{-10}$
Te-121m	$2\ 10^{-1}$	$7.23\ 10^{-10}$	$5.07\ 10^{-10}$	$4.48\ 10^{-10}$	$3.77\ 10^{-9}$	$2.74\ 10^{-8}$	$4.40\ 10^{-10}$	$1.62\ 10^{-9}$	$2.08\ 10^{-9}$
Te-123	$2\ 10^{-1}$	$3.16\ 10^{-12}$	$2.74\ 10^{-12}$	$2.63\ 10^{-12}$	$2.31\ 10^{-9}$	$2.81\ 10^{-8}$	$1.99\ 10^{-12}$	$3.70\ 10^{-11}$	$1.13\ 10^{-9}$
Te-123m	$2\ 10^{-1}$	$2.75\ 10^{-10}$	$1.26\ 10^{-10}$	$1.10\ 10^{-10}$	$2.33\ 10^{-9}$	$2.41\ 10^{-9}$	$9.44\ 10^{-11}$	$1.42\ 10^{-9}$	$1.53\ 10^{-9}$
Te-125m	$2\ 10^{-1}$	$1.27\ 10^{-10}$	$4.64\ 10^{-11}$	$4.36\ 10^{-11}$	$1.21\ 10^{-9}$	$1.27\ 10^{-8}$	$3.93\ 10^{-11}$	$1.40\ 10^{-9}$	$9.92\ 10^{-10}$
Te-127	$2\ 10^{-1}$	$4.02\ 10^{-12}$	$3.00\ 10^{-12}$	$2.89\ 10^{-12}$	$6.57\ 10^{-12}$	$6.46\ 10^{-12}$	$2.86\ 10^{-12}$	$6.13\ 10^{-10}$	$1.87\ 10^{-10}$
Te-127m	$2\ 10^{-1}$	$1.25\ 10^{-10}$	$9.74\ 10^{-11}$	$9.62\ 10^{-11}$	$5.43\ 10^{-9}$	$2.07\ 10^{-8}$	$9.43\ 10^{-11}$	$2.98\ 10^{-9}$	$2.23\ 10^{-9}$
Te-129	$2\ 10^{-1}$	$1.59\ 10^{-12}$	$6.05\ 10^{-13}$	$4.91\ 10^{-13}$	$7.64\ 10^{-13}$	$5.40\ 10^{-13}$	$3.36\ 10^{-13}$	$1.79\ 10^{-10}$	$5.45\ 10^{-11}$
Te-129m	$2\ 10^{-1}$	$2.41\ 10^{-10}$	$1.66\ 10^{-10}$	$1.59\ 10^{-10}$	$3.50\ 10^{-9}$	$7.99\ 10^{-9}$	$1.57\ 10^{-10}$	$7.08\ 10^{-9}$	$2.89\ 10^{-9}$
Te-131	$2\ 10^{-1}$	$1.57\ 10^{-11}$	$4.96\ 10^{-12}$	$3.39\ 10^{-12}$	$6.60\ 10^{-12}$	$3.69\ 10^{-12}$	$4.21\ 10^{-9}$	$3.73\ 10^{-10}$	$2.44\ 10^{-10}$
Te-131m	$2\ 10^{-1}$	$7.38\ 10^{-10}$	$1.35\ 10^{-10}$	$6.26\ 10^{-11}$	$2.42\ 10^{-10}$	$3.24\ 10^{-10}$	$4.29\ 10^{-8}$	$3.07\ 10^{-9}$	$2.46\ 10^{-9}$
Te-132	$2\ 10^{-1}$	$5.41\ 10^{-10}$	$3.50\ 10^{-10}$	$3.30\ 10^{-10}$	$4.44\ 10^{-10}$	$8.30\ 10^{-10}$	$5.95\ 10^{-8}$	$1.49\ 10^{-9}$	$2.54\ 10^{-9}$
Te-133	$2\ 10^{-1}$	$1.85\ 10^{-12}$	$1.23\ 10^{-12}$	$1.22\ 10^{-12}$	$1.18\ 10^{-12}$	$7.73\ 10^{-13}$	$9.39\ 10^{-10}$	$6.05\ 10^{-11}$	$4.73\ 10^{-11}$
Te-133m	$2\ 10^{-1}$	$3.68\ 10^{-11}$	$1.14\ 10^{-11}$	$8.33\ 10^{-12}$	$1.31\ 10^{-11}$	$6.61\ 10^{-12}$	$4.17\ 10^{-9}$	$2.89\ 10^{-10}$	$2.26\ 10^{-10}$
Te-134	$2\ 10^{-1}$	$2.03\ 10^{-11}$	$1.37\ 10^{-11}$	$1.29\ 10^{-11}$	$1.49\ 10^{-11}$	$1.23\ 10^{-11}$	$8.82\ 10^{-10}$	$9.65\ 10^{-11}$	$6.63\ 10^{-11}$
Iodine									
I-120	1.0	$2.46\ 10^{-11}$	$2.49\ 10^{-11}$	$2.61\ 10^{-11}$	$2.42\ 10^{-11}$	$2.21\ 10^{-11}$	$3.45\ 10^{-9}$	$2.92\ 10^{-10}$	$2.08\ 10^{-10}$
I-120m	1.0	$2.20\ 10^{-11}$	$2.33\ 10^{-11}$	$2.53\ 10^{-11}$	$2.19\ 10^{-11}$	$1.87\ 10^{-11}$	$1.26\ 10^{-9}$	$2.69\ 10^{-10}$	$1.34\ 10^{-10}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
I-121	1.0	$4.32\ 10^{-12}$	$5.99\ 10^{-12}$	$5.91\ 10^{-12}$	$5.83\ 10^{-12}$	$5.12\ 10^{-12}$	$1.37\ 10^{-9}$	$3.10\ 10^{-11}$	$5.39\ 10^{-11}$
I-123	1.0	$5.61\ 10^{-12}$	$7.23\ 10^{-12}$	$6.66\ 10^{-12}$	$8.68\ 10^{-12}$	$7.65\ 10^{-12}$	$4.42\ 10^{-9}$	$2.01\ 10^{-11}$	$1.43\ 10^{-10}$
I-124	1.0	$5.67\ 10^{-11}$	$1.72\ 10^{-10}$	$1.44\ 10^{-10}$	$1.25\ 10^{-10}$	$1.14\ 10^{-10}$	$2.82\ 10^{-7}$	$2.20\ 10^{-10}$	$8.60\ 10^{-9}$
I-125	1.0	$2.93\ 10^{-11}$	$1.45\ 10^{-10}$	$4.08\ 10^{-11}$	$6.82\ 10^{-11}$	$6.63\ 10^{-11}$	$3.44\ 10^{-7}$	$5.80\ 10^{-11}$	$1.04\ 10^{-8}$
I-126	1.0	$5.55\ 10^{-11}$	$2.12\ 10^{-10}$	$1.72\ 10^{-10}$	$1.50\ 10^{-10}$	$1.38\ 10^{-10}$	$6.36\ 10^{-7}$	$2.15\ 10^{-10}$	$1.92\ 10^{-8}$
I-128	1.0	$1.39\ 10^{-12}$	$1.44\ 10^{-12}$	$1.47\ 10^{-12}$	$1.43\ 10^{-12}$	$1.39\ 10^{-12}$	$1.08\ 10^{-10}$	$6.71\ 10^{-11}$	$2.43\ 10^{-11}$
								$3.28\ 10^{-10}$	ST wall
I-129	1.0	$1.38\ 10^{-10}$	$3.31\ 10^{-10}$	$1.65\ 10^{-10}$	$2.21\ 10^{-10}$	$2.17\ 10^{-10}$	$2.48\ 10^{-6}$	$1.99\ 10^{-10}$	$7.46\ 10^{-8}$
I-130	1.0	$5.52\ 10^{-11}$	$7.32\ 10^{-11}$	$7.18\ 10^{-11}$	$6.74\ 10^{-11}$	$6.12\ 10^{-11}$	$3.94\ 10^{-8}$	$1.97\ 10^{-10}$	$1.28\ 10^{-9}$
I-131	1.0	$4.07\ 10^{-11}$	$1.21\ 10^{-10}$	$1.02\ 10^{-10}$	$9.44\ 10^{-11}$	$8.72\ 10^{-11}$	$4.76\ 10^{-7}$	$1.57\ 10^{-10}$	$1.44\ 10^{-8}$
I-132	1.0	$2.33\ 10^{-11}$	$2.52\ 10^{-11}$	$2.64\ 10^{-11}$	$2.46\ 10^{-11}$	$2.19\ 10^{-11}$	$3.87\ 10^{-9}$	$1.65\ 10^{-10}$	$1.82\ 10^{-10}$
I-132m	1.0	$1.45\ 10^{-11}$	$1.54\ 10^{-11}$	$1.57\ 10^{-11}$	$1.54\ 10^{-11}$	$1.42\ 10^{-11}$	$3.69\ 10^{-9}$	$7.13\ 10^{-11}$	$1.42\ 10^{-10}$
I-133	1.0	$3.63\ 10^{-11}$	$4.68\ 10^{-11}$	$4.53\ 10^{-11}$	$4.30\ 10^{-11}$	$4.07\ 10^{-11}$	$9.10\ 10^{-8}$	$1.55\ 10^{-10}$	$2.80\ 10^{-9}$
I-134	1.0	$1.10\ 10^{-11}$	$1.17\ 10^{-11}$	$1.26\ 10^{-11}$	$1.09\ 10^{-11}$	$9.32\ 10^{-12}$	$6.21\ 10^{-10}$	$1.34\ 10^{-10}$	$6.66\ 10^{-11}$
I-135	1.0	$3.61\ 10^{-11}$	$3.85\ 10^{-11}$	$3.75\ 10^{-11}$	$3.65\ 10^{-11}$	$3.36\ 10^{-11}$	$1.79\ 10^{-8}$	$1.54\ 10^{-10}$	$6.08\ 10^{-10}$
Cesium									
Cs-125	1.0	$3.30\ 10^{-12}$	$3.70\ 10^{-12}$	$4.08\ 10^{-12}$	$3.67\ 10^{-12}$	$3.24\ 10^{-12}$	$2.80\ 10^{-12}$	$5.69\ 10^{-11}$	$1.96\ 10^{-11}$
								$2.49\ 10^{-10}$	ST wall
Cs-127	1.0	$1.50\ 10^{-11}$	$1.34\ 10^{-11}$	$1.46\ 10^{-11}$	$1.66\ 10^{-11}$	$1.48\ 10^{-11}$	$1.20\ 10^{-11}$	$3.64\ 10^{-11}$	$2.12\ 10^{-11}$
Cs-129	1.0	$5.42\ 10^{-11}$	$4.58\ 10^{-11}$	$5.00\ 10^{-11}$	$6.29\ 10^{-11}$	$5.65\ 10^{-11}$	$4.32\ 10^{-11}$	$7.30\ 10^{-11}$	$5.89\ 10^{-11}$
Cs-130	1.0	$1.73\ 10^{-12}$	$2.02\ 10^{-12}$	$2.24\ 10^{-12}$	$1.95\ 10^{-12}$	$1.72\ 10^{-12}$	$1.49\ 10^{-12}$	$4.71\ 10^{-11}$	$1.55\ 10^{-11}$
								$2.15\ 10^{-10}$	ST wall
Cs-131	1.0	$6.12\ 10^{-11}$	$5.26\ 10^{-11}$	$6.22\ 10^{-11}$	$9.96\ 10^{-11}$	$8.96\ 10^{-11}$	$4.86\ 10^{-11}$	$6.64\ 10^{-11}$	$6.67\ 10^{-11}$
Cs-132	1.0	$5.24\ 10^{-10}$	$4.27\ 10^{-10}$	$4.49\ 10^{-10}$	$5.06\ 10^{-10}$	$4.60\ 10^{-10}$	$4.33\ 10^{-10}$	$5.84\ 10^{-10}$	$5.12\ 10^{-10}$
Cs-134	1.0	$2.06\ 10^{-8}$	$1.72\ 10^{-8}$	$1.76\ 10^{-8}$	$1.87\ 10^{-8}$	$1.74\ 10^{-8}$	$1.76\ 10^{-8}$	$2.21\ 10^{-8}$	$1.98\ 10^{-8}$
Cs-134m	1.0	$6.72\ 10^{-12}$	$6.28\ 10^{-12}$	$6.42\ 10^{-12}$	$6.91\ 10^{-12}$	$6.57\ 10^{-12}$	$6.22\ 10^{-12}$	$2.89\ 10^{-11}$	$1.33\ 10^{-11}$
								$1.15\ 10^{-10}$	ST wall
Cs-135	1.0	$1.91\ 10^{-9}$	$1.91\ 10^{-9}$	$1.91\ 10^{-9}$	$1.91\ 10^{-9}$	$1.91\ 10^{-9}$	$1.91\ 10^{-9}$	$1.93\ 10^{-9}$	$1.91\ 10^{-9}$
Cs-135m	1.0	$5.30\ 10^{-12}$	$5.76\ 10^{-12}$	$6.45\ 10^{-12}$	$5.42\ 10^{-12}$	$4.39\ 10^{-12}$	$3.84\ 10^{-12}$	$3.73\ 10^{-11}$	$1.50\ 10^{-11}$
Cs-136	1.0	$3.04\ 10^{-9}$	$2.65\ 10^{-9}$	$2.62\ 10^{-9}$	$2.95\ 10^{-9}$	$2.71\ 10^{-9}$	$2.74\ 10^{-9}$	$3.52\ 10^{-9}$	$3.04\ 10^{-9}$
Cs-137	1.0	$1.39\ 10^{-8}$	$1.24\ 10^{-8}$	$1.27\ 10^{-8}$	$1.32\ 10^{-8}$	$1.26\ 10^{-8}$	$1.26\ 10^{-8}$	$1.45\ 10^{-8}$	$1.35\ 10^{-8}$
Cs-138	1.0	$8.00\ 10^{-12}$	$8.00\ 10^{-12}$	$8.53\ 10^{-12}$	$7.37\ 10^{-12}$	$6.47\ 10^{-12}$	$5.73\ 10^{-12}$	$1.57\ 10^{-10}$	$5.25\ 10^{-11}$
								$7.01\ 10^{-10}$	ST wall
Barium									
Ba-126	$1\ 10^{-1}$	$4.31\ 10^{-11}$	$9.15\ 10^{-12}$	$5.08\ 10^{-12}$	$1.28\ 10^{-11}$	$5.01\ 10^{-12}$	$1.13\ 10^{-12}$	$7.70\ 10^{-10}$	$2.46\ 10^{-10}$
Ba-128	$1\ 10^{-1}$	$7.78\ 10^{-10}$	$1.04\ 10^{-10}$	$3.19\ 10^{-11}$	$2.25\ 10^{-10}$	$1.22\ 10^{-10}$	$1.90\ 10^{-11}$	$8.66\ 10^{-9}$	$2.84\ 10^{-9}$
Ba-131	$1\ 10^{-1}$	$5.23\ 10^{-10}$	$6.30\ 10^{-11}$	$1.69\ 10^{-11}$	$1.47\ 10^{-10}$	$1.80\ 10^{-10}$	$9.37\ 10^{-12}$	$1.11\ 10^{-9}$	$4.98\ 10^{-10}$
Ba-131m	$1\ 10^{-1}$	$6.55\ 10^{-13}$	$1.45\ 10^{-13}$	$9.87\ 10^{-14}$	$2.77\ 10^{-13}$	$2.19\ 10^{-13}$	$1.15\ 10^{-14}$	$1.01\ 10^{-11}$	$3.28\ 10^{-12}$
								$3.61\ 10^{-11}$	ST wall
Ba-133	$1\ 10^{-1}$	$7.33\ 10^{-10}$	$2.73\ 10^{-10}$	$2.19\ 10^{-10}$	$1.46\ 10^{-9}$	$1.97\ 10^{-9}$	$2.03\ 10^{-10}$	$1.43\ 10^{-9}$	$9.19\ 10^{-10}$
Ba-133m	$1\ 10^{-1}$	$6.55\ 10^{-11}$	$8.54\ 10^{-12}$	$3.61\ 10^{-12}$	$2.79\ 10^{-11}$	$2.70\ 10^{-11}$	$2.88\ 10^{-12}$	$1.81\ 10^{-9}$	$5.66\ 10^{-10}$
								$5.47\ 10^{-9}$	LLI wall
Ba-135m	$1\ 10^{-1}$	$5.24\ 10^{-11}$	$6.74\ 10^{-12}$	$2.79\ 10^{-12}$	$2.10\ 10^{-11}$	$1.25\ 10^{-11}$	$2.19\ 10^{-12}$	$1.47\ 10^{-9}$	$4.60\ 10^{-10}$
Ba-139	$1\ 10^{-1}$	$1.56\ 10^{-12}$	$5.17\ 10^{-13}$	$3.89\ 10^{-13}$	$8.59\ 10^{-13}$	$4.38\ 10^{-13}$	$2.66\ 10^{-13}$	$3.57\ 10^{-10}$	$1.08\ 10^{-10}$
Ba-140	$1\ 10^{-1}$	$9.96\ 10^{-10}$	$1.59\ 10^{-10}$	$6.63\ 10^{-11}$	$4.39\ 10^{-10}$	$5.53\ 10^{-10}$	$5.25\ 10^{-11}$	$7.37\ 10^{-9}$	$2.56\ 10^{-9}$
								$2.64\ 10^{-8}$	LLI wall
Ba-141	$1\ 10^{-1}$	$2.86\ 10^{-12}$	$1.22\ 10^{-12}$	$1.10\ 10^{-12}$	$1.47\ 10^{-12}$	$1.27\ 10^{-12}$	$2.25\ 10^{-13}$	$1.84\ 10^{-10}$	$5.65\ 10^{-11}$
Ba-142	$1\ 10^{-1}$	$9.88\ 10^{-12}$	$2.52\ 10^{-12}$	$1.67\ 10^{-12}$	$3.00\ 10^{-12}$	$1.24\ 10^{-12}$	$2.71\ 10^{-13}$	$8.89\ 10^{-11}$	$3.01\ 10^{-11}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Lanthanum									
La-131	$1\ 10^{-3}$	$1.39\ 10^{-11}$	$3.05\ 10^{-12}$	$1.81\ 10^{-12}$	$4.43\ 10^{-12}$	$1.63\ 10^{-12}$	$1.55\ 10^{-13}$	$9.15\ 10^{-11}$	$3.22\ 10^{-11}$
La-132	$1\ 10^{-3}$	$2.40\ 10^{-10}$	$3.77\ 10^{-11}$	$1.30\ 10^{-11}$	$5.56\ 10^{-11}$	$1.93\ 10^{-11}$	$1.67\ 10^{-12}$	$1.19\ 10^{-9}$	$4.30\ 10^{-10}$
La-135	$1\ 10^{-3}$	$3.38\ 10^{-11}$	$2.71\ 10^{-12}$	$2.73\ 10^{-13}$	$9.96\ 10^{-12}$	$2.68\ 10^{-12}$	$1.79\ 10^{-14}$	$8.81\ 10^{-11}$	$3.66\ 10^{-11}$
La-137	$1\ 10^{-3}$	$7.82\ 10^{-11}$	$1.55\ 10^{-11}$	$2.25\ 10^{-11}$	$7.05\ 10^{-11}$	$2.15\ 10^{-10}$	$5.23\ 10^{-12}$	$2.76\ 10^{-10}$	$1.23\ 10^{-10}$
La-138	$1\ 10^{-3}$	$1.50\ 10^{-9}$	$4.79\ 10^{-10}$	$5.61\ 10^{-10}$	$7.53\ 10^{-10}$	$1.39\ 10^{-9}$	$1.80\ 10^{-10}$	$3.14\ 10^{-9}$	$1.59\ 10^{-9}$
La-140	$1\ 10^{-3}$	$1.34\ 10^{-9}$	$1.80\ 10^{-10}$	$4.01\ 10^{-11}$	$2.81\ 10^{-10}$	$9.77\ 10^{-11}$	$6.40\ 10^{-12}$	$6.26\ 10^{-9}$	$2.28\ 10^{-9}$
La-141	$1\ 10^{-3}$	$3.77\ 10^{-12}$	$7.07\ 10^{-13}$	$2.72\ 10^{-13}$	$1.07\ 10^{-12}$	$6.06\ 10^{-13}$	$5.29\ 10^{-14}$	$1.24\ 10^{-9}$	$3.74\ 10^{-10}$
La-142	$1\ 10^{-3}$	$6.99\ 10^{-11}$	$1.54\ 10^{-11}$	$8.40\ 10^{-12}$	$1.93\ 10^{-11}$	$7.40\ 10^{-12}$	$1.16\ 10^{-12}$	$5.20\ 10^{-10}$	$1.79\ 10^{-10}$
La-143	$1\ 10^{-3}$	$1.70\ 10^{-12}$	$2.49\ 10^{-13}$	$1.07\ 10^{-13}$	$4.44\ 10^{-13}$	$1.56\ 10^{-13}$	$1.26\ 10^{-14}$	$1.24\ 10^{-10}$ $3.94\ 10^{-10}$	$3.77\ 10^{-11}$ ST wall
Cerium									
Ce-134	$3\ 10^{-4}$	$6.61\ 10^{-10}$	$7.48\ 10^{-11}$	$1.18\ 10^{-11}$	$1.40\ 10^{-10}$	$4.55\ 10^{-11}$	$1.56\ 10^{-12}$	$8.70\ 10^{-9}$ $2.78\ 10^{-8}$	$2.81\ 10^{-9}$ LLI wall
Ce-135	$3\ 10^{-4}$	$8.23\ 10^{-10}$	$1.02\ 10^{-10}$	$2.15\ 10^{-11}$	$1.72\ 10^{-10}$	$5.74\ 10^{-11}$	$2.56\ 10^{-12}$	$2.30\ 10^{-9}$	$9.37\ 10^{-10}$
Ce-137	$3\ 10^{-4}$	$1.71\ 10^{-11}$	$1.56\ 10^{-12}$	$2.12\ 10^{-13}$	$5.28\ 10^{-12}$	$1.43\ 10^{-12}$	$8.87\ 10^{-15}$	$7.55\ 10^{-11}$	$2.79\ 10^{-11}$
Ce-137m	$3\ 10^{-4}$	$9.59\ 10^{-11}$	$7.61\ 10^{-12}$	$6.85\ 10^{-13}$	$2.76\ 10^{-11}$	$7.66\ 10^{-12}$	$6.33\ 10^{-14}$	$1.88\ 10^{-9}$ $5.70\ 10^{-9}$	$5.94\ 10^{-10}$ LLI wall
Ce-139	$3\ 10^{-4}$	$2.57\ 10^{-10}$	$2.42\ 10^{-11}$	$3.56\ 10^{-12}$	$7.43\ 10^{-11}$	$3.37\ 10^{-11}$	$4.49\ 10^{-13}$	$7.69\ 10^{-10}$	$3.09\ 10^{-10}$
Ce-141	$3\ 10^{-4}$	$1.08\ 10^{-10}$	$1.11\ 10^{-11}$	$1.43\ 10^{-12}$	$3.39\ 10^{-11}$	$2.30\ 10^{-11}$	$1.80\ 10^{-13}$	$2.50\ 10^{-9}$ $8.64\ 10^{-9}$	$7.83\ 10^{-10}$ LLI wall
Ce-143	$3\ 10^{-4}$	$2.12\ 10^{-10}$	$2.32\ 10^{-11}$	$3.82\ 10^{-12}$	$5.07\ 10^{-11}$	$1.61\ 10^{-11}$	$4.35\ 10^{-13}$	$3.89\ 10^{-9}$ $1.17\ 10^{-8}$	$1.23\ 10^{-9}$ LLI wall
Ce-144	$3\ 10^{-4}$	$6.98\ 10^{-11}$	$1.22\ 10^{-11}$	$6.52\ 10^{-12}$	$8.92\ 10^{-11}$	$1.28\ 10^{-10}$	$5.15\ 10^{-12}$	$1.88\ 10^{-8}$ $6.64\ 10^{-8}$	$5.68\ 10^{-9}$ LLI wall
Praseodymium									
Pr-136	$3\ 10^{-4}$	$3.43\ 10^{-12}$	$1.81\ 10^{-12}$	$1.84\ 10^{-12}$	$1.70\ 10^{-12}$	$8.08\ 10^{-13}$	$1.74\ 10^{-13}$	$6.91\ 10^{-11}$ $2.55\ 10^{-10}$	$2.23\ 10^{-11}$ ST wall
Pr-137	$3\ 10^{-4}$	$1.50\ 10^{-11}$	$2.95\ 10^{-12}$	$1.58\ 10^{-12}$	$4.49\ 10^{-12}$	$1.56\ 10^{-12}$	$1.45\ 10^{-13}$	$1.12\ 10^{-10}$	$3.85\ 10^{-11}$
Pr-138m	$3\ 10^{-4}$	$1.13\ 10^{-10}$	$2.15\ 10^{-11}$	$1.00\ 10^{-11}$	$2.97\ 10^{-11}$	$1.06\ 10^{-11}$	$1.11\ 10^{-12}$	$3.40\ 10^{-10}$	$1.39\ 10^{-10}$
Pr-139	$3\ 10^{-4}$	$1.82\ 10^{-11}$	$2.49\ 10^{-12}$	$7.37\ 10^{-13}$	$4.92\ 10^{-12}$	$1.56\ 10^{-12}$	$6.87\ 10^{-14}$	$9.85\ 10^{-11}$	$3.52\ 10^{-11}$
Pr-142	$3\ 10^{-4}$	$2.02\ 10^{-11}$	$3.08\ 10^{-12}$	$7.97\ 10^{-13}$	$4.67\ 10^{-12}$	$1.72\ 10^{-12}$	$1.28\ 10^{-13}$	$4.71\ 10^{-9}$	$1.42\ 10^{-9}$
Pr-142m	$3\ 10^{-4}$	$2.59\ 10^{-13}$	$3.90\ 10^{-14}$	$9.61\ 10^{-15}$	$5.96\ 10^{-14}$	$2.19\ 10^{-14}$	$1.58\ 10^{-15}$	$6.02\ 10^{-11}$	$1.81\ 10^{-11}$
Pr-143	$3\ 10^{-4}$	$8.99\ 10^{-18}$	$1.09\ 10^{-18}$	$1.91\ 10^{-19}$	$1.03\ 10^{-12}$	$1.03\ 10^{-12}$	$2.66\ 10^{-20}$	$4.22\ 10^{-9}$ $1.47\ 10^{-8}$	$1.27\ 10^{-9}$ LLI wall
Pr-144	$3\ 10^{-4}$	$7.38\ 10^{-14}$	$3.38\ 10^{-14}$	$3.15\ 10^{-14}$	$3.22\ 10^{-14}$	$1.52\ 10^{-14}$	$3.59\ 10^{-15}$	$1.05\ 10^{-10}$ $4.09\ 10^{-10}$	$3.15\ 10^{-11}$ ST wall
Pr-145	$3\ 10^{-4}$	$2.03\ 10^{-12}$	$3.13\ 10^{-13}$	$9.86\ 10^{-14}$	$4.98\ 10^{-13}$	$1.80\ 10^{-13}$	$1.21\ 10^{-14}$	$1.39\ 10^{-9}$	$4.18\ 10^{-10}$
Pr-147	$3\ 10^{-4}$	$1.79\ 10^{-12}$	$8.15\ 10^{-13}$	$7.94\ 10^{-13}$	$8.60\ 10^{-13}$	$3.97\ 10^{-13}$	$6.96\ 10^{-14}$	$6.74\ 10^{-11}$ $2.52\ 10^{-10}$	$2.10\ 10^{-11}$ ST wall
Neodymium									
Nd-136	$3\ 10^{-4}$	$3.63\ 10^{-11}$	$8.36\ 10^{-12}$	$4.86\ 10^{-12}$	$1.12\ 10^{-11}$	$4.14\ 10^{-12}$	$4.86\ 10^{-13}$	$2.79\ 10^{-10}$	$9.62\ 10^{-11}$
Nd-138	$3\ 10^{-4}$	$1.26\ 10^{-10}$	$1.82\ 10^{-11}$	$5.65\ 10^{-12}$	$2.93\ 10^{-11}$	$9.78\ 10^{-12}$	$5.88\ 10^{-13}$	$2.17\ 10^{-9}$	$6.89\ 10^{-10}$
Nd-139	$3\ 10^{-4}$	$4.69\ 10^{-12}$	$1.12\ 10^{-12}$	$7.59\ 10^{-13}$	$1.55\ 10^{-12}$	$5.83\ 10^{-13}$	$6.57\ 10^{-14}$	$4.88\ 10^{-11}$	$1.63\ 10^{-11}$
Nd-139m	$3\ 10^{-4}$	$2.58\ 10^{-10}$	$3.85\ 10^{-11}$	$1.18\ 10^{-11}$	$6.26\ 10^{-11}$	$2.10\ 10^{-11}$	$1.43\ 10^{-12}$	$7.14\ 10^{-10}$	$2.94\ 10^{-10}$
Nd-141	$3\ 10^{-4}$	$5.83\ 10^{-12}$	$9.01\ 10^{-13}$	$3.29\ 10^{-13}$	$1.87\ 10^{-12}$	$5.83\ 10^{-13}$	$2.40\ 10^{-14}$	$2.44\ 10^{-11}$	$9.18\ 10^{-12}$
Nd-147	$3\ 10^{-4}$	$1.79\ 10^{-10}$	$1.87\ 10^{-11}$	$2.44\ 10^{-12}$	$5.05\ 10^{-11}$	$2.22\ 10^{-11}$	$2.64\ 10^{-13}$	$3.76\ 10^{-9}$ $1.28\ 10^{-8}$	$1.18\ 10^{-9}$ LLI wall
Nd-149	$3\ 10^{-4}$	$1.60\ 10^{-11}$	$2.96\ 10^{-12}$	$1.38\ 10^{-12}$	$5.01\ 10^{-12}$	$1.74\ 10^{-12}$	$1.14\ 10^{-13}$	$4.03\ 10^{-10}$	$1.26\ 10^{-10}$
Nd-151	$3\ 10^{-4}$	$3.13\ 10^{-12}$	$9.38\ 10^{-13}$	$7.93\ 10^{-13}$	$1.14\ 10^{-12}$	$4.85\ 10^{-13}$	$7.32\ 10^{-14}$	$6.70\ 10^{-11}$	$2.13\ 10^{-11}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Promethium									
Pm-141	$3\ 10^{-4}$	$3.45\ 10^{-12}$	$1.19\ 10^{-12}$	$1.01\ 10^{-12}$	$1.39\ 10^{-12}$	$5.71\ 10^{-13}$	$9.05\ 10^{-14}$	$7.97\ 10^{-11}$ $2.73\ 10^{-10}$	$2.53\ 10^{-11}$ ST wall
Pm-143	$3\ 10^{-4}$	$3.87\ 10^{-10}$	$4.40\ 10^{-11}$	$9.01\ 10^{-12}$	$9.23\ 10^{-11}$	$4.16\ 10^{-11}$	$1.56\ 10^{-12}$	$5.39\ 10^{-10}$	$2.79\ 10^{-10}$
Pm-144	$3\ 10^{-4}$	$1.79\ 10^{-9}$	$2.17\ 10^{-10}$	$4.85\ 10^{-11}$	$3.86\ 10^{-10}$	$1.56\ 10^{-10}$	$9.65\ 10^{-12}$	$2.13\ 10^{-9}$	$1.17\ 10^{-9}$
Pm-145	$3\ 10^{-4}$	$8.06\ 10^{-11}$	$7.25\ 10^{-12}$	$3.81\ 10^{-12}$	$5.30\ 10^{-11}$	$1.97\ 10^{-10}$	$4.52\ 10^{-13}$	$3.12\ 10^{-10}$	$1.28\ 10^{-10}$
Pm-146	$3\ 10^{-4}$	$8.86\ 10^{-10}$	$1.20\ 10^{-10}$	$4.60\ 10^{-11}$	$2.76\ 10^{-10}$	$1.92\ 10^{-10}$	$1.19\ 10^{-11}$	$2.35\ 10^{-9}$	$9.91\ 10^{-10}$
Pm-147	$3\ 10^{-4}$	$6.86\ 10^{-15}$	$7.45\ 10^{-16}$	$1.96\ 10^{-16}$	$2.09\ 10^{-11}$	$2.61\ 10^{-10}$	$3.12\ 10^{-17}$	$9.08\ 10^{-10}$ $3.17\ 10^{-9}$	$2.83\ 10^{-10}$ LLI wall
Pm-148	$3\ 10^{-4}$	$4.72\ 10^{-10}$	$6.11\ 10^{-11}$	$1.19\ 10^{-11}$	$9.85\ 10^{-11}$	$3.49\ 10^{-11}$	$1.85\ 10^{-12}$	$9.32\ 10^{-9}$ $3.10\ 10^{-8}$	$2.94\ 10^{-9}$ LLI wall
Pm-148m	$3\ 10^{-4}$	$2.18\ 10^{-9}$	$2.59\ 10^{-10}$	$4.44\ 10^{-11}$	$4.41\ 10^{-10}$	$1.74\ 10^{-10}$	$6.47\ 10^{-12}$	$4.75\ 10^{-9}$	$2.07\ 10^{-9}$
Pm-149	$3\ 10^{-4}$	$9.19\ 10^{-12}$	$1.02\ 10^{-12}$	$1.62\ 10^{-13}$	$2.27\ 10^{-12}$	$9.59\ 10^{-13}$	$1.78\ 10^{-14}$	$3.56\ 10^{-9}$ $1.14\ 10^{-8}$	$1.07\ 10^{-9}$ LLI wall
Pm-150	$3\ 10^{-4}$	$7.97\ 10^{-11}$	$1.52\ 10^{-11}$	$6.54\ 10^{-12}$	$2.13\ 10^{-11}$	$7.63\ 10^{-12}$	$8.07\ 10^{-13}$	$8.14\ 10^{-10}$	$2.70\ 10^{-10}$
Pm-151	$3\ 10^{-4}$	$2.11\ 10^{-10}$	$2.42\ 10^{-11}$	$4.23\ 10^{-12}$	$4.94\ 10^{-11}$	$1.62\ 10^{-11}$	$4.55\ 10^{-13}$	$2.49\ 10^{-9}$	$8.09\ 10^{-10}$
Samarium									
Sm-141	$3\ 10^{-4}$	$3.64\ 10^{-12}$	$1.53\ 10^{-12}$	$1.43\ 10^{-12}$	$1.63\ 10^{-12}$	$7.17\ 10^{-13}$	$1.31\ 10^{-13}$	$8.49\ 10^{-11}$ $2.95\ 10^{-10}$	$2.70\ 10^{-11}$ ST wall
Sm-141m	$3\ 10^{-4}$	$1.34\ 10^{-11}$	$4.31\ 10^{-12}$	$3.45\ 10^{-12}$	$5.01\ 10^{-12}$	$2.06\ 10^{-12}$	$3.31\ 10^{-13}$	$1.61\ 10^{-10}$	$5.33\ 10^{-11}$
Sm-142	$3\ 10^{-4}$	$2.22\ 10^{-11}$	$4.97\ 10^{-12}$	$2.90\ 10^{-12}$	$6.72\ 10^{-12}$	$2.46\ 10^{-12}$	$2.64\ 10^{-13}$	$5.39\ 10^{-10}$	$1.69\ 10^{-10}$
Sm-145	$3\ 10^{-4}$	$1.61\ 10^{-10}$	$1.24\ 10^{-11}$	$1.80\ 10^{-12}$	$6.66\ 10^{-11}$	$8.33\ 10^{-11}$	$1.61\ 10^{-13}$	$6.45\ 10^{-10}$	$2.46\ 10^{-10}$
Sm-146	$3\ 10^{-4}$	$0.00\ 10^{-0}$	$0.00\ 10^{-0}$	$0.00\ 10^{-0}$	$7.57\ 10^{-8}$	$9.46\ 10^{-7}$	$0.00\ 10^{-0}$	$5.89\ 10^{-8}$	$5.51\ 10^{-8}$
Sm-147	$3\ 10^{-4}$	$0.00\ 10^{-0}$	$0.00\ 10^{-0}$	$0.00\ 10^{-0}$	$6.87\ 10^{-8}$	$8.59\ 10^{-7}$	$0.00\ 10^{-0}$	$5.37\ 10^{-8}$	$5.01\ 10^{-8}$
Sm-151	$3\ 10^{-4}$	$2.12\ 10^{-14}$	$1.03\ 10^{-15}$	$6.52\ 10^{-16}$	$2.76\ 10^{-11}$	$3.45\ 10^{-10}$	$3.27\ 10^{-17}$	$3.04\ 10^{-10}$ $1.01\ 10^{-9}$	$1.05\ 10^{-10}$ LLI wall
Sm-153	$3\ 10^{-4}$	$7.17\ 10^{-11}$	$6.91\ 10^{-12}$	$7.13\ 10^{-13}$	$2.72\ 10^{-11}$	$8.38\ 10^{-12}$	$2.36\ 10^{-14}$	$2.62\ 10^{-9}$ $8.18\ 10^{-9}$	$8.07\ 10^{-10}$ LLI wall
Sm-155	$3\ 10^{-4}$	$5.15\ 10^{-13}$	$1.77\ 10^{-13}$	$1.51\ 10^{-13}$	$3.33\ 10^{-13}$	$1.39\ 10^{-13}$	$6.28\ 10^{-15}$	$6.37\ 10^{-11}$ $2.31\ 10^{-10}$	$1.93\ 10^{-11}$ ST wall
Sm-156	$3\ 10^{-4}$	$6.42\ 10^{-11}$	$7.57\ 10^{-12}$	$1.44\ 10^{-12}$	$1.66\ 10^{-11}$	$5.68\ 10^{-12}$	$1.48\ 10^{-13}$	$8.54\ 10^{-10}$	$2.76\ 10^{-10}$
Europium									
Eu-145	$1\ 10^{-3}$	$1.29\ 10^{-9}$	$1.58\ 10^{-10}$	$3.13\ 10^{-11}$	$2.71\ 10^{-10}$	$9.57\ 10^{-11}$	$4.78\ 10^{-12}$	$1.76\ 10^{-9}$	$9.12\ 10^{-10}$
Eu-146	$1\ 10^{-3}$	$2.19\ 10^{-9}$	$2.68\ 10^{-10}$	$5.01\ 10^{-11}$	$4.50\ 10^{-10}$	$1.52\ 10^{-10}$	$7.27\ 10^{-12}$	$2.95\ 10^{-9}$	$1.54\ 10^{-9}$
Eu-147	$1\ 10^{-3}$	$5.81\ 10^{-10}$	$6.52\ 10^{-11}$	$1.12\ 10^{-11}$	$1.41\ 10^{-10}$	$6.15\ 10^{-11}$	$1.59\ 10^{-12}$	$1.20\ 10^{-9}$	$5.36\ 10^{-10}$
Eu-148	$1\ 10^{-3}$	$2.36\ 10^{-9}$	$2.86\ 10^{-10}$	$5.67\ 10^{-11}$	$4.96\ 10^{-10}$	$1.82\ 10^{-10}$	$9.94\ 10^{-12}$	$2.82\ 10^{-9}$	$1.55\ 10^{-9}$
Eu-149	$1\ 10^{-3}$	$1.18\ 10^{-10}$	$1.04\ 10^{-11}$	$1.57\ 10^{-12}$	$3.99\ 10^{-11}$	$2.67\ 10^{-11}$	$2.17\ 10^{-13}$	$2.91\ 10^{-10}$	$1.24\ 10^{-10}$
Eu-150 12.62 h	$1\ 10^{-3}$	$1.72\ 10^{-11}$	$2.14\ 10^{-12}$	$4.74\ 10^{-13}$	$4.23\ 10^{-12}$	$1.45\ 10^{-12}$	$5.39\ 10^{-14}$	$1.33\ 10^{-9}$	$4.05\ 10^{-10}$
Eu-150 34.2 y	$1\ 10^{-3}$	$1.90\ 10^{-9}$	$4.43\ 10^{-10}$	$4.10\ 10^{-10}$	$1.02\ 10^{-9}$	$1.11\ 10^{-9}$	$1.32\ 10^{-10}$	$3.22\ 10^{-9}$	$1.72\ 10^{-9}$
Eu-152	$1\ 10^{-3}$	$1.33\ 10^{-9}$	$2.85\ 10^{-10}$	$2.40\ 10^{-10}$	$9.19\ 10^{-10}$	$2.09\ 10^{-9}$	$6.66\ 10^{-11}$	$3.92\ 10^{-9}$	$1.75\ 10^{-9}$
Eu-152m	$1\ 10^{-3}$	$7.16\ 10^{-11}$	$1.02\ 10^{-11}$	$2.78\ 10^{-12}$	$1.72\ 10^{-11}$	$5.87\ 10^{-12}$	$3.49\ 10^{-13}$	$1.73\ 10^{-9}$	$5.48\ 10^{-10}$
Eu-154	$1\ 10^{-3}$	$1.37\ 10^{-9}$	$2.79\ 10^{-10}$	$2.16\ 10^{-10}$	$1.15\ 10^{-9}$	$4.46\ 10^{-9}$	$5.71\ 10^{-11}$	$6.32\ 10^{-9}$	$2.58\ 10^{-9}$
Eu-155	$1\ 10^{-3}$	$9.83\ 10^{-11}$	$1.44\ 10^{-11}$	$9.64\ 10^{-12}$	$1.56\ 10^{-10}$	$1.29\ 10^{-9}$	$1.78\ 10^{-12}$	$1.09\ 10^{-9}$	$4.13\ 10^{-10}$
Eu-156	$1\ 10^{-3}$	$1.22\ 10^{-9}$	$1.52\ 10^{-10}$	$3.24\ 10^{-11}$	$2.56\ 10^{-10}$	$1.16\ 10^{-10}$	$5.23\ 10^{-12}$	$7.04\ 10^{-9}$	$2.48\ 10^{-9}$
Eu-157	$1\ 10^{-3}$	$1.23\ 10^{-10}$	$1.44\ 10^{-11}$	$2.74\ 10^{-12}$	$3.30\ 10^{-11}$	$1.06\ 10^{-11}$	$2.69\ 10^{-13}$	$2.07\ 10^{-9}$	$6.59\ 10^{-10}$
Eu-158	$1\ 10^{-3}$	$1.22\ 10^{-11}$	$3.21\ 10^{-12}$	$2.24\ 10^{-12}$	$3.77\ 10^{-12}$	$1.51\ 10^{-12}$	$2.47\ 10^{-13}$	$2.43\ 10^{-10}$	$7.71\ 10^{-11}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Gadolinium									
Gd-145	$3\ 10^{-4}$	$1.14\ 10^{-11}$	$3.64\ 10^{-12}$	$2.89\ 10^{-12}$	$3.99\ 10^{-12}$	$1.71\ 10^{-12}$	$3.29\ 10^{-13}$	$9.76\ 10^{-11}$ $3.00\ 10^{-10}$	$3.36\ 10^{-11}$ ST wall
Gd-146	$3\ 10^{-4}$	$8.88\ 10^{-10}$	$9.31\ 10^{-11}$	$1.31\ 10^{-11}$	$2.44\ 10^{-10}$	$1.15\ 10^{-10}$	$2.29\ 10^{-12}$	$2.84\ 10^{-9}$	$1.12\ 10^{-9}$
Gd-147	$3\ 10^{-4}$	$9.26\ 10^{-10}$	$1.12\ 10^{-10}$	$2.11\ 10^{-11}$	$2.02\ 10^{-10}$	$6.72\ 10^{-11}$	$2.74\ 10^{-12}$	$1.55\ 10^{-9}$	$7.42\ 10^{-10}$
Gd-148	$3\ 10^{-4}$	$0.00\ 10^{-0}$	$0.00\ 10^{-0}$	$0.00\ 10^{-0}$	$8.90\ 10^{-8}$	$1.11\ 10^{-6}$	$0.00\ 10^{-0}$	$4.98\ 10^{-8}$	$5.89\ 10^{-8}$
Gd-149	$3\ 10^{-4}$	$5.08\ 10^{-10}$	$5.38\ 10^{-11}$	$7.51\ 10^{-12}$	$1.27\ 10^{-10}$	$4.24\ 10^{-11}$	$8.50\ 10^{-13}$	$1.29\ 10^{-9}$	$5.41\ 10^{-10}$
Gd-151	$3\ 10^{-4}$	$1.22\ 10^{-10}$	$1.04\ 10^{-11}$	$1.06\ 10^{-12}$	$4.30\ 10^{-11}$	$3.39\ 10^{-11}$	$1.03\ 10^{-13}$	$6.15\ 10^{-10}$	$2.23\ 10^{-10}$
Gd-152	$3\ 10^{-4}$	$0.00\ 10^{-0}$	$0.00\ 10^{-0}$	$0.00\ 10^{-0}$	$6.57\ 10^{-8}$	$8.21\ 10^{-7}$	$0.00\ 10^{-0}$	$3.62\ 10^{-8}$	$4.34\ 10^{-8}$
Gd-153	$3\ 10^{-4}$	$1.97\ 10^{-10}$	$1.80\ 10^{-11}$	$2.19\ 10^{-12}$	$8.07\ 10^{-11}$	$7.92\ 10^{-11}$	$2.18\ 10^{-13}$	$8.44\ 10^{-10}$	$3.17\ 10^{-10}$
Gd-159	$3\ 10^{-4}$	$2.86\ 10^{-11}$	$3.18\ 10^{-12}$	$5.38\ 10^{-13}$	$7.92\ 10^{-12}$	$2.55\ 10^{-12}$	$4.85\ 10^{-14}$	$1.76\ 10^{-9}$	$5.35\ 10^{-10}$
Terbium									
Tb-147	$3\ 10^{-4}$	$9.15\ 10^{-11}$	$1.54\ 10^{-11}$	$6.36\ 10^{-12}$	$2.32\ 10^{-11}$	$8.16\ 10^{-12}$	$7.08\ 10^{-13}$	$4.39\ 10^{-10}$	$1.61\ 10^{-10}$
Tb-149	$3\ 10^{-4}$	$1.71\ 10^{-10}$	$2.80\ 10^{-11}$	$9.76\ 10^{-12}$	$4.33\ 10^{-11}$	$1.92\ 10^{-11}$	$1.23\ 10^{-12}$	$7.39\ 10^{-10}$	$2.76\ 10^{-10}$
Tb-150	$3\ 10^{-4}$	$1.29\ 10^{-10}$	$2.23\ 10^{-11}$	$8.81\ 10^{-12}$	$3.21\ 10^{-11}$	$1.12\ 10^{-11}$	$1.03\ 10^{-12}$	$7.78\ 10^{-10}$	$2.74\ 10^{-10}$
Tb-151	$3\ 10^{-4}$	$4.20\ 10^{-10}$	$5.13\ 10^{-11}$	$1.04\ 10^{-11}$	$1.00\ 10^{-10}$	$3.27\ 10^{-11}$	$1.17\ 10^{-12}$	$9.19\ 10^{-10}$	$4.03\ 10^{-10}$
Tb-153	$3\ 10^{-4}$	$2.35\ 10^{-10}$	$2.41\ 10^{-11}$	$3.24\ 10^{-12}$	$6.83\ 10^{-11}$	$2.18\ 10^{-11}$	$2.94\ 10^{-13}$	$7.35\ 10^{-10}$	$2.92\ 10^{-10}$
Tb-154	$3\ 10^{-4}$	$9.89\ 10^{-10}$	$1.32\ 10^{-10}$	$3.28\ 10^{-11}$	$2.14\ 10^{-10}$	$7.36\ 10^{-11}$	$5.23\ 10^{-12}$	$1.66\ 10^{-9}$	$7.96\ 10^{-10}$
Tb-155	$3\ 10^{-4}$	$1.96\ 10^{-10}$	$1.89\ 10^{-11}$	$1.94\ 10^{-12}$	$6.70\ 10^{-11}$	$2.06\ 10^{-11}$	$1.12\ 10^{-13}$	$6.12\ 10^{-10}$	$2.44\ 10^{-10}$
Tb-156	$3\ 10^{-4}$	$1.64\ 10^{-9}$	$2.00\ 10^{-10}$	$3.66\ 10^{-11}$	$3.57\ 10^{-10}$	$1.21\ 10^{-10}$	$5.32\ 10^{-12}$	$3.03\ 10^{-9}$	$1.40\ 10^{-9}$
Tb-156m 24.4 h	$3\ 10^{-4}$	$1.95\ 10^{-10}$	$2.13\ 10^{-11}$	$2.77\ 10^{-12}$	$4.64\ 10^{-11}$	$1.54\ 10^{-11}$	$4.12\ 10^{-13}$	$4.86\ 10^{-10}$	$2.04\ 10^{-10}$
Tb-156m 5.0 h	$3\ 10^{-4}$	$5.85\ 10^{-11}$	$6.73\ 10^{-12}$	$1.02\ 10^{-12}$	$1.26\ 10^{-11}$	$4.26\ 10^{-12}$	$1.55\ 10^{-13}$	$2.46\ 10^{-10}$	$9.12\ 10^{-11}$
Tb-157	$3\ 10^{-4}$	$6.45\ 10^{-12}$	$6.27\ 10^{-13}$	$3.07\ 10^{-13}$	$1.27\ 10^{-11}$	$1.11\ 10^{-10}$	$6.50\ 10^{-14}$	$8.97\ 10^{-11}$ $2.96\ 10^{-10}$	$3.35\ 10^{-11}$ LLI wall
Tb-158	$3\ 10^{-4}$	$9.15\ 10^{-10}$	$1.47\ 10^{-10}$	$7.57\ 10^{-11}$	$4.90\ 10^{-10}$	$1.62\ 10^{-9}$	$2.04\ 10^{-11}$	$2.73\ 10^{-9}$	$1.19\ 10^{-9}$
Tb-160	$3\ 10^{-4}$	$1.17\ 10^{-9}$	$1.43\ 10^{-10}$	$2.72\ 10^{-11}$	$2.54\ 10^{-10}$	$1.57\ 10^{-10}$	$4.29\ 10^{-12}$	$4.90\ 10^{-9}$	$1.82\ 10^{-9}$
Tb-161	$3\ 10^{-4}$	$6.40\ 10^{-11}$	$5.27\ 10^{-12}$	$3.77\ 10^{-13}$	$2.47\ 10^{-11}$	$1.47\ 10^{-11}$	$7.70\ 10^{-15}$	$2.56\ 10^{-9}$ $8.70\ 10^{-9}$	$7.89\ 10^{-10}$ LLI wall
Dysprosium									
Dy-155	$3\ 10^{-4}$	$1.76\ 10^{-10}$	$2.31\ 10^{-11}$	$5.46\ 10^{-12}$	$4.61\ 10^{-11}$	$1.50\ 10^{-11}$	$6.34\ 10^{-13}$	$3.40\ 10^{-10}$	$1.56\ 10^{-10}$
Dy-157	$3\ 10^{-4}$	$9.63\ 10^{-11}$	$1.20\ 10^{-11}$	$2.78\ 10^{-12}$	$2.54\ 10^{-11}$	$8.08\ 10^{-12}$	$2.45\ 10^{-13}$	$1.55\ 10^{-10}$	$7.60\ 10^{-11}$
Dy-159	$3\ 10^{-4}$	$9.96\ 10^{-11}$	$8.30\ 10^{-12}$	$6.34\ 10^{-13}$	$4.20\ 10^{-11}$	$2.53\ 10^{-11}$	$6.22\ 10^{-14}$	$2.93\ 10^{-10}$	$1.20\ 10^{-10}$
Dy-165	$3\ 10^{-4}$	$1.67\ 10^{-12}$	$2.81\ 10^{-13}$	$1.15\ 10^{-13}$	$5.84\ 10^{-13}$	$1.94\ 10^{-13}$	$8.60\ 10^{-15}$	$3.25\ 10^{-10}$	$9.81\ 10^{-11}$
Dy-166	$3\ 10^{-4}$	$7.14\ 10^{-11}$	$6.91\ 10^{-12}$	$6.48\ 10^{-13}$	$2.91\ 10^{-11}$	$1.36\ 10^{-11}$	$4.09\ 10^{-14}$	$5.88\ 10^{-9}$ $2.24\ 10^{-8}$	$1.79\ 10^{-9}$ LLI wall
Holmium									
Ho-155	$3\ 10^{-4}$	$1.98\ 10^{-11}$	$3.19\ 10^{-12}$	$1.28\ 10^{-12}$	$5.70\ 10^{-12}$	$1.94\ 10^{-12}$	$1.17\ 10^{-13}$	$9.55\ 10^{-11}$	$3.50\ 10^{-11}$
Ho-157	$3\ 10^{-4}$	$3.46\ 10^{-12}$	$7.65\ 10^{-13}$	$5.17\ 10^{-13}$	$1.20\ 10^{-12}$	$4.59\ 10^{-13}$	$3.70\ 10^{-14}$	$1.41\ 10^{-11}$	$5.42\ 10^{-12}$
Ho-159	$3\ 10^{-4}$	$3.38\ 10^{-12}$	$9.40\ 10^{-13}$	$7.01\ 10^{-13}$	$1.64\ 10^{-12}$	$6.33\ 10^{-13}$	$3.89\ 10^{-14}$	$1.88\ 10^{-11}$	$6.92\ 10^{-12}$
Ho-161	$3\ 10^{-4}$	$6.28\ 10^{-12}$	$8.60\ 10^{-13}$	$2.70\ 10^{-13}$	$2.70\ 10^{-12}$	$8.09\ 10^{-13}$	$2.67\ 10^{-15}$	$3.82\ 10^{-11}$	$1.35\ 10^{-11}$
Ho-162	$3\ 10^{-4}$	$4.22\ 10^{-13}$	$1.88\ 10^{-13}$	$1.82\ 10^{-13}$	$2.40\ 10^{-13}$	$1.08\ 10^{-13}$	$1.18\ 10^{-14}$	$6.94\ 10^{-12}$ $2.46\ 10^{-11}$	$2.27\ 10^{-12}$ ST wall
Ho-162m	$3\ 10^{-4}$	$1.49\ 10^{-11}$	$3.27\ 10^{-12}$	$1.85\ 10^{-12}$	$5.16\ 10^{-12}$	$1.86\ 10^{-12}$	$1.76\ 10^{-13}$	$7.01\ 10^{-11}$	$2.61\ 10^{-11}$
Ho-164	$3\ 10^{-4}$	$3.11\ 10^{-13}$	$8.34\ 10^{-14}$	$6.42\ 10^{-14}$	$1.84\ 10^{-13}$	$6.98\ 10^{-14}$	$4.99\ 10^{-16}$	$2.20\ 10^{-11}$ $7.27\ 10^{-11}$	$6.73\ 10^{-12}$ ST wall
Ho-164m	$3\ 10^{-4}$	$1.38\ 10^{-12}$	$2.76\ 10^{-13}$	$1.63\ 10^{-13}$	$7.20\ 10^{-13}$	$2.45\ 10^{-13}$	$1.10\ 10^{-15}$	$4.64\ 10^{-11}$	$1.44\ 10^{-11}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Ho-166	$3\ 10^{-4}$	$1.75\ 10^{-11}$	$2.14\ 10^{-12}$	$3.93\ 10^{-13}$	$5.97\ 10^{-12}$	$2.11\ 10^{-12}$	$4.77\ 10^{-14}$	$5.01\ 10^{-9}$ $1.46\ 10^{-8}$	$1.51\ 10^{-9}$ LLI wall
Ho-166m	$3\ 10^{-4}$	$2.05\ 10^{-9}$	$3.48\ 10^{-10}$	$2.16\ 10^{-10}$	$8.12\ 10^{-10}$	$2.35\ 10^{-9}$	$5.53\ 10^{-11}$	$4.74\ 10^{-9}$	$2.18\ 10^{-9}$
Ho-167	$3\ 10^{-4}$	$3.16\ 10^{-11}$	$4.96\ 10^{-12}$	$1.79\ 10^{-12}$	$8.75\ 10^{-12}$	$2.95\ 10^{-12}$	$1.55\ 10^{-13}$	$2.63\ 10^{-10}$	$8.90\ 10^{-11}$
Erbium									
Er-161	$3\ 10^{-4}$	$8.15\ 10^{-11}$	$1.34\ 10^{-11}$	$4.90\ 10^{-12}$	$2.33\ 10^{-11}$	$7.75\ 10^{-12}$	$5.45\ 10^{-13}$	$2.22\ 10^{-10}$	$9.26\ 10^{-11}$
Er-165	$3\ 10^{-4}$	$1.91\ 10^{-11}$	$2.01\ 10^{-12}$	$2.81\ 10^{-13}$	$8.31\ 10^{-12}$	$2.36\ 10^{-12}$	$2.30\ 10^{-15}$	$5.38\ 10^{-11}$	$2.23\ 10^{-11}$
Er-169	$3\ 10^{-4}$	$1.62\ 10^{-14}$	$1.09\ 10^{-14}$	$1.09\ 10^{-14}$	$5.61\ 10^{-13}$	$6.83\ 10^{-12}$	$1.09\ 10^{-14}$	$1.35\ 10^{-9}$ $4.68\ 10^{-9}$	$4.06\ 10^{-10}$ LLI wall
Er-171	$3\ 10^{-4}$	$9.26\ 10^{-11}$	$1.20\ 10^{-11}$	$2.90\ 10^{-12}$	$2.52\ 10^{-11}$	$8.25\ 10^{-12}$	$2.54\ 10^{-13}$	$1.21\ 10^{-9}$	$3.91\ 10^{-10}$
Er-172	$3\ 10^{-4}$	$5.08\ 10^{-10}$	$5.95\ 10^{-11}$	$9.86\ 10^{-12}$	$1.11\ 10^{-10}$	$3.94\ 10^{-11}$	$1.30\ 10^{-12}$	$3.29\ 10^{-9}$ $1.13\ 10^{-8}$	$1.14\ 10^{-9}$ LLI wall
Thulium									
Tm-162	$3\ 10^{-4}$	$6.24\ 10^{-12}$	$2.43\ 10^{-12}$	$2.16\ 10^{-12}$	$2.56\ 10^{-12}$	$1.15\ 10^{-12}$	$2.32\ 10^{-13}$	$6.43\ 10^{-11}$ $2.03\ 10^{-10}$	$2.18\ 10^{-11}$ ST wall
Tm-166	$3\ 10^{-4}$	$3.54\ 10^{-10}$	$5.29\ 10^{-11}$	$1.59\ 10^{-11}$	$8.44\ 10^{-11}$	$2.89\ 10^{-11}$	$2.21\ 10^{-12}$	$7.48\ 10^{-10}$	$3.34\ 10^{-10}$
Tm-167	$3\ 10^{-4}$	$2.08\ 10^{-10}$	$2.03\ 10^{-11}$	$2.20\ 10^{-12}$	$6.56\ 10^{-11}$	$2.73\ 10^{-11}$	$1.88\ 10^{-13}$	$1.87\ 10^{-9}$ $6.20\ 10^{-9}$	$6.26\ 10^{-10}$ LLI wall
Tm-170	$3\ 10^{-4}$	$9.56\ 10^{-12}$	$1.30\ 10^{-12}$	$4.86\ 10^{-13}$	$3.08\ 10^{-11}$	$4.14\ 10^{-11}$	$4.07\ 10^{-13}$	$4.76\ 10^{-9}$ $1.68\ 10^{-8}$	$1.43\ 10^{-9}$ LLI wall
Tm-171	$3\ 10^{-4}$	$1.38\ 10^{-12}$	$2.65\ 10^{-13}$	$1.60\ 10^{-13}$	$1.04\ 10^{-11}$	$1.20\ 10^{-10}$	$1.48\ 10^{-13}$	$3.71\ 10^{-10}$ $1.31\ 10^{-9}$	$1.16\ 10^{-10}$ LLI wall
Tm-172	$3\ 10^{-4}$	$3.21\ 10^{-10}$	$4.32\ 10^{-11}$	$9.16\ 10^{-12}$	$7.17\ 10^{-11}$	$2.61\ 10^{-11}$	$1.47\ 10^{-12}$	$5.85\ 10^{-9}$ $1.86\ 10^{-8}$	$1.85\ 10^{-9}$ LLI wall
Tm-173	$3\ 10^{-4}$	$9.72\ 10^{-11}$	$1.28\ 10^{-11}$	$3.22\ 10^{-12}$	$2.22\ 10^{-11}$	$7.39\ 10^{-12}$	$3.32\ 10^{-13}$	$1.02\ 10^{-9}$	$3.37\ 10^{-10}$
Tm-175	$3\ 10^{-4}$	$2.50\ 10^{-12}$	$1.09\ 10^{-12}$	$1.06\ 10^{-12}$	$1.08\ 10^{-12}$	$5.06\ 10^{-13}$	$9.82\ 10^{-14}$	$5.73\ 10^{-11}$ $2.00\ 10^{-10}$	$1.83\ 10^{-11}$ ST wall
Ytterbium									
Yb-162	$3\ 10^{-4}$	$8.47\ 10^{-12}$	$2.36\ 10^{-12}$	$1.65\ 10^{-12}$	$3.05\ 10^{-12}$	$1.22\ 10^{-12}$	$1.73\ 10^{-13}$	$5.80\ 10^{-11}$	$2.05\ 10^{-11}$
Yb-166	$3\ 10^{-4}$	$1.24\ 10^{-9}$	$1.42\ 10^{-10}$	$2.25\ 10^{-11}$	$2.85\ 10^{-10}$	$9.42\ 10^{-11}$	$3.50\ 10^{-12}$	$2.56\ 10^{-9}$	$1.14\ 10^{-9}$
Yb-167	$3\ 10^{-4}$	$1.30\ 10^{-12}$	$4.13\ 10^{-13}$	$3.60\ 10^{-13}$	$7.87\ 10^{-13}$	$3.30\ 10^{-13}$	$1.19\ 10^{-14}$	$1.49\ 10^{-11}$	$5.01\ 10^{-12}$
Yb-169	$3\ 10^{-4}$	$4.76\ 10^{-10}$	$4.74\ 10^{-11}$	$4.87\ 10^{-12}$	$1.66\ 10^{-10}$	$7.33\ 10^{-11}$	$3.68\ 10^{-13}$	$2.21\ 10^{-9}$	$8.12\ 10^{-10}$
Yb-175	$3\ 10^{-4}$	$4.13\ 10^{-11}$	$4.53\ 10^{-12}$	$6.47\ 10^{-13}$	$9.99\ 10^{-12}$	$6.23\ 10^{-12}$	$6.85\ 10^{-14}$	$1.55\ 10^{-9}$ $5.14\ 10^{-9}$	$4.76\ 10^{-10}$ LLI wall
Yb-177	$3\ 10^{-4}$	$7.91\ 10^{-12}$	$1.53\ 10^{-12}$	$7.12\ 10^{-13}$	$2.46\ 10^{-12}$	$9.35\ 10^{-13}$	$7.58\ 10^{-14}$	$2.81\ 10^{-10}$	$8.68\ 10^{-11}$
Yb-178	$3\ 10^{-4}$	$4.08\ 10^{-12}$	$8.76\ 10^{-13}$	$4.07\ 10^{-13}$	$1.31\ 10^{-12}$	$4.69\ 10^{-13}$	$4.68\ 10^{-14}$	$3.52\ 10^{-10}$	$1.07\ 10^{-10}$
Lutetium									
Lu-169	$3\ 10^{-4}$	$6.27\ 10^{-10}$	$8.06\ 10^{-11}$	$1.66\ 10^{-11}$	$1.53\ 10^{-10}$	$5.19\ 10^{-11}$	$2.35\ 10^{-12}$	$1.19\ 10^{-9}$	$5.49\ 10^{-10}$
Lu-170	$3\ 10^{-4}$	$1.52\ 10^{-9}$	$1.98\ 10^{-10}$	$4.50\ 10^{-11}$	$3.26\ 10^{-10}$	$1.12\ 10^{-10}$	$7.41\ 10^{-12}$	$2.59\ 10^{-9}$	$1.23\ 10^{-9}$
Lu-171	$3\ 10^{-4}$	$7.36\ 10^{-10}$	$8.51\ 10^{-11}$	$1.36\ 10^{-11}$	$1.80\ 10^{-10}$	$6.23\ 10^{-11}$	$1.78\ 10^{-12}$	$1.88\ 10^{-9}$	$7.85\ 10^{-10}$
Lu-172	$3\ 10^{-4}$	$1.73\ 10^{-9}$	$2.13\ 10^{-10}$	$3.95\ 10^{-11}$	$3.81\ 10^{-10}$	$1.31\ 10^{-10}$	$5.72\ 10^{-12}$	$3.37\ 10^{-9}$	$1.53\ 10^{-9}$
Lu-173	$3\ 10^{-4}$	$2.15\ 10^{-10}$	$2.17\ 10^{-11}$	$2.83\ 10^{-12}$	$9.40\ 10^{-11}$	$1.46\ 10^{-10}$	$7.32\ 10^{-13}$	$7.41\ 10^{-10}$	$2.95\ 10^{-10}$
Lu-174	$3\ 10^{-4}$	$1.68\ 10^{-10}$	$1.97\ 10^{-11}$	$4.02\ 10^{-12}$	$8.72\ 10^{-11}$	$3.08\ 10^{-10}$	$1.40\ 10^{-12}$	$7.85\ 10^{-10}$	$3.01\ 10^{-10}$
Lu-174m	$3\ 10^{-4}$	$1.11\ 10^{-10}$	$1.07\ 10^{-11}$	$1.17\ 10^{-12}$	$5.91\ 10^{-11}$	$1.64\ 10^{-10}$	$2.41\ 10^{-13}$	$1.78\ 10^{-9}$ $6.15\ 10^{-9}$	$5.77\ 10^{-10}$ LLI wall
Lu-176	$3\ 10^{-4}$	$6.80\ 10^{-10}$	$9.14\ 10^{-11}$	$3.15\ 10^{-11}$	$8.31\ 10^{-10}$	$7.23\ 10^{-9}$	$2.13\ 10^{-11}$	$4.91\ 10^{-9}$	$1.98\ 10^{-9}$
Lu-176m	$3\ 10^{-4}$	$1.96\ 10^{-12}$	$2.69\ 10^{-13}$	$7.58\ 10^{-14}$	$8.97\ 10^{-13}$	$2.88\ 10^{-13}$	$1.73\ 10^{-15}$	$5.75\ 10^{-10}$	$1.73\ 10^{-10}$
Lu-177	$3\ 10^{-4}$	$4.29\ 10^{-11}$	$4.43\ 10^{-12}$	$5.50\ 10^{-13}$	$1.21\ 10^{-11}$	$1.07\ 10^{-11}$	$4.45\ 10^{-14}$	$1.89\ 10^{-9}$ $6.43\ 10^{-9}$	$5.81\ 10^{-10}$ LLI wall

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Lu-177m	$3\ 10^{-4}$	$1.35\ 10^{-9}$	$1.43\ 10^{-10}$	$1.98\ 10^{-11}$	$3.68\ 10^{-10}$	$4.30\ 10^{-10}$	$3.56\ 10^{-12}$	$5.23\ 10^{-9}$	$1.99\ 10^{-9}$
Lu-178	$3\ 10^{-4}$	$7.33\ 10^{-13}$	$2.59\ 10^{-13}$	$2.12\ 10^{-13}$	$2.96\ 10^{-13}$	$1.27\ 10^{-13}$	$2.24\ 10^{-14}$	$1.10\ 10^{-10}$ $3.67\ 10^{-10}$	$3.32\ 10^{-11}$ ST wall
Lu-178m	$3\ 10^{-4}$	$4.88\ 10^{-12}$	$1.81\ 10^{-12}$	$1.55\ 10^{-12}$	$2.41\ 10^{-12}$	$1.00\ 10^{-12}$	$1.13\ 10^{-13}$	$8.53\ 10^{-11}$ $2.84\ 10^{-10}$	$2.76\ 10^{-11}$ ST wall
Lu-179	$3\ 10^{-4}$	$4.36\ 10^{-12}$	$6.14\ 10^{-13}$	$1.78\ 10^{-13}$	$1.20\ 10^{-12}$	$4.06\ 10^{-13}$	$1.51\ 10^{-14}$	$7.19\ 10^{-10}$	$2.17\ 10^{-10}$
Hafnium									
Hf-170	$2\ 10^{-3}$	$6.03\ 10^{-10}$	$7.21\ 10^{-11}$	$1.34\ 10^{-11}$	$1.42\ 10^{-10}$	$4.94\ 10^{-11}$	$2.10\ 10^{-12}$	$1.30\ 10^{-9}$	$5.73\ 10^{-10}$
Hf-172	$2\ 10^{-3}$	$5.56\ 10^{-10}$	$1.41\ 10^{-10}$	$9.01\ 10^{-11}$	$9.49\ 10^{-10}$	$6.14\ 10^{-9}$	$6.11\ 10^{-11}$	$2.46\ 10^{-9}$	$1.21\ 10^{-9}$
Hf-173	$2\ 10^{-3}$	$2.63\ 10^{-10}$	$3.01\ 10^{-11}$	$4.89\ 10^{-12}$	$8.02\ 10^{-11}$	$2.78\ 10^{-11}$	$4.56\ 10^{-13}$	$6.34\ 10^{-10}$	$2.71\ 10^{-10}$
Hf-175	$2\ 10^{-3}$	$4.95\ 10^{-10}$	$5.39\ 10^{-11}$	$8.67\ 10^{-12}$	$1.43\ 10^{-10}$	$9.88\ 10^{-11}$	$2.77\ 10^{-12}$	$1.13\ 10^{-9}$	$4.92\ 10^{-10}$
Hf-177m	$2\ 10^{-3}$	$3.50\ 10^{-11}$	$8.46\ 10^{-12}$	$5.38\ 10^{-12}$	$1.33\ 10^{-11}$	$4.96\ 10^{-12}$	$4.07\ 10^{-13}$	$2.06\ 10^{-10}$	$7.43\ 10^{-11}$
Hf-178m	$2\ 10^{-3}$	$3.59\ 10^{-9}$	$1.10\ 10^{-9}$	$7.55\ 10^{-10}$	$7.39\ 10^{-9}$	$4.37\ 10^{-8}$	$7.38\ 10^{-10}$	$7.69\ 10^{-9}$	$5.68\ 10^{-9}$
Hf-179m	$2\ 10^{-3}$	$1.13\ 10^{-9}$	$1.24\ 10^{-10}$	$1.85\ 10^{-11}$	$2.93\ 10^{-10}$	$2.57\ 10^{-10}$	$4.06\ 10^{-12}$	$3.71\ 10^{-9}$	$1.46\ 10^{-9}$
Hf-180m	$2\ 10^{-3}$	$1.72\ 10^{-10}$	$2.37\ 10^{-11}$	$6.74\ 10^{-12}$	$4.47\ 10^{-11}$	$1.49\ 10^{-11}$	$6.41\ 10^{-13}$	$4.81\ 10^{-10}$	$1.98\ 10^{-10}$
Hf-181	$2\ 10^{-3}$	$6.62\ 10^{-10}$	$7.70\ 10^{-11}$	$1.29\ 10^{-11}$	$1.85\ 10^{-10}$	$3.86\ 10^{-10}$	$3.65\ 10^{-12}$	$3.53\ 10^{-9}$	$1.27\ 10^{-9}$
Hf-182	$2\ 10^{-3}$	$9.01\ 10^{-10}$	$7.33\ 10^{-10}$	$6.35\ 10^{-10}$	$8.47\ 10^{-9}$	$7.22\ 10^{-8}$	$5.00\ 10^{-10}$	$2.26\ 10^{-9}$	$4.29\ 10^{-9}$
Hf-182m	$2\ 10^{-3}$	$1.83\ 10^{-11}$	$4.15\ 10^{-12}$	$2.52\ 10^{-12}$	$6.23\ 10^{-12}$	$2.49\ 10^{-12}$	$2.20\ 10^{-13}$	$1.10\ 10^{-10}$	$3.93\ 10^{-11}$
Hf-183	$2\ 10^{-3}$	$1.76\ 10^{-11}$	$3.68\ 10^{-12}$	$2.12\ 10^{-12}$	$5.53\ 10^{-12}$	$2.54\ 10^{-12}$	$2.09\ 10^{-13}$	$2.09\ 10^{-10}$	$6.87\ 10^{-11}$
Hf-184	$2\ 10^{-3}$	$2.25\ 10^{-10}$	$2.83\ 10^{-11}$	$5.66\ 10^{-12}$	$5.22\ 10^{-11}$	$1.80\ 10^{-11}$	$7.37\ 10^{-13}$	$1.71\ 10^{-9}$	$5.82\ 10^{-10}$
Tantalum									
Ta-172	$1\ 10^{-3}$	$1.30\ 10^{-11}$	$3.86\ 10^{-12}$	$2.91\ 10^{-12}$	$4.71\ 10^{-12}$	$1.92\ 10^{-12}$	$2.88\ 10^{-13}$	$1.27\ 10^{-10}$	$4.30\ 10^{-11}$
Ta-173	$1\ 10^{-3}$	$9.63\ 10^{-11}$	$1.33\ 10^{-11}$	$3.75\ 10^{-12}$	$2.83\ 10^{-11}$	$9.22\ 10^{-12}$	$3.79\ 10^{-13}$	$6.05\ 10^{-10}$	$2.12\ 10^{-10}$
Ta-174	$1\ 10^{-3}$	$1.48\ 10^{-11}$	$3.25\ 10^{-12}$	$1.86\ 10^{-12}$	$5.09\ 10^{-12}$	$1.84\ 10^{-12}$	$1.62\ 10^{-13}$	$1.59\ 10^{-10}$	$5.29\ 10^{-11}$
Ta-175	$1\ 10^{-3}$	$2.52\ 10^{-10}$	$3.57\ 10^{-11}$	$9.17\ 10^{-12}$	$6.69\ 10^{-11}$	$2.22\ 10^{-11}$	$1.22\ 10^{-12}$	$5.57\ 10^{-10}$	$2.45\ 10^{-10}$
Ta-176	$1\ 10^{-3}$	$3.92\ 10^{-10}$	$6.16\ 10^{-11}$	$1.88\ 10^{-11}$	$9.55\ 10^{-11}$	$3.31\ 10^{-11}$	$2.79\ 10^{-12}$	$8.39\ 10^{-10}$	$3.74\ 10^{-10}$
Ta-177	$1\ 10^{-3}$	$7.90\ 10^{-11}$	$8.05\ 10^{-12}$	$8.56\ 10^{-13}$	$3.25\ 10^{-11}$	$9.92\ 10^{-12}$	$5.63\ 10^{-14}$	$3.23\ 10^{-10}$	$1.22\ 10^{-10}$
Ta-178	$1\ 10^{-3}$	$5.93\ 10^{-11}$	$1.01\ 10^{-11}$	$4.22\ 10^{-12}$	$1.91\ 10^{-11}$	$6.42\ 10^{-12}$	$3.28\ 10^{-13}$	$2.00\ 10^{-10}$	$7.93\ 10^{-11}$
Ta-179	$1\ 10^{-3}$	$6.06\ 10^{-11}$	$5.94\ 10^{-12}$	$7.23\ 10^{-13}$	$2.75\ 10^{-11}$	$9.00\ 10^{-12}$	$2.74\ 10^{-13}$	$1.81\ 10^{-10}$	$7.39\ 10^{-11}$
Ta-180	$1\ 10^{-3}$	$7.69\ 10^{-10}$	$8.34\ 10^{-11}$	$1.44\ 10^{-11}$	$1.98\ 10^{-10}$	$7.74\ 10^{-11}$	$5.19\ 10^{-12}$	$2.50\ 10^{-9}$	$9.82\ 10^{-10}$
Ta-180m	$1\ 10^{-3}$	$1.74\ 10^{-11}$	$2.03\ 10^{-12}$	$3.57\ 10^{-13}$	$7.85\ 10^{-12}$	$2.33\ 10^{-12}$	$9.41\ 10^{-15}$	$1.78\ 10^{-10}$	$5.90\ 10^{-11}$
Ta-182	$1\ 10^{-3}$	$1.32\ 10^{-9}$	$1.68\ 10^{-10}$	$3.47\ 10^{-11}$	$3.05\ 10^{-10}$	$1.15\ 10^{-10}$	$9.08\ 10^{-12}$	$4.54\ 10^{-9}$	$1.76\ 10^{-9}$
Ta-182m	$1\ 10^{-3}$	$8.54\ 10^{-13}$	$3.21\ 10^{-13}$	$2.86\ 10^{-13}$	$5.14\ 10^{-13}$	$2.31\ 10^{-13}$	$1.45\ 10^{-14}$	$2.38\ 10^{-11}$ $8.83\ 10^{-11}$	$7.50\ 10^{-12}$ ST wall
Ta-183	$1\ 10^{-3}$	$3.49\ 10^{-10}$	$3.64\ 10^{-11}$	$4.81\ 10^{-12}$	$1.02\ 10^{-10}$	$4.73\ 10^{-11}$	$6.97\ 10^{-13}$	$4.50\ 10^{-9}$ $1.48\ 10^{-8}$	$1.46\ 10^{-9}$ LLI wall
Ta-184	$1\ 10^{-3}$	$3.90\ 10^{-10}$	$5.40\ 10^{-11}$	$1.43\ 10^{-11}$	$9.12\ 10^{-11}$	$3.08\ 10^{-11}$	$1.69\ 10^{-12}$	$2.13\ 10^{-9}$	$7.60\ 10^{-10}$
Ta-185	$1\ 10^{-3}$	$3.12\ 10^{-12}$	$7.30\ 10^{-13}$	$4.68\ 10^{-13}$	$1.39\ 10^{-12}$	$5.35\ 10^{-13}$	$2.81\ 10^{-14}$	$1.79\ 10^{-10}$	$5.49\ 10^{-11}$
Ta-186	$1\ 10^{-3}$	$1.97\ 10^{-12}$	$1.12\ 10^{-12}$	$1.17\ 10^{-12}$	$1.12\ 10^{-12}$	$5.35\ 10^{-13}$	$9.87\ 10^{-14}$	$6.61\ 10^{-11}$ $2.63\ 10^{-10}$	$2.08\ 10^{-11}$ ST wall
Tungsten									
W-176	$1\ 10^{-2}$	$1.32\ 10^{-10}$	$1.90\ 10^{-11}$	$4.73\ 10^{-12}$	$3.38\ 10^{-11}$	$1.14\ 10^{-11}$	$6.54\ 10^{-13}$	$3.09\ 10^{-10}$	$1.34\ 10^{-10}$
	$3\ 10^{-1}$	$9.95\ 10^{-11}$	$1.46\ 10^{-11}$	$4.10\ 10^{-12}$	$2.67\ 10^{-11}$	$1.44\ 10^{-11}$	$6.17\ 10^{-13}$	$2.40\ 10^{-10}$	$1.03\ 10^{-10}$
W-177	$1\ 10^{-2}$	$5.23\ 10^{-11}$	$9.11\ 10^{-12}$	$3.85\ 10^{-12}$	$1.70\ 10^{-11}$	$5.80\ 10^{-12}$	$3.55\ 10^{-13}$	$1.66\ 10^{-10}$	$6.71\ 10^{-11}$
	$3\ 10^{-1}$	$4.39\ 10^{-11}$	$8.03\ 10^{-12}$	$3.74\ 10^{-12}$	$1.48\ 10^{-11}$	$8.17\ 10^{-12}$	$3.67\ 10^{-13}$	$1.45\ 10^{-10}$	$5.82\ 10^{-11}$
W-178	$1\ 10^{-2}$	$1.68\ 10^{-10}$	$1.76\ 10^{-11}$	$2.09\ 10^{-12}$	$6.25\ 10^{-11}$	$1.90\ 10^{-11}$	$2.35\ 10^{-13}$	$7.39\ 10^{-10}$	$2.75\ 10^{-10}$
	$3\ 10^{-1}$	$1.20\ 10^{-10}$	$1.45\ 10^{-11}$	$3.89\ 10^{-12}$	$5.89\ 10^{-11}$	$3.81\ 10^{-11}$	$1.13\ 10^{-12}$	$5.40\ 10^{-10}$	$2.03\ 10^{-10}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
W-179	$1\ 10^{-2}$	$9.00\ 10^{-13}$	$2.12\ 10^{-13}$	$1.45\ 10^{-13}$	$4.90\ 10^{-13}$	$1.80\ 10^{-13}$	$1.33\ 10^{-15}$	$7.99\ 10^{-12}$	$2.74\ 10^{-12}$
	$3\ 10^{-1}$	$8.37\ 10^{-13}$	$2.05\ 10^{-13}$	$1.45\ 10^{-13}$	$4.73\ 10^{-13}$	$2.73\ 10^{-13}$	$1.65\ 10^{-15}$	$7.74\ 10^{-12}$	$2.64\ 10^{-12}$
W-181	$1\ 10^{-2}$	$7.33\ 10^{-11}$	$7.01\ 10^{-12}$	$6.23\ 10^{-13}$	$3.26\ 10^{-11}$	$1.03\ 10^{-11}$	$5.41\ 10^{-14}$	$2.31\ 10^{-10}$	$9.31\ 10^{-11}$
	$3\ 10^{-1}$	$5.36\ 10^{-11}$	$7.46\ 10^{-12}$	$3.52\ 10^{-12}$	$4.86\ 10^{-11}$	$4.58\ 10^{-11}$	$1.39\ 10^{-12}$	$1.84\ 10^{-10}$	$7.74\ 10^{-11}$
W-185	$1\ 10^{-2}$	$8.74\ 10^{-14}$	$8.98\ 10^{-15}$	$9.45\ 10^{-16}$	$1.64\ 10^{-12}$	$4.90\ 10^{-12}$	$7.64\ 10^{-17}$	$1.79\ 10^{-9}$ $6.32\ 10^{-9}$	$5.38\ 10^{-10}$ LLI wall
	$3\ 10^{-1}$	$6.35\ 10^{-14}$	$8.78\ 10^{-15}$	$3.54\ 10^{-15}$	$4.83\ 10^{-11}$	$1.47\ 10^{-10}$	$1.36\ 10^{-15}$	$1.39\ 10^{-9}$ $4.47\ 10^{-9}$	$4.28\ 10^{-10}$ LLI wall
W-187	$1\ 10^{-2}$	$2.59\ 10^{-10}$	$3.22\ 10^{-11}$	$6.39\ 10^{-12}$	$5.89\ 10^{-11}$	$2.12\ 10^{-11}$	$7.70\ 10^{-13}$	$2.22\ 10^{-9}$	$7.46\ 10^{-10}$
	$3\ 10^{-1}$	$1.90\ 10^{-10}$	$2.44\ 10^{-11}$	$5.80\ 10^{-12}$	$5.09\ 10^{-11}$	$7.38\ 10^{-11}$	$9.00\ 10^{-13}$	$1.64\ 10^{-9}$	$5.53\ 10^{-10}$
W-188	$1\ 10^{-2}$	$4.55\ 10^{-11}$	$4.84\ 10^{-12}$	$5.80\ 10^{-13}$	$2.17\ 10^{-11}$	$3.53\ 10^{-11}$	$1.07\ 10^{-13}$	$8.41\ 10^{-9}$ $3.34\ 10^{-8}$	$2.54\ 10^{-9}$ LLI wall
	$3\ 10^{-1}$	$3.31\ 10^{-11}$	$5.57\ 10^{-12}$	$2.76\ 10^{-12}$	$3.25\ 10^{-10}$	$9.52\ 10^{-10}$	$1.42\ 10^{-12}$	$6.78\ 10^{-9}$ $2.33\ 10^{-8}$	$2.11\ 10^{-9}$ LLI wall
Rhenium									
Re-177	$8\ 10^{-1}$	$3.76\ 10^{-12}$	$1.72\ 10^{-12}$	$1.61\ 10^{-12}$	$2.26\ 10^{-12}$	$1.39\ 10^{-12}$	$2.48\ 10^{-11}$	$4.04\ 10^{-11}$ $1.42\ 10^{-10}$	$1.46\ 10^{-11}$ ST wall
Re-178	$8\ 10^{-1}$	$1.92\ 10^{-12}$	$1.12\ 10^{-12}$	$1.17\ 10^{-12}$	$1.14\ 10^{-12}$	$6.34\ 10^{-13}$	$4.35\ 10^{-12}$	$4.85\ 10^{-11}$ $1.91\ 10^{-10}$	$1.56\ 10^{-11}$ ST wall
Re-181	$8\ 10^{-1}$	$1.38\ 10^{-10}$	$6.12\ 10^{-11}$	$5.57\ 10^{-11}$	$8.11\ 10^{-11}$	$6.06\ 10^{-11}$	$1.55\ 10^{-9}$	$5.76\ 10^{-10}$	$2.81\ 10^{-10}$
Re-182 12.7 h	$8\ 10^{-1}$	$1.27\ 10^{-10}$	$5.49\ 10^{-11}$	$4.71\ 10^{-11}$	$7.08\ 10^{-11}$	$5.07\ 10^{-11}$	$9.47\ 10^{-10}$	$3.89\ 10^{-10}$	$2.01\ 10^{-10}$
Re-182 64.0 h	$8\ 10^{-1}$	$5.43\ 10^{-10}$	$2.56\ 10^{-10}$	$2.32\ 10^{-10}$	$3.33\ 10^{-10}$	$2.54\ 10^{-10}$	$3.77\ 10^{-9}$	$1.85\ 10^{-9}$	$9.18\ 10^{-10}$
Re-184	$8\ 10^{-1}$	$3.83\ 10^{-10}$	$2.26\ 10^{-10}$	$2.16\ 10^{-10}$	$2.79\ 10^{-10}$	$2.23\ 10^{-10}$	$1.53\ 10^{-9}$	$1.16\ 10^{-9}$	$5.91\ 10^{-10}$
Re-184m	$8\ 10^{-1}$	$3.00\ 10^{-10}$	$2.09\ 10^{-10}$	$2.08\ 10^{-10}$	$2.62\ 10^{-10}$	$2.24\ 10^{-10}$	$2.61\ 10^{-9}$	$1.83\ 10^{-9}$	$7.97\ 10^{-10}$
Re-186	$8\ 10^{-1}$	$1.00\ 10^{-10}$	$9.54\ 10^{-11}$	$9.53\ 10^{-11}$	$9.89\ 10^{-11}$	$9.69\ 10^{-11}$	$4.79\ 10^{-9}$	$1.95\ 10^{-9}$	$7.95\ 10^{-10}$
Re-186m	$8\ 10^{-1}$	$2.08\ 10^{-10}$	$1.99\ 10^{-10}$	$2.00\ 10^{-10}$	$2.11\ 10^{-10}$	$2.06\ 10^{-10}$	$2.81\ 10^{-9}$	$2.85\ 10^{-9}$ $1.06\ 10^{-8}$	$1.08\ 10^{-9}$ ST wall
Re-187	$8\ 10^{-1}$	$3.94\ 10^{-13}$	$3.94\ 10^{-13}$	$3.94\ 10^{-13}$	$3.94\ 10^{-13}$	$3.94\ 10^{-13}$	$1.05\ 10^{-11}$	$6.64\ 10^{-12}$	$2.57\ 10^{-12}$
Re-188	$8\ 10^{-1}$	$8.32\ 10^{-11}$	$7.79\ 10^{-11}$	$7.75\ 10^{-11}$	$7.95\ 10^{-11}$	$7.80\ 10^{-11}$	$6.62\ 10^{-9}$	$1.93\ 10^{-9}$	$8.31\ 10^{-10}$
Re-188m	$8\ 10^{-1}$	$1.86\ 10^{-12}$	$1.60\ 10^{-12}$	$1.60\ 10^{-12}$	$1.74\ 10^{-12}$	$1.59\ 10^{-12}$	$1.25\ 10^{-10}$	$4.46\ 10^{-11}$	$1.83\ 10^{-11}$
Re-189	$8\ 10^{-1}$	$5.81\ 10^{-11}$	$4.87\ 10^{-11}$	$4.81\ 10^{-11}$	$5.18\ 10^{-11}$	$4.92\ 10^{-11}$	$3.48\ 10^{-9}$	$1.09\ 10^{-9}$	$4.67\ 10^{-10}$
Osmium									
Os-180	$1\ 10^{-2}$	$5.92\ 10^{-12}$	$1.90\ 10^{-12}$	$1.61\ 10^{-12}$	$2.27\ 10^{-12}$	$9.61\ 10^{-13}$	$1.45\ 10^{-13}$	$3.98\ 10^{-11}$	$1.42\ 10^{-11}$
Os-181	$1\ 10^{-2}$	$7.80\ 10^{-11}$	$1.29\ 10^{-11}$	$5.13\ 10^{-12}$	$2.18\ 10^{-11}$	$7.52\ 10^{-12}$	$6.21\ 10^{-13}$	$2.46\ 10^{-10}$	$9.86\ 10^{-11}$
Os-182	$1\ 10^{-2}$	$6.75\ 10^{-10}$	$8.09\ 10^{-11}$	$1.47\ 10^{-11}$	$1.65\ 10^{-10}$	$5.40\ 10^{-11}$	$2.82\ 10^{-12}$	$1.52\ 10^{-9}$	$6.59\ 10^{-10}$
Os-185	$1\ 10^{-2}$	$8.35\ 10^{-10}$	$1.25\ 10^{-10}$	$5.24\ 10^{-11}$	$2.16\ 10^{-10}$	$8.91\ 10^{-11}$	$2.65\ 10^{-11}$	$1.16\ 10^{-9}$	$6.11\ 10^{-10}$
Os-189m	$1\ 10^{-2}$	$1.69\ 10^{-13}$	$1.29\ 10^{-14}$	$1.06\ 10^{-14}$	$1.57\ 10^{-14}$	$1.18\ 10^{-14}$	$1.07\ 10^{-14}$	$6.02\ 10^{-11}$	$1.81\ 10^{-11}$
Os-191	$1\ 10^{-2}$	$1.18\ 10^{-10}$	$1.51\ 10^{-11}$	$5.06\ 10^{-12}$	$4.82\ 10^{-11}$	$1.72\ 10^{-11}$	$3.40\ 10^{-12}$	$1.95\ 10^{-9}$ $6.61\ 10^{-9}$	$6.23\ 10^{-10}$ LLI wall
Os-191m	$1\ 10^{-2}$	$6.70\ 10^{-12}$	$8.26\ 10^{-13}$	$2.68\ 10^{-13}$	$2.77\ 10^{-12}$	$9.52\ 10^{-13}$	$1.79\ 10^{-13}$	$3.38\ 10^{-10}$	$1.04\ 10^{-10}$
Os-193	$1\ 10^{-2}$	$5.16\ 10^{-11}$	$6.62\ 10^{-12}$	$1.76\ 10^{-12}$	$1.46\ 10^{-11}$	$5.14\ 10^{-12}$	$8.76\ 10^{-13}$	$2.87\ 10^{-9}$ $8.47\ 10^{-9}$	$8.77\ 10^{-10}$ LLI wall
Os-194	$1\ 10^{-2}$	$2.75\ 10^{-10}$	$2.16\ 10^{-10}$	$2.12\ 10^{-10}$	$2.25\ 10^{-10}$	$2.14\ 10^{-10}$	$2.07\ 10^{-10}$	$9.24\ 10^{-9}$ $3.06\ 10^{-8}$	$2.94\ 10^{-9}$ LLI wall
Iridium									
Ir-182	$1\ 10^{-2}$	$1.06\ 10^{-11}$	$2.29\ 10^{-12}$	$1.51\ 10^{-12}$	$3.34\ 10^{-12}$	$1.28\ 10^{-12}$	$1.49\ 10^{-13}$	$1.03\ 10^{-10}$ $3.30\ 10^{-10}$	$3.45\ 10^{-11}$ ST wall

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Ir-184	$1\ 10^{-2}$	$1.33\ 10^{-10}$	$2.36\ 10^{-11}$	$9.53\ 10^{-12}$	$3.65\ 10^{-11}$	$1.27\ 10^{-11}$	$1.20\ 10^{-12}$	$4.86\ 10^{-10}$	$1.88\ 10^{-10}$
Ir-185	$1\ 10^{-2}$	$2.08\ 10^{-10}$	$2.83\ 10^{-11}$	$7.26\ 10^{-12}$	$5.64\ 10^{-11}$	$1.87\ 10^{-11}$	$1.36\ 10^{-12}$	$7.85\ 10^{-10}$	$3.00\ 10^{-10}$
Ir-186	$1\ 10^{-2}$	$6.28\ 10^{-10}$	$8.34\ 10^{-11}$	$2.00\ 10^{-11}$	$1.47\ 10^{-10}$	$4.96\ 10^{-11}$	$3.19\ 10^{-12}$	$1.31\ 10^{-9}$	$5.86\ 10^{-10}$
Ir-187	$1\ 10^{-2}$	$1.12\ 10^{-10}$	$1.48\ 10^{-11}$	$3.60\ 10^{-12}$	$3.12\ 10^{-11}$	$1.00\ 10^{-11}$	$4.96\ 10^{-13}$	$3.57\ 10^{-10}$	$1.42\ 10^{-10}$
Ir-188	$1\ 10^{-2}$	$9.83\ 10^{-10}$	$1.25\ 10^{-10}$	$2.91\ 10^{-11}$	$2.17\ 10^{-10}$	$7.45\ 10^{-11}$	$5.69\ 10^{-12}$	$1.59\ 10^{-9}$	$7.73\ 10^{-10}$
Ir-189	$1\ 10^{-2}$	$1.24\ 10^{-10}$	$1.36\ 10^{-11}$	$3.17\ 10^{-12}$	$4.82\ 10^{-11}$	$1.56\ 10^{-11}$	$1.61\ 10^{-12}$	$8.16\ 10^{-10}$ $2.67\ 10^{-9}$	$2.84\ 10^{-10}$ LLI wall
Ir-190	$1\ 10^{-2}$	$1.66\ 10^{-9}$	$1.99\ 10^{-10}$	$4.37\ 10^{-11}$	$3.92\ 10^{-10}$	$1.36\ 10^{-10}$	$1.39\ 10^{-11}$	$3.24\ 10^{-9}$	$1.47\ 10^{-9}$
Ir-190m	$1\ 10^{-2}$	$6.74\ 10^{-12}$	$7.94\ 10^{-13}$	$1.64\ 10^{-13}$	$1.58\ 10^{-12}$	$5.46\ 10^{-13}$	$5.68\ 10^{-14}$	$2.17\ 10^{-11}$	$8.54\ 10^{-12}$
Ir-192	$1\ 10^{-2}$	$1.03\ 10^{-9}$	$1.51\ 10^{-10}$	$6.54\ 10^{-11}$	$2.54\ 10^{-10}$	$1.11\ 10^{-10}$	$3.78\ 10^{-11}$	$4.08\ 10^{-9}$	$1.55\ 10^{-9}$
Ir-192m	$1\ 10^{-2}$	$3.63\ 10^{-10}$	$1.55\ 10^{-10}$	$1.59\ 10^{-10}$	$2.21\ 10^{-10}$	$1.57\ 10^{-10}$	$1.06\ 10^{-10}$	$8.53\ 10^{-10}$	$4.23\ 10^{-10}$
Ir-194	$1\ 10^{-2}$	$4.33\ 10^{-11}$	$6.33\ 10^{-12}$	$2.17\ 10^{-12}$	$1.03\ 10^{-11}$	$4.15\ 10^{-12}$	$1.19\ 10^{-12}$	$4.72\ 10^{-9}$	$1.43\ 10^{-9}$
Ir-194m	$1\ 10^{-2}$	$2.83\ 10^{-9}$	$4.58\ 10^{-10}$	$2.31\ 10^{-10}$	$7.16\ 10^{-10}$	$3.27\ 10^{-10}$	$1.26\ 10^{-10}$	$5.18\ 10^{-9}$	$2.46\ 10^{-9}$
Ir-195	$1\ 10^{-2}$	$4.96\ 10^{-12}$	$7.76\ 10^{-13}$	$2.99\ 10^{-13}$	$2.27\ 10^{-12}$	$7.35\ 10^{-13}$	$4.60\ 10^{-14}$	$3.03\ 10^{-10}$	$9.25\ 10^{-11}$
Ir-195m	$1\ 10^{-2}$	$4.70\ 10^{-11}$	$7.11\ 10^{-12}$	$2.42\ 10^{-12}$	$1.40\ 10^{-11}$	$4.63\ 10^{-12}$	$2.94\ 10^{-13}$	$5.38\ 10^{-10}$	$1.76\ 10^{-10}$
Platinum									
Pt-186	$1\ 10^{-2}$	$8.70\ 10^{-11}$	$1.45\ 10^{-11}$	$5.34\ 10^{-12}$	$2.35\ 10^{-11}$	$7.99\ 10^{-12}$	$6.43\ 10^{-13}$	$2.76\ 10^{-10}$	$1.10\ 10^{-10}$
Pt-188	$1\ 10^{-2}$	$8.38\ 10^{-10}$	$9.60\ 10^{-11}$	$1.93\ 10^{-11}$	$2.06\ 10^{-10}$	$7.07\ 10^{-11}$	$7.29\ 10^{-12}$	$2.14\ 10^{-9}$	$8.96\ 10^{-10}$
Pt-189	$1\ 10^{-2}$	$1.12\ 10^{-10}$	$1.43\ 10^{-11}$	$3.22\ 10^{-12}$	$3.46\ 10^{-11}$	$1.09\ 10^{-11}$	$4.38\ 10^{-13}$	$3.59\ 10^{-10}$	$1.43\ 10^{-10}$
Pt-191	$1\ 10^{-2}$	$3.08\ 10^{-10}$	$3.41\ 10^{-11}$	$5.33\ 10^{-12}$	$9.57\ 10^{-11}$	$2.98\ 10^{-11}$	$1.08\ 10^{-12}$	$9.97\ 10^{-10}$	$3.94\ 10^{-10}$
Pt-193	$1\ 10^{-2}$	$2.02\ 10^{-12}$	$2.95\ 10^{-13}$	$2.73\ 10^{-13}$	$3.35\ 10^{-13}$	$2.94\ 10^{-13}$	$2.97\ 10^{-13}$	$1.05\ 10^{-10}$ $3.60\ 10^{-10}$	$3.21\ 10^{-11}$ LLI wall
Pt-193m	$1\ 10^{-2}$	$1.69\ 10^{-11}$	$2.25\ 10^{-12}$	$9.02\ 10^{-13}$	$7.13\ 10^{-12}$	$2.62\ 10^{-12}$	$7.60\ 10^{-13}$	$1.62\ 10^{-9}$ $5.40\ 10^{-9}$	$4.90\ 10^{-10}$ LLI wall
Pt-195m	$1\ 10^{-2}$	$9.76\ 10^{-11}$	$1.06\ 10^{-11}$	$2.09\ 10^{-12}$	$3.99\ 10^{-11}$	$1.25\ 10^{-11}$	$1.11\ 10^{-12}$	$2.20\ 10^{-9}$ $7.22\ 10^{-9}$	$6.91\ 10^{-10}$ LLI wall
Pt-197	$1\ 10^{-2}$	$1.49\ 10^{-11}$	$1.90\ 10^{-12}$	$5.58\ 10^{-13}$	$5.58\ 10^{-12}$	$1.91\ 10^{-12}$	$3.32\ 10^{-13}$	$1.44\ 10^{-9}$	$4.35\ 10^{-10}$
Pt-197m	$1\ 10^{-2}$	$4.67\ 10^{-12}$	$7.76\ 10^{-13}$	$3.44\ 10^{-13}$	$1.85\ 10^{-12}$	$6.28\ 10^{-13}$	$5.97\ 10^{-14}$	$2.77\ 10^{-10}$	$8.46\ 10^{-11}$
Pt-199	$1\ 10^{-2}$	$1.97\ 10^{-12}$	$5.07\ 10^{-13}$	$3.66\ 10^{-13}$	$7.09\ 10^{-13}$	$2.78\ 10^{-13}$	$3.80\ 10^{-14}$	$9.51\ 10^{-11}$	$2.92\ 10^{-11}$
Pt-200	$1\ 10^{-2}$	$1.08\ 10^{-10}$	$1.52\ 10^{-11}$	$3.98\ 10^{-12}$	$2.80\ 10^{-11}$	$9.80\ 10^{-12}$	$1.33\ 10^{-12}$	$4.23\ 10^{-9}$	$1.30\ 10^{-9}$
Gold									
Au-193	$1\ 10^{-1}$	$8.97\ 10^{-11}$	$1.17\ 10^{-11}$	$3.53\ 10^{-12}$	$3.35\ 10^{-11}$	$1.18\ 10^{-11}$	$1.89\ 10^{-12}$	$4.22\ 10^{-10}$	$1.56\ 10^{-10}$
Au-194	$1\ 10^{-1}$	$6.37\ 10^{-10}$	$8.90\ 10^{-11}$	$2.69\ 10^{-11}$	$1.55\ 10^{-10}$	$5.92\ 10^{-11}$	$1.30\ 10^{-11}$	$1.04\ 10^{-9}$	$5.08\ 10^{-10}$
Au-195	$1\ 10^{-1}$	$1.33\ 10^{-10}$	$1.98\ 10^{-11}$	$9.07\ 10^{-12}$	$6.29\ 10^{-11}$	$2.56\ 10^{-11}$	$7.43\ 10^{-12}$	$8.05\ 10^{-10}$	$2.87\ 10^{-10}$
Au-198	$1\ 10^{-1}$	$3.43\ 10^{-10}$	$5.51\ 10^{-11}$	$2.44\ 10^{-11}$	$8.57\ 10^{-11}$	$4.06\ 10^{-11}$	$1.85\ 10^{-11}$	$3.44\ 10^{-9}$	$1.14\ 10^{-9}$
Au-198m	$1\ 10^{-1}$	$6.21\ 10^{-10}$	$9.00\ 10^{-11}$	$3.61\ 10^{-11}$	$1.86\ 10^{-10}$	$7.93\ 10^{-11}$	$2.69\ 10^{-11}$	$4.14\ 10^{-9}$	$1.44\ 10^{-9}$
Au-199	$1\ 10^{-1}$	$9.21\ 10^{-11}$	$1.63\ 10^{-11}$	$8.62\ 10^{-12}$	$3.27\ 10^{-11}$	$1.57\ 10^{-11}$	$7.23\ 10^{-12}$	$1.50\ 10^{-9}$ $4.80\ 10^{-9}$	$4.82\ 10^{-10}$ LLI wall
Au-200	$1\ 10^{-1}$	$3.22\ 10^{-12}$	$9.67\ 10^{-13}$	$6.98\ 10^{-13}$	$1.14\ 10^{-12}$	$5.16\ 10^{-13}$	$1.67\ 10^{-13}$	$1.78\ 10^{-10}$	$5.46\ 10^{-11}$
Au-200m	$1\ 10^{-1}$	$9.29\ 10^{-10}$	$1.32\ 10^{-10}$	$4.19\ 10^{-11}$	$2.15\ 10^{-10}$	$8.34\ 10^{-11}$	$1.99\ 10^{-11}$	$3.11\ 10^{-9}$	$1.22\ 10^{-9}$
Au-201	$1\ 10^{-1}$	$3.41\ 10^{-13}$	$1.31\ 10^{-13}$	$1.14\ 10^{-13}$	$1.51\ 10^{-13}$	$7.09\ 10^{-14}$	$2.19\ 10^{-14}$	$5.56\ 10^{-11}$ $1.92\ 10^{-10}$	$1.68\ 10^{-11}$ ST wall
Mercury									
Hg-193	$2\ 10^{-2}$	$4.19\ 10^{-11}$	$5.41\ 10^{-12}$	$1.40\ 10^{-12}$	$1.52\ 10^{-11}$	$4.81\ 10^{-12}$	$2.35\ 10^{-13}$	$2.63\ 10^{-10}$	$9.23\ 10^{-11}$
	1.0	$1.23\ 10^{-11}$	$1.14\ 10^{-11}$	$1.20\ 10^{-11}$	$1.78\ 10^{-11}$	$1.58\ 10^{-11}$	$1.10\ 10^{-11}$	$6.98\ 10^{-11}$	$3.01\ 10^{-11}$
	$4\ 10^{-1}$	$3.25\ 10^{-11}$	$7.23\ 10^{-12}$	$4.66\ 10^{-12}$	$1.60\ 10^{-11}$	$8.22\ 10^{-12}$	$3.53\ 10^{-12}$	$1.99\ 10^{-10}$	$7.18\ 10^{-11}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Hg-193m	$2\ 10^{-2}$	$3.61\ 10^{-10}$	$4.83\ 10^{-11}$	$1.20\ 10^{-11}$	$9.51\ 10^{-11}$	$3.18\ 10^{-11}$	$2.53\ 10^{-12}$	$1.18\ 10^{-9}$	$4.65\ 10^{-10}$
	1.0	$7.98\ 10^{-11}$	$7.21\ 10^{-11}$	$7.31\ 10^{-11}$	$1.04\ 10^{-10}$	$9.09\ 10^{-11}$	$7.39\ 10^{-11}$	$3.10\ 10^{-10}$	$1.50\ 10^{-10}$
	$4\ 10^{-1}$	$2.64\ 10^{-10}$	$5.66\ 10^{-11}$	$3.32\ 10^{-11}$	$9.82\ 10^{-11}$	$5.25\ 10^{-11}$	$2.73\ 10^{-11}$	$8.36\ 10^{-10}$	$3.43\ 10^{-10}$
Hg-194	$2\ 10^{-2}$	$1.51\ 10^{-9}$	$9.01\ 10^{-10}$	$8.31\ 10^{-10}$	$1.16\ 10^{-9}$	$9.46\ 10^{-10}$	$7.85\ 10^{-10}$	$2.87\ 10^{-9}$	$1.66\ 10^{-9}$
	1.0	$4.73\ 10^{-8}$	$3.95\ 10^{-8}$	$3.78\ 10^{-8}$	$6.04\ 10^{-8}$	$5.15\ 10^{-8}$	$4.52\ 10^{-8}$	$1.51\ 10^{-7}$	$7.78\ 10^{-8}$
	$4\ 10^{-1}$	$1.92\ 10^{-8}$	$1.58\ 10^{-8}$	$1.51\ 10^{-8}$	$2.42\ 10^{-8}$	$2.06\ 10^{-8}$	$1.81\ 10^{-8}$	$6.04\ 10^{-8}$	$3.12\ 10^{-8}$
Hg-195	$2\ 10^{-2}$	$6.10\ 10^{-11}$	$8.18\ 10^{-12}$	$2.11\ 10^{-12}$	$1.92\ 10^{-11}$	$6.22\ 10^{-12}$	$4.55\ 10^{-13}$	$3.01\ 10^{-10}$	$1.09\ 10^{-10}$
	1.0	$1.78\ 10^{-11}$	$1.68\ 10^{-11}$	$1.74\ 10^{-11}$	$2.62\ 10^{-11}$	$2.31\ 10^{-11}$	$1.71\ 10^{-11}$	$8.65\ 10^{-11}$	$3.94\ 10^{-11}$
	$4\ 10^{-1}$	$4.68\ 10^{-11}$	$1.12\ 10^{-11}$	$7.34\ 10^{-12}$	$2.18\ 10^{-11}$	$1.21\ 10^{-11}$	$6.14\ 10^{-12}$	$2.22\ 10^{-10}$	$8.39\ 10^{-11}$
Hg-195m	$2\ 10^{-2}$	$2.41\ 10^{-10}$	$2.86\ 10^{-11}$	$6.56\ 10^{-12}$	$6.65\ 10^{-11}$	$2.29\ 10^{-11}$	$3.14\ 10^{-12}$	$1.82\ 10^{-9}$	$6.21\ 10^{-10}$
	1.0	$1.39\ 10^{-10}$	$1.30\ 10^{-10}$	$1.32\ 10^{-10}$	$1.87\ 10^{-10}$	$1.68\ 10^{-10}$	$1.36\ 10^{-10}$	$7.63\ 10^{-10}$	$3.30\ 10^{-10}$
	$4\ 10^{-1}$	$2.01\ 10^{-10}$	$6.66\ 10^{-11}$	$5.36\ 10^{-11}$	$1.12\ 10^{-10}$	$7.78\ 10^{-11}$	$5.30\ 10^{-11}$	$1.37\ 10^{-9}$	$4.96\ 10^{-10}$
Hg-197	$2\ 10^{-2}$	$8.26\ 10^{-11}$	$9.43\ 10^{-12}$	$2.15\ 10^{-12}$	$3.53\ 10^{-11}$	$1.14\ 10^{-11}$	$1.27\ 10^{-12}$	$7.72\ 10^{-10}$	$2.59\ 10^{-10}$
	1.0	$6.10\ 10^{-11}$	$5.66\ 10^{-11}$	$5.88\ 10^{-11}$	$9.59\ 10^{-11}$	$8.54\ 10^{-11}$	$5.69\ 10^{-11}$	$3.63\ 10^{-10}$	$1.56\ 10^{-10}$
	$4\ 10^{-1}$	$7.43\ 10^{-11}$	$2.71\ 10^{-11}$	$2.34\ 10^{-11}$	$5.81\ 10^{-11}$	$3.93\ 10^{-11}$	$2.22\ 10^{-11}$	$5.96\ 10^{-10}$	$2.13\ 10^{-10}$
Hg-197m	$2\ 10^{-2}$	$7.89\ 10^{-11}$	$9.84\ 10^{-12}$	$2.71\ 10^{-12}$	$2.94\ 10^{-11}$	$1.01\ 10^{-11}$	$1.62\ 10^{-12}$	$1.63\ 10^{-9}$	$5.14\ 10^{-10}$
	1.0	$7.81\ 10^{-11}$	$7.43\ 10^{-11}$	$7.55\ 10^{-11}$	$1.00\ 10^{-10}$	$9.25\ 10^{-11}$	$7.39\ 10^{-11}$	$4.96\ 10^{-10}$	$2.05\ 10^{-10}$
	$4\ 10^{-1}$	$7.83\ 10^{-11}$	$3.34\ 10^{-11}$	$2.94\ 10^{-11}$	$5.54\ 10^{-11}$	$4.05\ 10^{-11}$	$2.82\ 10^{-11}$	$1.16\ 10^{-9}$	$3.86\ 10^{-10}$
Hg-199m	$2\ 10^{-2}$	$2.43\ 10^{-12}$	$6.11\ 10^{-13}$	$4.17\ 10^{-13}$	$1.16\ 10^{-12}$	$4.35\ 10^{-13}$	$2.92\ 10^{-14}$	$7.83\ 10^{-11}$	$2.44\ 10^{-11}$
	1.0	$1.94\ 10^{-12}$	$2.04\ 10^{-12}$	$2.14\ 10^{-12}$	$2.29\ 10^{-12}$	$2.09\ 10^{-12}$	$1.74\ 10^{-12}$	$4.73\ 10^{-11}$ $2.18\ 10^{-10}$	$1.56\ 10^{-11}$ ST wall
	$4\ 10^{-1}$	$2.37\ 10^{-12}$	$7.76\ 10^{-13}$	$6.17\ 10^{-13}$	$1.29\ 10^{-12}$	$6.27\ 10^{-13}$	$2.28\ 10^{-13}$	$7.46\ 10^{-11}$ $2.17\ 10^{-10}$	$2.33\ 10^{-11}$ ST wall
Hg-203	$2\ 10^{-2}$	$3.30\ 10^{-10}$	$5.41\ 10^{-11}$	$2.69\ 10^{-11}$	$9.38\ 10^{-11}$	$4.61\ 10^{-11}$	$2.15\ 10^{-11}$	$1.71\ 10^{-9}$	$6.21\ 10^{-10}$
	1.0	$1.37\ 10^{-9}$	$1.23\ 10^{-9}$	$1.23\ 10^{-9}$	$1.69\ 10^{-9}$	$1.51\ 10^{-9}$	$1.29\ 10^{-9}$	$7.10\ 10^{-9}$	$3.09\ 10^{-9}$
	$4\ 10^{-1}$	$7.32\ 10^{-10}$	$5.12\ 10^{-10}$	$4.95\ 10^{-10}$	$7.15\ 10^{-10}$	$6.15\ 10^{-10}$	$5.14\ 10^{-10}$	$3.74\ 10^{-9}$	$1.56\ 10^{-9}$
Thallium									
Tl-194	1.0	$1.46\ 10^{-12}$	$1.85\ 10^{-12}$	$2.17\ 10^{-12}$	$1.90\ 10^{-12}$	$1.44\ 10^{-12}$	$9.50\ 10^{-13}$	$1.65\ 10^{-11}$ $5.29\ 10^{-11}$	$6.15\ 10^{-12}$ ST wall
Tl-194m	1.0	$5.01\ 10^{-12}$	$6.10\ 10^{-12}$	$7.03\ 10^{-12}$	$5.96\ 10^{-12}$	$4.70\ 10^{-12}$	$3.52\ 10^{-12}$	$7.50\ 10^{-11}$ $2.83\ 10^{-10}$	$2.65\ 10^{-11}$ ST wall
Tl-195	1.0	$8.74\ 10^{-12}$	$8.33\ 10^{-12}$	$8.84\ 10^{-12}$	$9.19\ 10^{-12}$	$7.85\ 10^{-12}$	$6.43\ 10^{-12}$	$5.04\ 10^{-11}$	$2.11\ 10^{-11}$
Tl-197	1.0	$9.61\ 10^{-12}$	$8.93\ 10^{-12}$	$9.46\ 10^{-12}$	$1.17\ 10^{-11}$	$1.03\ 10^{-11}$	$7.88\ 10^{-12}$	$3.80\ 10^{-11}$	$1.82\ 10^{-11}$
Tl-198	1.0	$5.07\ 10^{-11}$	$4.18\ 10^{-11}$	$4.18\ 10^{-11}$	$4.69\ 10^{-11}$	$4.08\ 10^{-11}$	$3.65\ 10^{-11}$	$1.22\ 10^{-10}$	$6.86\ 10^{-11}$
Tl-198m	1.0	$2.09\ 10^{-11}$	$1.93\ 10^{-11}$	$2.02\ 10^{-11}$	$2.17\ 10^{-11}$	$1.89\ 10^{-11}$	$1.65\ 10^{-11}$	$9.58\ 10^{-11}$	$4.30\ 10^{-11}$
Tl-199	1.0	$1.34\ 10^{-11}$	$1.22\ 10^{-11}$	$1.29\ 10^{-11}$	$1.69\ 10^{-11}$	$1.49\ 10^{-11}$	$1.12\ 10^{-11}$	$4.20\ 10^{-11}$	$2.21\ 10^{-11}$
Tl-200	1.0	$1.55\ 10^{-10}$	$1.34\ 10^{-10}$	$1.34\ 10^{-10}$	$1.60\ 10^{-10}$	$1.41\ 10^{-10}$	$1.27\ 10^{-10}$	$2.65\ 10^{-10}$	$1.82\ 10^{-10}$
Tl-201	1.0	$6.19\ 10^{-11}$	$5.41\ 10^{-11}$	$5.78\ 10^{-11}$	$8.71\ 10^{-11}$	$7.76\ 10^{-11}$	$5.19\ 10^{-11}$	$1.21\ 10^{-10}$	$8.11\ 10^{-11}$
Tl-202	1.0	$3.53\ 10^{-10}$	$2.98\ 10^{-10}$	$3.18\ 10^{-10}$	$4.01\ 10^{-10}$	$3.53\ 10^{-10}$	$2.85\ 10^{-10}$	$5.33\ 10^{-10}$	$3.98\ 10^{-10}$
Tl-204	1.0	$6.57\ 10^{-10}$	$6.57\ 10^{-10}$	$6.57\ 10^{-10}$	$6.59\ 10^{-10}$	$6.59\ 10^{-10}$	$6.57\ 10^{-10}$	$1.49\ 10^{-9}$	$9.08\ 10^{-10}$
Lead									
Pb-195m	$2\ 10^{-1}$	$1.12\ 10^{-11}$	$3.29\ 10^{-12}$	$2.49\ 10^{-12}$	$4.50\ 10^{-12}$	$4.43\ 10^{-12}$	$3.64\ 10^{-13}$	$6.73\ 10^{-11}$	$2.45\ 10^{-11}$
Pb-198	$2\ 10^{-1}$	$3.39\ 10^{-11}$	$7.21\ 10^{-12}$	$4.38\ 10^{-12}$	$1.49\ 10^{-11}$	$1.30\ 10^{-11}$	$1.65\ 10^{-12}$	$1.07\ 10^{-10}$	$4.43\ 10^{-11}$
Pb-199	$2\ 10^{-1}$	$4.93\ 10^{-11}$	$1.06\ 10^{-11}$	$5.78\ 10^{-12}$	$1.69\ 10^{-11}$	$1.23\ 10^{-11}$	$1.29\ 10^{-12}$	$1.43\ 10^{-10}$	$6.01\ 10^{-11}$
Pb-200	$2\ 10^{-1}$	$4.14\ 10^{-10}$	$6.62\ 10^{-11}$	$3.23\ 10^{-11}$	$1.74\ 10^{-10}$	$3.60\ 10^{-10}$	$1.70\ 10^{-11}$	$1.06\ 10^{-9}$	$4.67\ 10^{-10}$
Pb-201	$2\ 10^{-1}$	$1.84\ 10^{-10}$	$2.93\ 10^{-11}$	$1.21\ 10^{-11}$	$6.55\ 10^{-11}$	$1.01\ 10^{-10}$	$4.89\ 10^{-12}$	$4.32\ 10^{-10}$	$1.92\ 10^{-10}$
Pb-202	$2\ 10^{-1}$	$5.76\ 10^{-9}$	$6.45\ 10^{-9}$	$6.39\ 10^{-9}$	$2.63\ 10^{-8}$	$3.73\ 10^{-8}$	$5.88\ 10^{-9}$	$9.63\ 10^{-9}$	$1.05\ 10^{-8}$
Pb-202m	$2\ 10^{-1}$	$1.63\ 10^{-10}$	$3.04\ 10^{-11}$	$1.42\ 10^{-11}$	$4.45\ 10^{-11}$	$2.47\ 10^{-11}$	$4.15\ 10^{-12}$	$3.32\ 10^{-10}$	$1.53\ 10^{-10}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Pb-203	$2\ 10^{-1}$	$2.44\ 10^{-10}$	$3.65\ 10^{-11}$	$1.77\ 10^{-11}$	$1.21\ 10^{-10}$	$3.34\ 10^{-10}$	$9.12\ 10^{-12}$	$6.66\ 10^{-10}$	$2.93\ 10^{-10}$
Pb-205	$2\ 10^{-1}$	$2.21\ 10^{-11}$	$2.32\ 10^{-11}$	$2.04\ 10^{-11}$	$1.72\ 10^{-9}$	$3.78\ 10^{-9}$	$2.17\ 10^{-11}$	$3.64\ 10^{-10}$	$4.41\ 10^{-10}$
Pb-209	$2\ 10^{-1}$	$5.37\ 10^{-13}$	$5.37\ 10^{-13}$	$5.37\ 10^{-13}$	$2.19\ 10^{-12}$	$2.09\ 10^{-11}$	$5.37\ 10^{-13}$	$1.88\ 10^{-10}$	$5.75\ 10^{-11}$
Pb-210	$2\ 10^{-1}$	$1.25\ 10^{-7}$	$1.25\ 10^{-7}$	$1.25\ 10^{-7}$	$1.48\ 10^{-6}$	$2.16\ 10^{-6}$	$1.25\ 10^{-7}$	$1.85\ 10^{-6}$	$1.45\ 10^{-6}$
Pb-211	$2\ 10^{-1}$	$1.97\ 10^{-11}$	$1.91\ 10^{-11}$	$1.90\ 10^{-11}$	$3.07\ 10^{-11}$	$1.60\ 10^{-10}$	$1.88\ 10^{-11}$	$4.10\ 10^{-10}$	$1.42\ 10^{-10}$
Pb-212	$2\ 10^{-1}$	$1.96\ 10^{-9}$	$1.67\ 10^{-9}$	$1.63\ 10^{-9}$	$1.51\ 10^{-8}$	$1.66\ 10^{-7}$	$1.62\ 10^{-9}$	$1.51\ 10^{-8}$	$1.23\ 10^{-8}$
Pb-214	$2\ 10^{-1}$	$3.19\ 10^{-11}$	$2.42\ 10^{-11}$	$2.32\ 10^{-11}$	$1.12\ 10^{-10}$	$1.10\ 10^{-9}$	$2.14\ 10^{-11}$	$3.58\ 10^{-10}$	$1.69\ 10^{-10}$
Bismuth									
Bi-200	$5\ 10^{-2}$	$3.40\ 10^{-11}$	$7.51\ 10^{-12}$	$4.80\ 10^{-12}$	$1.06\ 10^{-11}$	$4.03\ 10^{-12}$	$4.99\ 10^{-13}$	$1.25\ 10^{-10}$	$4.92\ 10^{-11}$
Bi-201	$5\ 10^{-2}$	$9.03\ 10^{-11}$	$1.52\ 10^{-11}$	$6.12\ 10^{-12}$	$2.47\ 10^{-11}$	$8.60\ 10^{-12}$	$8.06\ 10^{-13}$	$3.26\ 10^{-10}$	$1.27\ 10^{-10}$
Bi-202	$5\ 10^{-2}$	$8.99\ 10^{-11}$	$1.86\ 10^{-11}$	$9.68\ 10^{-12}$	$2.55\ 10^{-11}$	$9.37\ 10^{-12}$	$1.14\ 10^{-12}$	$2.24\ 10^{-10}$	$9.71\ 10^{-11}$
Bi-203	$5\ 10^{-2}$	$6.69\ 10^{-10}$	$9.74\ 10^{-11}$	$2.71\ 10^{-11}$	$1.58\ 10^{-10}$	$5.47\ 10^{-11}$	$4.85\ 10^{-12}$	$1.25\ 10^{-9}$	$5.00\ 10^{-10}$
Bi-205	$5\ 10^{-2}$	$1.52\ 10^{-9}$	$1.97\ 10^{-10}$	$4.48\ 10^{-11}$	$3.33\ 10^{-10}$	$1.17\ 10^{-10}$	$1.07\ 10^{-11}$	$2.09\ 10^{-9}$	$1.08\ 10^{-9}$
Bi-206	$5\ 10^{-2}$	$2.86\ 10^{-9}$	$3.64\ 10^{-10}$	$7.76\ 10^{-11}$	$6.18\ 10^{-10}$	$2.14\ 10^{-10}$	$1.75\ 10^{-11}$	$4.69\ 10^{-9}$	$2.27\ 10^{-9}$
Bi-207	$5\ 10^{-2}$	$1.57\ 10^{-9}$	$2.01\ 10^{-10}$	$4.43\ 10^{-11}$	$3.47\ 10^{-10}$	$1.21\ 10^{-10}$	$1.20\ 10^{-11}$	$3.35\ 10^{-9}$	$1.48\ 10^{-9}$
Bi-210	$5\ 10^{-2}$	$1.97\ 10^{-11}$	$1.97\ 10^{-11}$	$1.97\ 10^{-11}$	$1.97\ 10^{-11}$	$1.97\ 10^{-11}$	$1.97\ 10^{-11}$	$5.72\ 10^{-9}$	$1.73\ 10^{-9}$
Bi-210m	$5\ 10^{-2}$	$1.36\ 10^{-9}$	$1.07\ 10^{-9}$	$1.04\ 10^{-9}$	$1.11\ 10^{-9}$	$1.06\ 10^{-9}$	$1.04\ 10^{-9}$	$8.38\ 10^{-8}$ $3.06\ 10^{-7}$	$2.59\ 10^{-8}$ Kidneys
Bi-212	$5\ 10^{-2}$	$2.76\ 10^{-11}$	$1.18\ 10^{-11}$	$9.86\ 10^{-12}$	$1.29\ 10^{-11}$	$9.14\ 10^{-12}$	$7.11\ 10^{-12}$	$9.16\ 10^{-10}$	$2.87\ 10^{-10}$
Bi-213	$5\ 10^{-2}$	$6.17\ 10^{-12}$	$4.73\ 10^{-12}$	$4.56\ 10^{-12}$	$4.89\ 10^{-12}$	$4.45\ 10^{-12}$	$4.20\ 10^{-12}$	$6.38\ 10^{-10}$	$1.95\ 10^{-10}$
Bi-214	$5\ 10^{-2}$	$5.17\ 10^{-12}$	$2.55\ 10^{-12}$	$2.38\ 10^{-12}$	$2.51\ 10^{-12}$	$1.51\ 10^{-12}$	$8.55\ 10^{-13}$	$2.47\ 10^{-10}$ $8.65\ 10^{-10}$	$7.64\ 10^{-11}$ ST wall
Polonium									
Po-203	$1\ 10^{-1}$	$4.82\ 10^{-11}$	$9.29\ 10^{-12}$	$4.79\ 10^{-12}$	$1.32\ 10^{-11}$	$5.17\ 10^{-12}$	$1.03\ 10^{-12}$	$1.28\ 10^{-10}$	$5.41\ 10^{-11}$
Po-205	$1\ 10^{-1}$	$6.26\ 10^{-11}$	$1.34\ 10^{-11}$	$7.29\ 10^{-12}$	$1.85\ 10^{-11}$	$7.48\ 10^{-12}$	$1.84\ 10^{-12}$	$1.46\ 10^{-10}$	$6.49\ 10^{-11}$
Po-207	$1\ 10^{-1}$	$1.85\ 10^{-10}$	$3.09\ 10^{-11}$	$1.16\ 10^{-11}$	$4.78\ 10^{-11}$	$1.76\ 10^{-11}$	$3.16\ 10^{-12}$	$3.64\ 10^{-10}$	$1.68\ 10^{-10}$
Po-210	$1\ 10^{-1}$	$8.23\ 10^{-8}$	$8.23\ 10^{-8}$	$8.23\ 10^{-8}$	$8.23\ 10^{-8}$	$8.23\ 10^{-8}$	$8.23\ 10^{-8}$	$1.52\ 10^{-6}$	$5.14\ 10^{-7}$
Astatine									
At-207	1.0	$2.16\ 10^{-10}$	$2.14\ 10^{-10}$	$2.14\ 10^{-10}$	$2.18\ 10^{-10}$	$2.14\ 10^{-10}$	$2.12\ 10^{-10}$	$2.85\ 10^{-10}$	$2.36\ 10^{-10}$
At-211	1.0	$1.06\ 10^{-8}$	$1.06\ 10^{-8}$	$1.06\ 10^{-8}$	$1.06\ 10^{-8}$	$1.06\ 10^{-8}$	$1.06\ 10^{-8}$	$1.09\ 10^{-8}$	$1.07\ 10^{-8}$
Francium									
Fr-222	1.0	$5.76\ 10^{-10}$	$5.76\ 10^{-10}$	$5.76\ 10^{-10}$	$5.76\ 10^{-10}$	$5.76\ 10^{-10}$	$5.76\ 10^{-10}$	$8.69\ 10^{-10}$	$6.64\ 10^{-10}$
Fr-223	1.0	$2.32\ 10^{-9}$	$2.32\ 10^{-9}$	$2.32\ 10^{-9}$	$2.32\ 10^{-9}$	$2.32\ 10^{-9}$	$2.32\ 10^{-9}$	$2.35\ 10^{-9}$	$2.33\ 10^{-9}$
Radium									
Ra-223	$2\ 10^{-1}$	$4.26\ 10^{-8}$	$4.23\ 10^{-8}$	$4.23\ 10^{-8}$	$2.80\ 10^{-7}$	$2.93\ 10^{-6}$	$4.23\ 10^{-8}$	$1.10\ 10^{-7}$	$1.78\ 10^{-7}$
Ra-224	$2\ 10^{-1}$	$2.12\ 10^{-8}$	$2.06\ 10^{-8}$	$2.05\ 10^{-8}$	$1.52\ 10^{-7}$	$1.59\ 10^{-6}$	$2.05\ 10^{-8}$	$7.15\ 10^{-8}$	$9.89\ 10^{-8}$
Ra-225	$2\ 10^{-1}$	$3.37\ 10^{-8}$	$3.37\ 10^{-8}$	$3.37\ 10^{-8}$	$1.68\ 10^{-7}$	$1.78\ 10^{-6}$	$3.37\ 10^{-8}$	$4.09\ 10^{-8}$	$1.04\ 10^{-7}$
Ra-226	$2\ 10^{-1}$	$9.16\ 10^{-8}$	$9.17\ 10^{-8}$	$9.16\ 10^{-8}$	$5.98\ 10^{-7}$	$6.83\ 10^{-6}$	$9.15\ 10^{-8}$	$1.03\ 10^{-7}$	$3.58\ 10^{-7}$
Ra-227	$2\ 10^{-1}$	$3.65\ 10^{-12}$	$2.31\ 10^{-12}$	$2.16\ 10^{-12}$	$4.30\ 10^{-11}$	$8.54\ 10^{-10}$	$1.84\ 10^{-12}$	$9.56\ 10^{-11}$	$6.10\ 10^{-11}$
Ra-228	$2\ 10^{-1}$	$1.58\ 10^{-7}$	$1.57\ 10^{-7}$	$1.57\ 10^{-7}$	$6.53\ 10^{-7}$	$5.82\ 10^{-6}$	$1.57\ 10^{-7}$	$1.63\ 10^{-7}$	$3.88\ 10^{-7}$
Actinium									
Ac-224	$1\ 10^{-3}$	$6.36\ 10^{-11}$	$6.82\ 10^{-12}$	$1.81\ 10^{-12}$	$9.65\ 10^{-11}$	$1.05\ 10^{-9}$	$2.04\ 10^{-13}$	$2.48\ 10^{-9}$ $7.16\ 10^{-9}$	$8.03\ 10^{-10}$ LLI wall
Ac-225	$1\ 10^{-3}$	$1.36\ 10^{-9}$	$2.73\ 10^{-11}$	$3.98\ 10^{-12}$	$7.99\ 10^{-9}$	$9.94\ 10^{-8}$	$5.49\ 10^{-13}$	$8.57\ 10^{-8}$ $2.82\ 10^{-7}$	$3.00\ 10^{-8}$ LLI wall
Ac-226	$1\ 10^{-3}$	$2.30\ 10^{-10}$	$1.12\ 10^{-11}$	$1.73\ 10^{-12}$	$7.70\ 10^{-10}$	$9.46\ 10^{-9}$	$1.44\ 10^{-13}$	$3.68\ 10^{-8}$ $1.10\ 10^{-7}$	$1.15\ 10^{-8}$ LLI wall

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Ac-227	$1\ 10^{-3}$	$8.31\ 10^{-7}$	$1.41\ 10^{-10}$	$2.20\ 10^{-10}$	$5.40\ 10^{-6}$	$6.73\ 10^{-5}$	$7.55\ 10^{-11}$	$3.08\ 10^{-6}$	$3.80\ 10^{-6}$
Ac-228	$1\ 10^{-3}$	$1.79\ 10^{-10}$	$2.31\ 10^{-11}$	$7.34\ 10^{-12}$	$2.75\ 10^{-10}$	$3.01\ 10^{-9}$	$9.39\ 10^{-13}$	$1.38\ 10^{-9}$	$5.85\ 10^{-10}$
Thorium									
Th-226	$2\ 10^{-4}$	$1.83\ 10^{-13}$	$8.74\ 10^{-14}$	$7.74\ 10^{-14}$	$6.07\ 10^{-13}$	$6.25\ 10^{-12}$	$4.88\ 10^{-14}$	$8.32\ 10^{-10}$	$2.50\ 10^{-10}$
								$2.70\ 10^{-9}$	ST wall
Th-227	$2\ 10^{-4}$	$2.95\ 10^{-10}$	$1.40\ 10^{-10}$	$1.25\ 10^{-10}$	$5.69\ 10^{-9}$	$6.84\ 10^{-8}$	$1.23\ 10^{-10}$	$2.47\ 10^{-8}$	$1.83\ 10^{-8}$
Th-228	$2\ 10^{-4}$	$2.53\ 10^{-9}$	$2.33\ 10^{-9}$	$2.31\ 10^{-9}$	$1.93\ 10^{-7}$	$2.37\ 10^{-6}$	$2.30\ 10^{-9}$	$3.86\ 10^{-8}$	$1.07\ 10^{-7}$
Th-229	$2\ 10^{-4}$	$4.69\ 10^{-9}$	$4.57\ 10^{-9}$	$4.56\ 10^{-9}$	$1.91\ 10^{-6}$	$2.38\ 10^{-5}$	$4.55\ 10^{-9}$	$2.80\ 10^{-8}$	$9.54\ 10^{-7}$
Th-230	$2\ 10^{-4}$	$6.82\ 10^{-10}$	$6.80\ 10^{-10}$	$6.80\ 10^{-10}$	$2.89\ 10^{-7}$	$3.60\ 10^{-6}$	$6.80\ 10^{-10}$	$1.54\ 10^{-8}$	$1.48\ 10^{-7}$
Th-231	$2\ 10^{-4}$	$2.08\ 10^{-11}$	$1.44\ 10^{-12}$	$1.43\ 10^{-13}$	$5.30\ 10^{-12}$	$3.17\ 10^{-12}$	$8.80\ 10^{-15}$	$1.19\ 10^{-9}$	$3.65\ 10^{-10}$
Th-232	$2\ 10^{-4}$	$1.25\ 10^{-9}$	$1.26\ 10^{-9}$	$1.25\ 10^{-9}$	$1.48\ 10^{-6}$	$1.85\ 10^{-5}$	$1.21\ 10^{-9}$	$1.47\ 10^{-8}$	$7.38\ 10^{-7}$
Th-234	$2\ 10^{-4}$	$3.12\ 10^{-11}$	$3.57\ 10^{-12}$	$7.05\ 10^{-13}$	$1.84\ 10^{-11}$	$2.08\ 10^{-11}$	$2.88\ 10^{-13}$	$1.23\ 10^{-8}$	$3.69\ 10^{-9}$
								$4.30\ 10^{-8}$	LLI wall
Protactinium									
Pa-227	$1\ 10^{-3}$	$8.23\ 10^{-13}$	$2.01\ 10^{-13}$	$1.34\ 10^{-13}$	$4.09\ 10^{-12}$	$4.92\ 10^{-11}$	$8.11\ 10^{-15}$	$1.18\ 10^{-9}$	$3.55\ 10^{-10}$
Pa-228	$1\ 10^{-3}$	$5.56\ 10^{-10}$	$7.22\ 10^{-11}$	$1.58\ 10^{-11}$	$8.92\ 10^{-10}$	$9.59\ 10^{-9}$	$2.08\ 10^{-12}$	$1.96\ 10^{-9}$	$1.13\ 10^{-9}$
Pa-230	$1\ 10^{-3}$	$6.75\ 10^{-10}$	$8.06\ 10^{-11}$	$1.42\ 10^{-11}$	$1.78\ 10^{-9}$	$2.05\ 10^{-8}$	$2.06\ 10^{-12}$	$2.23\ 10^{-9}$	$1.68\ 10^{-9}$
Pa-231	$1\ 10^{-3}$	$1.21\ 10^{-10}$	$7.81\ 10^{-11}$	$6.80\ 10^{-11}$	$5.78\ 10^{-6}$	$7.22\ 10^{-5}$	$6.33\ 10^{-11}$	$1.71\ 10^{-8}$	$2.86\ 10^{-6}$
Pa-232	$1\ 10^{-3}$	$5.44\ 10^{-10}$	$6.95\ 10^{-11}$	$1.46\ 10^{-11}$	$5.19\ 10^{-10}$	$5.11\ 10^{-9}$	$1.97\ 10^{-12}$	$2.00\ 10^{-9}$	$9.65\ 10^{-10}$
Pa-233	$1\ 10^{-3}$	$2.58\ 10^{-10}$	$2.71\ 10^{-11}$	$3.70\ 10^{-12}$	$6.89\ 10^{-11}$	$1.02\ 10^{-10}$	$4.81\ 10^{-13}$	$3.00\ 10^{-9}$	$9.81\ 10^{-10}$
								$1.02\ 10^{-8}$	LLI wall
Pa-234	$1\ 10^{-3}$	$3.30\ 10^{-10}$	$4.99\ 10^{-11}$	$1.51\ 10^{-11}$	$7.86\ 10^{-11}$	$2.74\ 10^{-11}$	$1.86\ 10^{-12}$	$1.61\ 10^{-9}$	$5.84\ 10^{-10}$
Uranium									
U-230	$5\ 10^{-2}$	$8.30\ 10^{-9}$	$8.28\ 10^{-9}$	$8.27\ 10^{-9}$	$2.85\ 10^{-7}$	$3.43\ 10^{-6}$	$8.27\ 10^{-9}$	$3.40\ 10^{-7}$	$2.44\ 10^{-7}$
	$2\ 10^{-3}$	$3.58\ 10^{-10}$	$3.34\ 10^{-10}$	$3.31\ 10^{-10}$	$1.14\ 10^{-8}$	$1.37\ 10^{-7}$	$3.31\ 10^{-10}$	$1.02\ 10^{-7}$	$3.62\ 10^{-8}$
U-231	$5\ 10^{-2}$	$9.35\ 10^{-11}$	$9.69\ 10^{-12}$	$2.03\ 10^{-12}$	$4.30\ 10^{-11}$	$1.39\ 10^{-10}$	$9.54\ 10^{-13}$	$9.36\ 10^{-10}$	$3.15\ 10^{-10}$
								$2.96\ 10^{-9}$	LLI wall
	$2\ 10^{-3}$	$9.69\ 10^{-11}$	$9.03\ 10^{-12}$	$1.02\ 10^{-12}$	$3.13\ 10^{-11}$	$1.45\ 10^{-11}$	$7.73\ 10^{-14}$	$9.68\ 10^{-10}$	$3.20\ 10^{-10}$
								$3.10\ 10^{-9}$	LLI wall
U-232	$5\ 10^{-2}$	$8.27\ 10^{-9}$	$8.33\ 10^{-9}$	$8.29\ 10^{-9}$	$4.19\ 10^{-7}$	$6.63\ 10^{-6}$	$8.11\ 10^{-9}$	$3.35\ 10^{-7}$	$3.54\ 10^{-7}$
	$2\ 10^{-3}$	$3.34\ 10^{-10}$	$3.33\ 10^{-10}$	$3.32\ 10^{-10}$	$1.68\ 10^{-8}$	$2.65\ 10^{-7}$	$3.25\ 10^{-10}$	$2.83\ 10^{-8}$	$1.87\ 10^{-8}$
U-233	$5\ 10^{-2}$	$2.62\ 10^{-9}$	$2.62\ 10^{-9}$	$2.62\ 10^{-9}$	$7.36\ 10^{-8}$	$1.16\ 10^{-6}$	$2.62\ 10^{-9}$	$1.10\ 10^{-7}$	$7.81\ 10^{-8}$
	$2\ 10^{-3}$	$1.07\ 10^{-10}$	$1.05\ 10^{-10}$	$1.05\ 10^{-10}$	$2.95\ 10^{-9}$	$4.62\ 10^{-8}$	$1.05\ 10^{-10}$	$1.78\ 10^{-8}$	$7.15\ 10^{-9}$
U-234	$5\ 10^{-2}$	$2.59\ 10^{-9}$	$2.58\ 10^{-9}$	$2.58\ 10^{-9}$	$7.21\ 10^{-8}$	$1.13\ 10^{-6}$	$2.58\ 10^{-9}$	$1.09\ 10^{-7}$	$7.66\ 10^{-8}$
	$2\ 10^{-3}$	$1.06\ 10^{-10}$	$1.03\ 10^{-10}$	$1.03\ 10^{-10}$	$2.88\ 10^{-9}$	$4.52\ 10^{-8}$	$1.03\ 10^{-10}$	$1.77\ 10^{-8}$	$7.06\ 10^{-9}$
U-235	$5\ 10^{-2}$	$2.67\ 10^{-9}$	$2.49\ 10^{-9}$	$2.46\ 10^{-9}$	$6.81\ 10^{-8}$	$1.05\ 10^{-6}$	$2.45\ 10^{-9}$	$1.03\ 10^{-7}$	$7.19\ 10^{-8}$
	$2\ 10^{-3}$	$3.34\ 10^{-10}$	$1.21\ 10^{-10}$	$1.01\ 10^{-10}$	$2.78\ 10^{-9}$	$4.20\ 10^{-8}$	$9.82\ 10^{-11}$	$1.84\ 10^{-8}$	$7.22\ 10^{-9}$
U-236	$5\ 10^{-2}$	$2.45\ 10^{-9}$	$2.45\ 10^{-9}$	$2.45\ 10^{-9}$	$6.83\ 10^{-8}$	$1.07\ 10^{-6}$	$2.45\ 10^{-9}$	$1.03\ 10^{-7}$	$7.26\ 10^{-8}$
	$2\ 10^{-3}$	$1.00\ 10^{-10}$	$9.79\ 10^{-11}$	$9.79\ 10^{-11}$	$2.73\ 10^{-9}$	$4.28\ 10^{-8}$	$9.79\ 10^{-11}$	$1.67\ 10^{-8}$	$6.68\ 10^{-9}$
U-237	$5\ 10^{-2}$	$1.75\ 10^{-10}$	$2.02\ 10^{-11}$	$4.98\ 10^{-12}$	$9.50\ 10^{-11}$	$4.41\ 10^{-10}$	$2.77\ 10^{-12}$	$2.59\ 10^{-9}$	$8.48\ 10^{-10}$
								$8.47\ 10^{-9}$	LLI wall
	$2\ 10^{-3}$	$1.81\ 10^{-10}$	$1.81\ 10^{-11}$	$2.17\ 10^{-12}$	$5.69\ 10^{-11}$	$3.39\ 10^{-11}$	$2.31\ 10^{-13}$	$2.67\ 10^{-9}$	$8.57\ 10^{-10}$
								$8.89\ 10^{-9}$	LLI wall
U-238	$5\ 10^{-2}$	$2.31\ 10^{-9}$	$2.31\ 10^{-9}$	$2.30\ 10^{-9}$	$6.80\ 10^{-8}$	$1.01\ 10^{-6}$	$2.30\ 10^{-9}$	$9.69\ 10^{-8}$	$6.88\ 10^{-8}$
	$2\ 10^{-3}$	$1.02\ 10^{-10}$	$9.33\ 10^{-11}$	$9.22\ 10^{-11}$	$2.72\ 10^{-9}$	$4.04\ 10^{-8}$	$9.20\ 10^{-11}$	$1.61\ 10^{-8}$	$6.42\ 10^{-9}$
U-239	$5\ 10^{-2}$	$1.42\ 10^{-12}$	$2.35\ 10^{-13}$	$1.21\ 10^{-13}$	$6.48\ 10^{-13}$	$1.52\ 10^{-12}$	$2.23\ 10^{-14}$	$6.72\ 10^{-11}$	$2.07\ 10^{-11}$
	$2\ 10^{-3}$	$1.45\ 10^{-12}$	$2.21\ 10^{-13}$	$1.03\ 10^{-13}$	$5.13\ 10^{-13}$	$2.31\ 10^{-13}$	$4.60\ 10^{-15}$	$6.80\ 10^{-11}$	$2.09\ 10^{-11}$
U-240	$5\ 10^{-2}$	$1.22\ 10^{-10}$	$1.79\ 10^{-11}$	$6.01\ 10^{-12}$	$3.76\ 10^{-11}$	$4.96\ 10^{-11}$	$2.93\ 10^{-12}$	$3.75\ 10^{-9}$	$1.16\ 10^{-9}$
	$2\ 10^{-3}$	$1.24\ 10^{-10}$	$1.60\ 10^{-11}$	$3.69\ 10^{-12}$	$2.62\ 10^{-11}$	$1.02\ 10^{-11}$	$5.59\ 10^{-13}$	$3.88\ 10^{-9}$	$1.20\ 10^{-9}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq) Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Neptunium									
Np-232	$1\ 10^{-3}$	$3.33\ 10^{-12}$	$1.19\ 10^{-12}$	$1.15\ 10^{-12}$	$6.25\ 10^{-12}$	$6.30\ 10^{-11}$	$1.04\ 10^{-13}$	$2.11\ 10^{-11}$	$1.01\ 10^{-11}$
Np-233	$1\ 10^{-3}$	$9.36\ 10^{-13}$	$2.45\ 10^{-13}$	$1.75\ 10^{-13}$	$5.16\ 10^{-13}$	$2.05\ 10^{-13}$	$7.31\ 10^{-15}$	$5.45\ 10^{-12}$	$1.99\ 10^{-12}$
Np-234	$1\ 10^{-3}$	$8.42\ 10^{-10}$	$1.11\ 10^{-10}$	$2.28\ 10^{-11}$	$1.86\ 10^{-10}$	$6.89\ 10^{-11}$	$3.79\ 10^{-12}$	$1.63\ 10^{-9}$	$7.43\ 10^{-10}$
Np-235	$1\ 10^{-3}$	$1.30\ 10^{-11}$	$5.36\ 10^{-13}$	$1.05\ 10^{-13}$	$1.64\ 10^{-11}$	$1.47\ 10^{-10}$	$2.41\ 10^{-14}$	$1.86\ 10^{-10}$ $6.32\ 10^{-10}$	$6.56\ 10^{-11}$ LLI wall
Np-236 $1.15\ 10^{5}$ y	$1\ 10^{-3}$	$5.24\ 10^{-8}$	$9.88\ 10^{-11}$	$9.29\ 10^{-11}$	$4.24\ 10^{-7}$	$5.29\ 10^{-6}$	$5.18\ 10^{-11}$	$3.63\ 10^{-8}$	$2.34\ 10^{-7}$
Np-236 22.5 h	$1\ 10^{-3}$	$6.44\ 10^{-11}$	$3.47\ 10^{-12}$	$5.66\ 10^{-13}$	$3.34\ 10^{-10}$	$4.05\ 10^{-9}$	$4.41\ 10^{-14}$	$6.38\ 10^{-10}$	$3.70\ 10^{-10}$
Np-237	$1\ 10^{-3}$	$2.46\ 10^{-7}$	$1.45\ 10^{-10}$	$1.53\ 10^{-10}$	$2.18\ 10^{-6}$	$2.72\ 10^{-5}$	$1.10\ 10^{-10}$	$2.10\ 10^{-7}$	$1.20\ 10^{-6}$
Np-238	$1\ 10^{-3}$	$3.89\ 10^{-10}$	$4.81\ 10^{-11}$	$1.02\ 10^{-11}$	$2.17\ 10^{-10}$	$1.77\ 10^{-9}$	$1.50\ 10^{-12}$	$2.97\ 10^{-9}$	$1.08\ 10^{-9}$
Np-239	$1\ 10^{-3}$	$1.62\ 10^{-10}$	$1.72\ 10^{-11}$	$2.40\ 10^{-12}$	$4.66\ 10^{-11}$	$3.59\ 10^{-11}$	$2.07\ 10^{-13}$	$2.77\ 10^{-9}$ $8.72\ 10^{-9}$	$8.82\ 10^{-10}$ LLI wall
Np-240	$1\ 10^{-3}$	$2.50\ 10^{-11}$	$5.72\ 10^{-12}$	$3.49\ 10^{-12}$	$7.74\ 10^{-12}$	$3.44\ 10^{-12}$	$3.46\ 10^{-13}$	$1.85\ 10^{-10}$	$6.40\ 10^{-11}$
Plutonium									
Pu-234	$1\ 10^{-3}$	$7.82\ 10^{-11}$	$9.27\ 10^{-12}$	$1.85\ 10^{-12}$	$4.47\ 10^{-11}$	$3.28\ 10^{-10}$	$4.69\ 10^{-13}$	$4.73\ 10^{-10}$	$1.78\ 10^{-10}$
	$1\ 10^{-4}$	$7.48\ 10^{-11}$	$9.02\ 10^{-12}$	$1.59\ 10^{-12}$	$2.13\ 10^{-11}$	$3.83\ 10^{-11}$	$2.27\ 10^{-13}$	$4.61\ 10^{-10}$	$1.62\ 10^{-10}$
	$1\ 10^{-5}$	$7.45\ 10^{-11}$	$9.00\ 10^{-12}$	$1.57\ 10^{-12}$	$1.89\ 10^{-11}$	$9.35\ 10^{-12}$	$2.03\ 10^{-13}$	$4.61\ 10^{-10}$	$1.61\ 10^{-10}$
Pu-235	$1\ 10^{-3}$	$5.59\ 10^{-13}$	$1.74\ 10^{-13}$	$1.40\ 10^{-13}$	$3.32\ 10^{-13}$	$1.36\ 10^{-13}$	$6.03\ 10^{-15}$	$4.98\ 10^{-12}$	$1.72\ 10^{-12}$
	$1\ 10^{-4}$	$5.59\ 10^{-13}$	$1.74\ 10^{-13}$	$1.40\ 10^{-13}$	$3.32\ 10^{-13}$	$1.32\ 10^{-13}$	$6.02\ 10^{-15}$	$4.98\ 10^{-12}$	$1.72\ 10^{-12}$
	$1\ 10^{-5}$	$5.59\ 10^{-13}$	$1.74\ 10^{-13}$	$1.40\ 10^{-13}$	$3.32\ 10^{-13}$	$1.32\ 10^{-13}$	$6.02\ 10^{-15}$	$4.98\ 10^{-12}$	$1.72\ 10^{-12}$
Pu-236	$1\ 10^{-3}$	$7.82\ 10^{-8}$	$2.77\ 10^{-11}$	$3.47\ 10^{-11}$	$4.49\ 10^{-7}$	$5.61\ 10^{-6}$	$1.56\ 10^{-11}$	$2.43\ 10^{-7}$	$3.15\ 10^{-7}$
	$1\ 10^{-4}$	$7.82\ 10^{-9}$	$2.87\ 10^{-12}$	$3.48\ 10^{-12}$	$4.49\ 10^{-8}$	$5.61\ 10^{-7}$	$1.56\ 10^{-12}$	$3.93\ 10^{-8}$	$3.60\ 10^{-8}$
	$1\ 10^{-5}$	$7.85\ 10^{-10}$	$3.90\ 10^{-13}$	$3.49\ 10^{-13}$	$4.49\ 10^{-9}$	$5.61\ 10^{-8}$	$1.56\ 10^{-13}$	$1.90\ 10^{-8}$	$8.12\ 10^{-9}$
Pu-237	$1\ 10^{-3}$	$7.24\ 10^{-11}$	$7.17\ 10^{-12}$	$1.02\ 10^{-12}$	$2.57\ 10^{-11}$	$2.66\ 10^{-11}$	$9.23\ 10^{-14}$	$3.23\ 10^{-10}$	$1.20\ 10^{-10}$
	$1\ 10^{-4}$	$7.22\ 10^{-11}$	$7.03\ 10^{-12}$	$7.79\ 10^{-13}$	$2.37\ 10^{-11}$	$9.15\ 10^{-12}$	$3.82\ 10^{-14}$	$3.23\ 10^{-10}$	$1.19\ 10^{-10}$
	$1\ 10^{-5}$	$7.22\ 10^{-11}$	$7.02\ 10^{-12}$	$7.54\ 10^{-13}$	$2.35\ 10^{-11}$	$7.40\ 10^{-12}$	$3.28\ 10^{-14}$	$3.23\ 10^{-10}$	$1.19\ 10^{-10}$
Pu-238	$1\ 10^{-3}$	$2.33\ 10^{-7}$	$8.41\ 10^{-12}$	$8.49\ 10^{-12}$	$1.27\ 10^{-6}$	$1.58\ 10^{-5}$	$7.99\ 10^{-12}$	$6.00\ 10^{-7}$	$8.65\ 10^{-7}$
	$1\ 10^{-4}$	$2.33\ 10^{-8}$	$9.28\ 10^{-13}$	$8.50\ 10^{-13}$	$1.27\ 10^{-7}$	$1.58\ 10^{-6}$	$7.99\ 10^{-13}$	$7.44\ 10^{-8}$	$9.08\ 10^{-8}$
	$1\ 10^{-5}$	$2.33\ 10^{-9}$	$1.80\ 10^{-13}$	$8.64\ 10^{-14}$	$1.27\ 10^{-8}$	$1.58\ 10^{-7}$	$7.99\ 10^{-14}$	$2.18\ 10^{-8}$	$1.34\ 10^{-9}$
Pu-239	$1\ 10^{-3}$	$2.64\ 10^{-7}$	$7.69\ 10^{-12}$	$7.74\ 10^{-12}$	$1.41\ 10^{-6}$	$1.76\ 10^{-5}$	$7.49\ 10^{-12}$	$6.43\ 10^{-7}$	$9.56\ 10^{-7}$
	$1\ 10^{-4}$	$2.64\ 10^{-8}$	$8.09\ 10^{-13}$	$7.75\ 10^{-13}$	$1.41\ 10^{-7}$	$1.76\ 10^{-6}$	$7.49\ 10^{-13}$	$7.77\ 10^{-8}$	$9.96\ 10^{-8}$
	$1\ 10^{-5}$	$2.64\ 10^{-9}$	$1.21\ 10^{-13}$	$7.89\ 10^{-14}$	$1.41\ 10^{-8}$	$1.76\ 10^{-7}$	$7.50\ 10^{-14}$	$2.12\ 10^{-8}$	$1.40\ 10^{-8}$
Pu-240	$1\ 10^{-3}$	$2.64\ 10^{-7}$	$7.97\ 10^{-12}$	$8.07\ 10^{-12}$	$1.41\ 10^{-6}$	$1.76\ 10^{-5}$	$7.51\ 10^{-12}$	$6.43\ 10^{-7}$	$9.56\ 10^{-7}$
	$1\ 10^{-4}$	$2.64\ 10^{-8}$	$8.82\ 10^{-13}$	$8.08\ 10^{-13}$	$1.41\ 10^{-7}$	$1.76\ 10^{-6}$	$7.51\ 10^{-13}$	$7.78\ 10^{-8}$	$9.97\ 10^{-8}$
	$1\ 10^{-5}$	$2.64\ 10^{-9}$	$1.73\ 10^{-13}$	$8.22\ 10^{-14}$	$1.41\ 10^{-8}$	$1.76\ 10^{-7}$	$7.51\ 10^{-14}$	$2.13\ 10^{-8}$	$1.40\ 10^{-8}$
Pu-241	$1\ 10^{-3}$	$5.66\ 10^{-9}$	$2.52\ 10^{-13}$	$4.45\ 10^{-13}$	$2.78\ 10^{-8}$	$3.48\ 10^{-7}$	$1.01\ 10^{-13}$	$1.10\ 10^{-8}$	$1.85\ 10^{-8}$
	$1\ 10^{-4}$	$5.66\ 10^{-10}$	$2.54\ 10^{-14}$	$4.45\ 10^{-14}$	$2.78\ 10^{-9}$	$3.48\ 10^{-8}$	$1.01\ 10^{-14}$	$1.16\ 10^{-9}$	$1.87\ 10^{-9}$
	$1\ 10^{-5}$	$5.66\ 10^{-11}$	$2.79\ 10^{-15}$	$4.48\ 10^{-15}$	$2.78\ 10^{-10}$	$3.48\ 10^{-9}$	$1.01\ 10^{-15}$	$1.85\ 10^{-10}$	$2.07\ 10^{-10}$
Pu-242	$1\ 10^{-3}$	$2.51\ 10^{-7}$	$8.00\ 10^{-12}$	$7.88\ 10^{-12}$	$1.34\ 10^{-6}$	$1.67\ 10^{-5}$	$7.29\ 10^{-12}$	$6.10\ 10^{-7}$	$9.08\ 10^{-7}$
	$1\ 10^{-4}$	$2.51\ 10^{-8}$	$9.58\ 10^{-13}$	$8.00\ 10^{-13}$	$1.34\ 10^{-7}$	$1.67\ 10^{-6}$	$7.30\ 10^{-13}$	$7.38\ 10^{-8}$	$9.46\ 10^{-8}$
	$1\ 10^{-5}$	$2.51\ 10^{-9}$	$2.54\ 10^{-13}$	$9.18\ 10^{-14}$	$1.34\ 10^{-8}$	$1.67\ 10^{-7}$	$7.38\ 10^{-14}$	$2.02\ 10^{-8}$	$1.33\ 10^{-8}$
Pu-243	$1\ 10^{-3}$	$4.58\ 10^{-12}$	$5.96\ 10^{-13}$	$1.51\ 10^{-13}$	$1.95\ 10^{-12}$	$2.08\ 10^{-12}$	$8.79\ 10^{-15}$	$2.96\ 10^{-10}$	$9.02\ 10^{-11}$
	$1\ 10^{-4}$	$4.56\ 10^{-12}$	$5.93\ 10^{-13}$	$1.48\ 10^{-13}$	$1.83\ 10^{-12}$	$7.08\ 10^{-13}$	$5.80\ 10^{-15}$	$2.96\ 10^{-10}$	$9.02\ 10^{-11}$
	$1\ 10^{-5}$	$4.56\ 10^{-12}$	$5.93\ 10^{-13}$	$1.47\ 10^{-13}$	$1.82\ 10^{-12}$	$5.71\ 10^{-13}$	$5.50\ 10^{-15}$	$2.96\ 10^{-10}$	$9.02\ 10^{-11}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
	Committed Dose Equivalent per Unit Intake (Sv/Bq)								
Pu-244	$1\ 10^{-3}$	$2.49\ 10^{-7}$	$3.24\ 10^{-10}$	$3.23\ 10^{-10}$	$1.32\ 10^{-6}$	$1.64\ 10^{-6}$	$1.50\ 10^{-10}$	$6.13\ 10^{-7}$	$8.97\ 10^{-7}$
	$1\ 10^{-4}$	$2.53\ 10^{-8}$	$7.82\ 10^{-11}$	$3.78\ 10^{-11}$	$1.33\ 10^{-7}$	$1.64\ 10^{-6}$	$1.56\ 10^{-11}$	$8.15\ 10^{-8}$	$9.59\ 10^{-8}$
	$1\ 10^{-5}$	$2.94\ 10^{-9}$	$5.36\ 10^{-11}$	$9.29\ 10^{-12}$	$1.33\ 10^{-8}$	$1.65\ 10^{-7}$	$2.22\ 10^{-12}$	$2.84\ 10^{-8}$	$1.58\ 10^{-8}$
Pu-245	$1\ 10^{-3}$	$1.22\ 10^{-10}$	$1.63\ 10^{-11}$	$4.01\ 10^{-12}$	$2.87\ 10^{-11}$	$1.25\ 10^{-11}$	$4.78\ 10^{-13}$	$2.32\ 10^{-9}$	$7.34\ 10^{-10}$
	$1\ 10^{-4}$	$1.22\ 10^{-10}$	$1.62\ 10^{-11}$	$3.98\ 10^{-12}$	$2.83\ 10^{-11}$	$9.74\ 10^{-12}$	$4.53\ 10^{-13}$	$2.32\ 10^{-9}$	$7.34\ 10^{-10}$
	$1\ 10^{-5}$	$1.22\ 10^{-10}$	$1.62\ 10^{-11}$	$3.98\ 10^{-12}$	$2.83\ 10^{-11}$	$9.46\ 10^{-12}$	$4.50\ 10^{-13}$	$2.32\ 10^{-9}$	$7.34\ 10^{-10}$
Pu-246	$1\ 10^{-3}$	$9.43\ 10^{-10}$	$1.02\ 10^{-10}$	$1.51\ 10^{-11}$	$2.30\ 10^{-10}$	$2.69\ 10^{-10}$	$2.06\ 10^{-12}$	$1.12\ 10^{-8}$ $3.81\ 10^{-8}$	$3.66\ 10^{-9}$ LLI wall
	$1\ 10^{-4}$	$9.40\ 10^{-10}$	$1.01\ 10^{-10}$	$1.42\ 10^{-11}$	$2.10\ 10^{-10}$	$8.72\ 10^{-11}$	$1.75\ 10^{-12}$	$1.13\ 10^{-8}$ $3.82\ 10^{-8}$	$3.66\ 10^{-9}$ LLI wall
	$1\ 10^{-5}$	$9.40\ 10^{-10}$	$1.01\ 10^{-10}$	$1.41\ 10^{-11}$	$2.08\ 10^{-10}$	$6.90\ 10^{-11}$	$1.71\ 10^{-12}$	$1.13\ 10^{-8}$	$3.66\ 10^{-9}$
Americium									
Am-237	$1\ 10^{-3}$	$9.46\ 10^{-12}$	$1.96\ 10^{-12}$	$1.07\ 10^{-12}$	$3.42\ 10^{-12}$	$1.21\ 10^{-12}$	$7.97\ 10^{-14}$	$4.84\ 10^{-11}$	$1.78\ 10^{-11}$
Am-238	$1\ 10^{-3}$	$2.92\ 10^{-11}$	$5.93\ 10^{-12}$	$3.07\ 10^{-12}$	$1.11\ 10^{-11}$	$3.66\ 10^{-11}$	$3.33\ 10^{-13}$	$8.19\ 10^{-11}$	$3.56\ 10^{-11}$
Am-239	$1\ 10^{-3}$	$9.16\ 10^{-11}$	$1.07\ 10^{-11}$	$2.05\ 10^{-12}$	$2.83\ 10^{-11}$	$1.06\ 10^{-11}$	$1.37\ 10^{-13}$	$7.94\ 10^{-10}$	$2.67\ 10^{-10}$
Am-240	$1\ 10^{-3}$	$7.16\ 10^{-10}$	$9.06\ 10^{-11}$	$1.86\ 10^{-11}$	$1.55\ 10^{-10}$	$6.95\ 10^{-11}$	$2.59\ 10^{-12}$	$1.56\ 10^{-9}$	$6.83\ 10^{-10}$
Am-241	$1\ 10^{-3}$	$2.70\ 10^{-7}$	$2.62\ 10^{-11}$	$3.36\ 10^{-11}$	$1.45\ 10^{-6}$	$1.81\ 10^{-5}$	$1.32\ 10^{-11}$	$6.66\ 10^{-7}$	$9.84\ 10^{-7}$
Am-242m	$1\ 10^{-3}$	$2.66\ 10^{-7}$	$1.22\ 10^{-11}$	$1.65\ 10^{-11}$	$1.41\ 10^{-6}$	$1.76\ 10^{-5}$	$3.77\ 10^{-12}$	$6.20\ 10^{-7}$	$9.50\ 10^{-7}$
Am-242	$1\ 10^{-3}$	$2.74\ 10^{-11}$	$9.38\ 10^{-13}$	$1.58\ 10^{-13}$	$1.24\ 10^{-10}$	$1.52\ 10^{-9}$	$2.61\ 10^{-14}$	$1.05\ 10^{-9}$	$3.81\ 10^{-10}$
Am-243	$1\ 10^{-3}$	$2.71\ 10^{-7}$	$1.41\ 10^{-10}$	$1.95\ 10^{-10}$	$1.44\ 10^{-6}$	$1.80\ 10^{-5}$	$6.80\ 10^{-11}$	$6.61\ 10^{-7}$	$9.79\ 10^{-7}$
Am-244m	$1\ 10^{-3}$	$3.71\ 10^{-13}$	$1.89\ 10^{-15}$	$8.09\ 10^{-16}$	$2.14\ 10^{-12}$	$2.67\ 10^{-11}$	$1.50\ 10^{-16}$	$6.61\ 10^{-11}$ $2.26\ 10^{-10}$	$2.10\ 10^{-11}$ ST wall
Am-244	$1\ 10^{-3}$	$2.24\ 10^{-10}$	$2.97\ 10^{-11}$	$7.81\ 10^{-12}$	$9.72\ 10^{-11}$	$6.38\ 10^{-10}$	$9.83\ 10^{-13}$	$1.49\ 10^{-9}$	$5.38\ 10^{-10}$
Am-245	$1\ 10^{-3}$	$1.16\ 10^{-13}$	$1.93\ 10^{-14}$	$8.81\ 10^{-15}$	$8.21\ 10^{-14}$	$5.23\ 10^{-13}$	$1.98\ 10^{-15}$	$1.63\ 10^{-10}$	$4.88\ 10^{-11}$
Am-246m	$1\ 10^{-3}$	$5.12\ 10^{-12}$	$1.68\ 10^{-12}$	$1.43\ 10^{-12}$	$1.75\ 10^{-12}$	$9.38\ 10^{-13}$	$1.50\ 10^{-13}$	$7.83\ 10^{-11}$ $2.55\ 10^{-10}$	$2.54\ 10^{-11}$ ST wall
Am-246	$1\ 10^{-3}$	$6.77\ 10^{-12}$	$1.87\ 10^{-12}$	$1.37\ 10^{-12}$	$2.39\ 10^{-12}$	$1.22\ 10^{-12}$	$1.23\ 10^{-13}$	$1.43\ 10^{-10}$	$4.54\ 10^{-11}$
Curium									
Cm-238	$1\ 10^{-3}$	$5.81\ 10^{-11}$	$9.02\ 10^{-12}$	$2.69\ 10^{-12}$	$1.99\ 10^{-11}$	$6.08\ 10^{-11}$	$4.13\ 10^{-13}$	$2.38\ 10^{-10}$	$9.20\ 10^{-11}$
Cm-240	$1\ 10^{-3}$	$2.71\ 10^{-9}$	$9.58\ 10^{-12}$	$9.62\ 10^{-12}$	$1.66\ 10^{-8}$	$2.07\ 10^{-7}$	$9.11\ 10^{-12}$	$2.67\ 10^{-8}$	$1.69\ 10^{-8}$
Cm-241	$1\ 10^{-3}$	$6.61\ 10^{-10}$	$6.68\ 10^{-11}$	$1.10\ 10^{-11}$	$4.98\ 10^{-10}$	$4.51\ 10^{-9}$	$1.73\ 10^{-12}$	$2.81\ 10^{-9}$	$1.21\ 10^{-9}$
Cm-242	$1\ 10^{-3}$	$5.20\ 10^{-9}$	$8.95\ 10^{-12}$	$8.84\ 10^{-12}$	$3.57\ 10^{-8}$	$4.46\ 10^{-7}$	$8.82\ 10^{-12}$	$4.02\ 10^{-8}$	$3.10\ 10^{-8}$
Cm-243	$1\ 10^{-3}$	$1.73\ 10^{-7}$	$6.96\ 10^{-11}$	$7.73\ 10^{-11}$	$9.81\ 10^{-7}$	$1.23\ 10^{-5}$	$3.15\ 10^{-11}$	$4.97\ 10^{-7}$	$6.79\ 10^{-7}$
Cm-244	$1\ 10^{-3}$	$1.33\ 10^{-7}$	$8.82\ 10^{-12}$	$8.81\ 10^{-12}$	$7.82\ 10^{-7}$	$9.77\ 10^{-6}$	$8.44\ 10^{-12}$	$4.15\ 10^{-7}$	$5.45\ 10^{-7}$
Cm-245	$1\ 10^{-3}$	$2.80\ 10^{-7}$	$6.80\ 10^{-11}$	$8.34\ 10^{-11}$	$1.49\ 10^{-6}$	$1.86\ 10^{-5}$	$3.02\ 10^{-11}$	$6.79\ 10^{-7}$	$1.01\ 10^{-6}$
Cm-246	$1\ 10^{-3}$	$2.77\ 10^{-7}$	$3.91\ 10^{-11}$	$2.67\ 10^{-11}$	$1.48\ 10^{-6}$	$1.85\ 10^{-5}$	$1.87\ 10^{-11}$	$6.76\ 10^{-7}$	$1.00\ 10^{-6}$
Cm-247	$1\ 10^{-3}$	$2.56\ 10^{-7}$	$2.29\ 10^{-10}$	$2.66\ 10^{-10}$	$1.36\ 10^{-6}$	$1.70\ 10^{-5}$	$1.20\ 10^{-10}$	$6.23\ 10^{-7}$	$9.24\ 10^{-7}$
Cm-248	$1\ 10^{-3}$	$1.02\ 10^{-6}$	$1.10\ 10^{-8}$	$6.52\ 10^{-9}$	$5.42\ 10^{-6}$	$6.75\ 10^{-5}$	$3.87\ 10^{-9}$	$2.49\ 10^{-6}$	$3.68\ 10^{-6}$
Cm-249	$1\ 10^{-3}$	$4.65\ 10^{-13}$	$8.68\ 10^{-14}$	$5.41\ 10^{-14}$	$6.20\ 10^{-13}$	$6.37\ 10^{-12}$	$5.53\ 10^{-15}$	$8.88\ 10^{-11}$	$2.70\ 10^{-11}$
Cm-250	$1\ 10^{-3}$	$5.85\ 10^{-6}$	$8.66\ 10^{-8}$	$5.17\ 10^{-8}$	$3.09\ 10^{-5}$	$3.83\ 10^{-4}$	$3.05\ 10^{-8}$	$1.42\ 10^{-5}$	$2.10\ 10^{-5}$
Berkelium									
Bk-245	$1\ 10^{-3}$	$2.64\ 10^{-10}$	$2.76\ 10^{-11}$	$3.62\ 10^{-12}$	$8.16\ 10^{-11}$	$9.79\ 10^{-11}$	$3.07\ 10^{-13}$	$1.90\ 10^{-9}$	$6.52\ 10^{-10}$
Bk-246	$1\ 10^{-3}$	$6.47\ 10^{-10}$	$8.08\ 10^{-11}$	$1.60\ 10^{-11}$	$1.43\ 10^{-10}$	$7.71\ 10^{-11}$	$2.19\ 10^{-12}$	$1.24\ 10^{-9}$	$5.68\ 10^{-10}$
Bk-247	$1\ 10^{-3}$	$2.85\ 10^{-7}$	$6.28\ 10^{-11}$	$6.42\ 10^{-11}$	$2.19\ 10^{-6}$	$2.74\ 10^{-5}$	$3.80\ 10^{-11}$	$3.95\ 10^{-7}$	$1.27\ 10^{-6}$
Bk-249	$1\ 10^{-3}$	$6.99\ 10^{-10}$	$4.35\ 10^{-13}$	$5.10\ 10^{-13}$	$5.36\ 10^{-9}$	$6.69\ 10^{-8}$	$3.45\ 10^{-13}$	$1.39\ 10^{-9}$	$3.24\ 10^{-9}$
Bk-250	$1\ 10^{-3}$	$6.64\ 10^{-11}$	$1.14\ 10^{-11}$	$4.64\ 10^{-12}$	$4.30\ 10^{-11}$	$3.48\ 10^{-10}$	$5.88\ 10^{-13}$	$4.08\ 10^{-10}$	$1.57\ 10^{-10}$

Table 2.2, Ingestion, Cont'd.

Nuclide	f_1	Committed Dose Equivalent per Unit Intake (Sv/Bq)							
		Gonad	Breast	Lung	R Marrow	B Surface	Thyroid	Remainder	Effective
Californium									
Cf-244	$1\ 10^{-3}$	$1.37\ 10^{-12}$	$2.43\ 10^{-14}$	$2.33\ 10^{-14}$	$1.18\ 10^{-11}$	$1.48\ 10^{-10}$	$2.23\ 10^{-14}$	$1.51\ 10^{-10}$ $5.31\ 10^{-10}$	$5.15\ 10^{-11}$ ST wall
Cf-246	$1\ 10^{-3}$	$8.86\ 10^{-11}$	$7.72\ 10^{-12}$	$7.64\ 10^{-12}$	$8.18\ 10^{-10}$	$1.01\ 10^{-8}$	$7.63\ 10^{-12}$	$1.15\ 10^{-8}$	$3.86\ 10^{-9}$
Cf-248	$1\ 10^{-3}$	$1.51\ 10^{-8}$	$1.00\ 10^{-11}$	$9.26\ 10^{-12}$	$1.44\ 10^{-7}$	$1.80\ 10^{-6}$	$9.13\ 10^{-12}$	$5.11\ 10^{-8}$	$9.04\ 10^{-9}$
Cf-249	$1\ 10^{-3}$	$2.86\ 10^{-7}$	$2.33\ 10^{-10}$	$2.26\ 10^{-10}$	$2.21\ 10^{-6}$	$2.76\ 10^{-5}$	$1.51\ 10^{-10}$	$4.00\ 10^{-7}$	$1.28\ 10^{-6}$
Cf-250	$1\ 10^{-3}$	$1.12\ 10^{-7}$	$7.44\ 10^{-11}$	$4.10\ 10^{-11}$	$9.77\ 10^{-7}$	$1.22\ 10^{-5}$	$3.12\ 10^{-11}$	$2.17\ 10^{-7}$	$5.76\ 10^{-7}$
Cf-251	$1\ 10^{-3}$	$2.92\ 10^{-7}$	$9.36\ 10^{-11}$	$9.56\ 10^{-11}$	$2.25\ 10^{-6}$	$2.81\ 10^{-5}$	$5.25\ 10^{-11}$	$4.05\ 10^{-7}$	$1.31\ 10^{-6}$
Cf-252	$1\ 10^{-3}$	$5.39\ 10^{-8}$	$1.49\ 10^{-9}$	$4.67\ 10^{-10}$	$4.69\ 10^{-7}$	$5.84\ 10^{-6}$	$2.68\ 10^{-10}$	$1.58\ 10^{-7}$	$2.93\ 10^{-7}$
Cf-253	$1\ 10^{-3}$	$5.16\ 10^{-10}$	$2.21\ 10^{-13}$	$2.15\ 10^{-13}$	$5.37\ 10^{-9}$	$6.72\ 10^{-8}$	$2.04\ 10^{-13}$	$3.31\ 10^{-9}$	$3.78\ 10^{-9}$
Cf-254	$1\ 10^{-3}$	$3.12\ 10^{-7}$	$3.45\ 10^{-8}$	$4.95\ 10^{-9}$	$5.45\ 10^{-7}$	$6.14\ 10^{-6}$	$1.09\ 10^{-9}$	$1.07\ 10^{-6}$	$6.55\ 10^{-7}$
Einsteinium									
Es-250	$1\ 10^{-3}$	$2.06\ 10^{-11}$	$3.46\ 10^{-12}$	$1.58\ 10^{-12}$	$2.35\ 10^{-11}$	$2.25\ 10^{-10}$	$1.65\ 10^{-13}$	$5.53\ 10^{-11}$	$3.20\ 10^{-11}$
Es-251	$1\ 10^{-3}$	$7.90\ 10^{-11}$	$8.17\ 10^{-12}$	$1.18\ 10^{-12}$	$3.54\ 10^{-11}$	$1.45\ 10^{-10}$	$1.03\ 10^{-13}$	$5.69\ 10^{-10}$	$2.00\ 10^{-10}$
Es-253	$1\ 10^{-3}$	$5.96\ 10^{-10}$	$9.55\ 10^{-12}$	$9.46\ 10^{-12}$	$6.10\ 10^{-9}$	$7.61\ 10^{-8}$	$9.44\ 10^{-12}$	$1.98\ 10^{-8}$	$9.10\ 10^{-9}$
Es-254m	$1\ 10^{-3}$	$4.07\ 10^{-10}$	$4.64\ 10^{-11}$	$1.46\ 10^{-11}$	$8.29\ 10^{-10}$	$9.48\ 10^{-9}$	$8.16\ 10^{-12}$	$1.45\ 10^{-8}$ $4.75\ 10^{-8}$	$4.83\ 10^{-8}$ LLI wall
Es-254	$1\ 10^{-3}$	$1.45\ 10^{-8}$	$1.29\ 10^{-10}$	$4.72\ 10^{-11}$	$1.31\ 10^{-7}$	$1.63\ 10^{-6}$	$1.93\ 10^{-11}$	$5.47\ 10^{-8}$	$8.47\ 10^{-8}$
Fermium									
Fm-252	$1\ 10^{-3}$	$6.94\ 10^{-11}$	$7.02\ 10^{-12}$	$6.98\ 10^{-12}$	$6.12\ 10^{-10}$	$7.52\ 10^{-9}$	$6.97\ 10^{-12}$	$9.27\ 10^{-9}$	$3.10\ 10^{-9}$
Fm-253	$1\ 10^{-3}$	$1.75\ 10^{-10}$	$1.01\ 10^{-11}$	$2.34\ 10^{-12}$	$9.26\ 10^{-10}$	$1.12\ 10^{-8}$	$1.27\ 10^{-12}$	$2.93\ 10^{-9}$	$1.37\ 10^{-9}$
Fm-254	$1\ 10^{-3}$	$5.54\ 10^{-12}$	$1.63\ 10^{-12}$	$1.62\ 10^{-12}$	$3.57\ 10^{-11}$	$4.28\ 10^{-10}$	$1.62\ 10^{-12}$	$1.50\ 10^{-9}$	$4.69\ 10^{-10}$
Fm-255	$1\ 10^{-3}$	$3.22\ 10^{-11}$	$7.14\ 10^{-12}$	$6.68\ 10^{-12}$	$1.74\ 10^{-10}$	$2.08\ 10^{-9}$	$6.65\ 10^{-12}$	$9.02\ 10^{-9}$	$2.80\ 10^{-9}$
Fm-257	$1\ 10^{-3}$	$5.72\ 10^{-9}$	$2.53\ 10^{-11}$	$1.23\ 10^{-11}$	$5.82\ 10^{-8}$	$7.27\ 10^{-7}$	$1.00\ 10^{-11}$	$3.53\ 10^{-8}$	$4.08\ 10^{-8}$
Mendelevium									
Md-257	$1\ 10^{-3}$	$2.97\ 10^{-11}$	$2.65\ 10^{-12}$	$9.16\ 10^{-13}$	$1.27\ 10^{-10}$	$1.52\ 10^{-9}$	$3.35\ 10^{-13}$	$4.00\ 10^{-10}$	$1.89\ 10^{-10}$
Md-258	$1\ 10^{-3}$	$4.35\ 10^{-9}$	$1.53\ 10^{-11}$	$1.48\ 10^{-11}$	$4.31\ 10^{-8}$	$5.38\ 10^{-7}$	$1.19\ 10^{-11}$	$3.16\ 10^{-8}$	$3.19\ 10^{-8}$