



2.3	民間企業およびその他の機関	
2.3.1	民間企業における使用許可・届出事業所数（業種別）	22
2.3.2	民間企業における使用許可・届出事業所数（業種別, 利用形態別）	23
2.3.3	民間企業における非破壊検査装置および装備機器の使用許可・届出事業所数	
	その(1) 業種別, 機器の種類別	24
	その(2) 許可・届出台数別, 機器の種類別	25
2.3.4	民間企業における非破壊検査装置および装備機器の使用許可・届出台数	
	(機器の種類別, 核種別)	25
2.3.5	民間企業における非破壊検査装置および装備機器の使用許可・届出台数	
	(機器の種類別, 都道府県別)	26
2.3.6	民間企業およびその他の機関における $\gamma$ 線照射装置の使用許可・届出台数	
	(放射能別)	27
2.3.7	その他の機関における非破壊検査装置および装備機器の使用許可・届出台数	
	(機器の種類別)	27
3	アイソトープの流通状況	
3.1	おもな非密封アイソトープの供給量	
3.1.1	おもな非密封アイソトープの供給量の推移（核種別, 年度別）	28
3.1.2	おもな非密封アイソトープの供給量（核種別, 機関別）	29
3.2	おもな密封アイソトープの供給量	
3.2.1	おもな密封アイソトープの供給量の推移（核種別, 年度別）	30
3.2.2	おもな密封アイソトープの供給量（核種別, 機関別）	31
4	アイソトープ廃棄物の集荷・処理	
4.1	アイソトープ廃棄物の集荷	
4.1.1	廃棄物集荷数量および事業所数（種類別, 年度別）	32
4.1.2	廃棄物集荷数量および事業所数（種類別, 地区別）	33
	図9 種類別廃棄物集荷数量	33
4.1.3	廃棄物集荷数量および事業所数（種類別, 機関別）	34
	図10 機関別廃棄物集荷数量	34
4.2	アイソトープ廃棄物の処理	
4.2.1	廃棄物処理数量（種類別, 年度別）	35
4.2.2	廃棄物処理数量（種類別, 機関別）	36
	図11 種類別廃棄物処理数量	36
5	付録	
5.1	放射性医薬品の使用施設数の推移（都道府県別, 年度別）	37
5.2	放射性医薬品の使用施設数の推移（事業形態別, 年度別）	38
5.3	放射性医薬品の使用施設数の推移（in vivo・in vitro別, 年度別）	38
5.4	in vivo 供給量の推移（核種別, 年度別）	39
5.5	in vitro 供給量の推移（核種別, 年度別）	39

# CONTENTS

## 1 GENERAL ASPECTS

### 1.1 Number of Users , Dealers and Lessors

1.1.1 Changes with the Year in the Number of Users by Category of Organizations and License (as of March 31 of Each Year from 1990 to 1999) .....	1
Fig1 Changes with the Year in the Number of Users .....	2
1.1.2 Changes with the Year in the Number of Users by Prefecture (as of March 31 of Each Year from 1990 to 1999) .....	3
1.1.3 Geographical Distribution of Users by Category of Organizations and by License (as of March 31,1999) .....	4
Fig2 Geographical Distribution of Users (as of March 31,1999) .....	5
1.1.4 Number of Users by Category of Organizations and by Usage (as of March 31,1999) .....	5
Fig3 Usage of Radiation (as of March 31,1999) .....	6
1.1.5 Changes with the Number of Dealers and Lessors (as of March 31 of Each Year from 1993 to 1999) .....	6

### 1.2. Utilization of Radioisotopes and Radiation Generators

1.2.1 Number of Users of Major Sealed Radioisotopes by Category of Organizations (as of March 31,1999) .....	7
1.2.2 Number of Major Isotope Gauges in Use by Category of Organization (as of March 31,1999) .....	8
1.2.3 Number of Radiation Generators in Use (as of March 31,1999) .....	9
Fig4 Number of Radiation Generators in Use (as of March 31,1999) .....	9

## 2 UTILIZATION OF RADIATION

### BY ORGANIZATIONS IN EACH CATEGORY

#### 2.1 Hospitals and Clinics

2.1.1 Number of Licensed Hospitals and Clinics by Ownership and by License (as of March 31,1999) .....	10
2.1.2 Number of Licensed Hospitals and Clinics by Ownership and by Usage (as of March 31,1999) .....	11
Fig5 Usage of Radiation in Licensed Hospitals (as of March 31, 1999) .....	11
2.1.3 Number of Licensed Hospitals and Clinics by Prefecture and by Usage (as of March 31,1999) .....	12
2.1.4 Number of Licensed Hospitals and Clinics Using Small Sealed Sources (as of March 31,1999) .....	13
2.1.5 Changes with the Year in the Number of Teletherapeutic Apparatus in Use in Hospitals and Clinics (as of March 31 of Each Year from 1993 to 1999) .....	14
2.1.6 Number of Isotope Gauges and Apparatus in Use in Hospitals and Clinics by Ownership (as of March 31,1999) .....	15

<b>2.2 Educational Organizations and Research Institutions</b>	
2.2.1 Number of Licensed Educational Organizations and Research Institutions by Ownership and by License (as of March 31,1999) .....	16
2.2.2 Number of Licensed Educational Organizations and Research Institutions by Ownership and by Usage (as of March 31,1999) .....	17
Fig6 Usage of Radiation in Licensed Universities and Research Institutions (as of March 31, 1999) .....	17
2.2.3 Number of Licensed Educational Organizations and Research Institutions Using Sealed Radioisotopes by Ownership and by Usage (as of March 31,1999) .....	18
2.2.4 Number of $\gamma$ -Ray Irradiation Facilities and Radiation Generators in Use in Educational Organizations and Research Institutions (as of March 31,1999) .....	19
Fig7 Number of $\gamma$ -Ray Irradiation Facilities and Radiation Generators in Use in Educational Organizations and Research Institutions (as of March 31,1999) .....	20
2.2.5 Number of Isotope Gauges in Use in Educational Organizations and Research Institutions (as of March 31,1999) .....	21
Fig8 Number of Isotope Gauges in Use in Educational Organizations and Research Institutions (as of March 31,1999) .....	21
<b>2.3 Industrial Firms and Other Organizations</b>	
2.3.1 Number of Licensed Industrial Firms by Industry and by License (as of March 31,1999) .....	22
2.3.2 Number of Licensed Industrial Firms by Industry and by Usage (as of March 31,1999) .....	23
2.3.3-(1) Number of Licensed Industrial Firms Using $\gamma$ -Ray Radiography Apparatus and Isotope Guages by Industry (as of March 31,1999) .....	24
2.3.3-(2) Number of Licensed Industrial Firms Using $\gamma$ -Ray Radiography Apparatus and Isotope Gauges by Number of Possessions (as of March 31,1999) .....	25
2.3.4 Number of $\gamma$ -Ray Radiography Apparatus and Isotope Gauges in Use in Industrial Firms by Nuclide (as of March 31,1999) .....	25
2.3.5 Number of $\gamma$ -Ray Radiography Apparatus and Isotope Gauges in Use in Industrial Firms by Prefecture (as of March 31,1999) .....	26
2.3.6 Number of $\gamma$ -Ray Irradiation Facilities in Use in Industrial Firms and Other Organizations (as of March 31,1999) .....	27
2.3.7 Number of $\gamma$ -Ray Radiography Apparatus and Isotope Gauges in Use in Other Organizations (as of March 31,1999) .....	27
<b>3 DISTRIBUTION OF RADIOISOTOPES</b>	
<b>3.1 Amounts of Major Unsealed Radioisotopes Distributed</b>	
3.1.1 Amounts of Major Unsealed Radioisotopes Distributed in Fiscal Years 1994-1998 .....	28
3.1.2 Amounts of Major Unsealed Radioisotopes Distributed by Category of Organizations in Fiscal Year 1998 .....	29
<b>3.2 Amounts of Major Sealed Radioisotopes Distributed</b>	
3.2.1 Amounts of Major Sealed Radioisotopes Distributed in Fiscal Years 1994-1998 .....	30
3.2.2 Amounts of Major Sealed Radioisotopes Distributed by Category of Organizations in Fiscal Year 1998 .....	31

## 4 DISPOSAL OF RADIOACTIVE WASTE

### 4.1 Collected Radioactive Waste

4.1.1 Collected Radioactive Waste in Fiscal Years 1960-1998 .....	32
4.1.2 Collected Radioactive Waste by District in Fiscal Year 1998 .....	33
Fig9 Collected Radioactive Waste by Kinds of Waste in Fiscal Year 1998 .....	33
4.1.3 Collected Radioactive Waste by Category of Organizations in Fiscal Year 1998 .....	34
Fig10 Collected Radioactive Waste by Category of Organizations in Fiscal Year 1998 .....	34

### 4.2 Treatment of Radioactive Waste

4.2.1 Treatment of Radioactive Waste in Fiscal Years 1960-1998 .....	35
4.2.2 Treatment of Radioactive Waste by Category of Organizations in Fiscal Year 1998 .....	36
Fig11 Treatment of Radioactive Waste by Kinds of Waste in Fiscal Year 1998 .....	36

## 5 APPENDIX

### 5.1 Number of Licensed Hospitals and Clinics

for Radiopharmaceuticals by Prefecture .....	37
--	----

### 5.2 Number of Licensed Hospitals and Clinics

for Radiopharmaceuticals by Usage .....	38
---	----

### 5.3 Number of Licensed Hospitals and Clinics

or Radiopharmaceuticals by in vivo and in vitro .....	38
---	----

### 5.4 Amounts of Radiopharmaceuticals for in vivo Test Distributed

in Fiscal Years 1994-1998 .....	39
---------------------------------	----

### 5.5 Amounts of Radiopharmaceuticals for in vitro Test Distributed

in Fiscal Years 1994-1998 .....	39
---------------------------------	----

