

- Nuclear Medicine -
  - Shielding Products
  - RI Associated Products

## **PET Associated Products Shielding Devices**

### **Lead Contained Protection Screen for PET**

SK-809



: 900mm (W) x 980mm (D) x 1,800mm (H) Size Observation Window: 840mm (W) x 340mm (H) (opening)

: 10mm lead contained glass Lead Absorb Rate : Lead with 20mm thickness **Covering Plate** 

: 560kg Weight

### RI Covering Screen, Moving Type

SK-831



: 843mm (W) x 800mm (D) x 1,250mm (H) Size

: 800mm (W) x 800mm (H), Cover Board

Lead with 20mm thickness

: approximately 250kg Weight

**Lead Contained Container for Sold Materials** for In-House Use (with Caster)

SK-601



There is an opening with a diameter 45mm on the upper lid, and the contaminated small items such as injector can easily be disposed into the container through this opening.

: SUS, Pb, PVC Materials

: 300mm (diameter) x 480mm (H) **Outer Size** : 250mm (diameter) x 450mm (H) Inner Size

: 20liter Capacity Weight : 650kg

: Main Body and Lid 10mm (no lead in the bottom) Lead Thickness



### **Lambda Protector**

SK-839



Size : 374mm (W) x 350mm(D) x 500mm(H)

Lead absorb rate : 30mm (covering efficiency is equivalent to

20mm lead against 18F)

Weight : approximately 60kg

### **Tungsten Syringeshield**

SK-883



#### Specifications:

	Purpose for Use	Weight	Size
SK-883C	1cc	50g	70x12¢mm
SK-883D	2.5cc	60g	52x15¢mm
SK-883E	Зсс	70g	63x15¢mm
SK-883F	5cc	85g	62x18¢mm
SK-883G	10cc	100g	82x22 <i>φ</i> mm

- · The thickness of the tungsten is 1.8mm
- Tungsten reduces radiation exposure from Tc-99m by 94 percent.

### **Lead Block**

SK-815



#### 1-1 F type Lead Block (flat combination)

Model	Type	(	Size (mm	Total Weight	
Wiodei	Турс	а	b	С	(approximate) (kg)
SK-815A	F-100			100	5.7
SK-815B	F-150	50	100	150	8.5
SK-815C	F-200	-		200	11.4

### Syringe & Vial Shields

**PET Syringe Shield** 

SK-3973 SK-3976 SK-3975 SK-3977



The barrel of the shield is constructed of .34" thick (9 mm) tungsten that attenuates FDG F-18 by 88%.

Shielding: .34" thick (9 mm) tungsten Lead Glass: 5.6 density

Weight:

with lead glass window: 3 cc, 5 cc, 10 cc without lead glass window: 1 cc, 3 cc, 5 cc, 10 cc Shielded Syringe Holder SK-3205



This Shielded Syringe Holder will accommodate unshielded syringes and syringes in a syringe shield.

Dimensions: 6.5" h (16.5 cm)

- I.D.: .84" dia. x 5.6 h (2.1 x 14.3 cm) Lead Shielding: .25" - .5" thick (.64 cm - 1.3 cm)

Accommodates Syringe Shields:

- Pro-Tec II: 1 cc, 3 cc, 5 cc

- Pro-Tec III:1 cc, 3 cc, 5 cc

- Pro-Tec IV: 1 cc Weight: 6 lb (2.7 kg)

### Shielded Syringe Carriers SK-3082

SK-3080



Two sizes, each offered in .125" and .25" lead shielding for added radiation protection.

SK-3080 Shielded Syringe Carrier, Large Dimensions: - I.D.: 7.7" | x 2.6" w x 2.7" h ( 19.6 x 6.6 x 6.9 cm) - O.D.: 9.5" | x 4.4" w x 3.5" h (24 x 11.2 x 8.9 cm)

Lead Shielding: - Sides, top and bottom: .25" thick (.64 cm) - Ends: .5" thick (1.3 cm)

Weight: 17 lb (7.7 kg)

SK-3082 Shielded Syringe Carrier, Small
Dimensions: - I.D.: 7.5" I x 1.7" w x 1.7" h (19 x 4.3 x 4.3 cm)
- O.D.: 9.25" I x 3.4" w x 2.6" h (23.5 x 8.6 x 6.6 cm)

Lead Shielding: - Sides, top and bottom: .25" thick (.64 cm) - Ends: .5" thick (1.3 cm)

Weight: 11 lb (4.9 kg)

Syringe Shield Holder

SK-3999



The Syringe Shield Holder will support up to eight shields and is counterbalanced to prevent tipping.

Dimensions: 7.5"w x 4" depth x 6" h (19x10.2x15.2cm)

Weight: 5 lb (2.3 kg)



#### **High Density** Lead Glass Vial Shield

SK-3075

### **Vial Pig**

SK-3076



The High Density (5.6) Lead Glass Vial Shield reduces hand exposure and offers complete 360° visibility. The lead glass vial shield is suitable for low-energy radioisotopes.

Lead Equivalency: .12" (3 mm)

HVL for 99m-Tc: 10 Accommodates Vial Sizes: 5 thru 30 ml

Weight: 3 lb (1.4 kg)



Vials containing PET or other high-energy radionuclides can be safely transported in this 10/30ml Vial Pig.

#### Dimensions:

- Exterior: 6.63" h x 4.15" dia (16.8x10.5cm) Interior: 2.76 " h x 1.51" dia (7x4.4 cm)
- Lead Shielding:-Sides and Bottom: 1" thick (2.5cm) -Top: 1.75" (3.8cm)

Weight: 21.3 lb (9.7kg)

### **Shipping Systems**

SK-3724

### Syringe Recapper

SK-3300



Transport up to a 30 ml vial of PET pharmaceutical in the PET Shipping System.

PET Shipping System, Vial **Dimensions:** 

- Container: 11.75" I x 11.75" w x 12.5" h (29.8x29.8x31.8cm)
- Cubic Feet: ~1 cu ft (.03 cu meters) Weight (Combined): 49.7 lb (22.5 kg)



A safe and inexpensive way to protect yourself when recapping a used syringe.

Syringe Recapper 3.25" I x 2.75" w (8.3 x 7 cm)

### **PET/SPECT Phantom**

NEMA2007/IEC2008

#### **PET Phantom**

SK-3767



- · Complies with NEMA 2007 Standard
- · Simulation of whole-body imaging using PET and camera-based coincidence imaging techniques
- Evaluation of reconstructed image quality in whole-body PET and camera-based coincidence imaging
- · Determination of the coincidence count rate characteristics in brain and cardiac imaging
- Evaluation of the relationship between true coincidence count rate and radioactivity
- Determination of the address errors caused by address
- Evaluation of the count loss correction scheme

**Dimensions** 

Interior Length of Phantom

Fillable Spheres (six) Inner Diameter Distance From Sphere Plane to Inside Wall: 70 mm

Volume of Empty D Shaped Cylinder

Cylindrical Insert Dimension: O.D.

Shipping Weight

: 9.5" h x 12" w x 9.5 depth (24.1 x 30.5 x 24.1 cm)

: 180 mm

: 10 mm, 13 mm, 17 mm, 22 mm, 28 mm and 37 mm

: 9.7 L

: 51 mm dia x 180 mm length

: 11 lb (4.9 kg)

#### **NEMA2007** PET Scatter Phantom™

SK-3768



- Complies with NEMA 2007 Standard
- Acceptance testing
- Determine the imaging systems relative sensitivity to scatter radiation
- · Measure the effects of dead-time and the effects of random events generated at different levels of activity of the line source

Cylinder Outside Dimension: 20.3 cm dia x 70 cm long

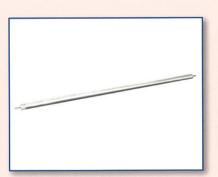
: 6.4 mm Cylinder Hole Size : 4.5 cm Cylinder Hole Offset

Line Source Dimensions : 5 mm O.D. x 80 cm long

Line Source Inside Diameter: 3.2 mm **Shipping Weight** : 52 lb (23.5 kg)

### **NEMA2007 PET Sensitivity Phantom™**

SK-3769



#### Complies with NEMA 2007 Standard Ideal for PET camera sensitivity

Five internally stacked concentric aluminum tubes - all 700 mm in length.

1st Tube - Inside Diameter : 3.9 mm

- Outside Diameter: 6.4 mm

2nd Tube - Inside Diameter : 7.0 mm

- Outside Diameter: 9.5 mm

3rd Tube - Inside Diameter : 10.2 mm

- Outside Diameter: 12.7 mm

4th Tube - Inside Diameter : 13.4 mm

- Outside Diameter: 15.9 mm

5th Tube - Inside Diameter : 16.6 mm - Outside Diameter: 19.1 mm

6th Innermost Tube (a fillable polyethylene tube)

- Inside Diameter : 1 mm - Outside Diameter: 3 mm

Shipping Weight: 3 lb (1.3 kg)



### **PET-CT Phantom**

SK-3771



The PET-CT Phantom™ includes internal structures (three rods and six spheres) which, when imaged with both modalities, can demonstrate how accurately the two image sets are aligned.

In addition, a single sample of radioactive water is attenuated by water, bone and CT contrast material (as well as air only) to determine how accurately the CT-based PET attenuation correction works.

Main Cylinder

Interior length of phantom: 180 mm

Fillable spheres (5) inner diameter: 10 mm, 13 mm, 17 mm, 22 mm, and 28 mm.

Distance from sphere plane to inside wall: 70 mm

Volume of empty cylinder: 9.7 liters Main Cylindrical insert dimension

Outside diameter: 51 mm / Length: 180 mm

TOP Cylinder

Cylinder outside diameter: ~5.1 cm / Cylinder inside diameter: ~4. cm Cylinder inside height: ~8.2 cm / Volume of empty cylinder: 408 cm2

Three Aluminum Tubes:

One 5 inch long: ~1.7 cc / Two 7 inch (ea): ~ 2.5 cc

Stepped Bone Ring:

Pre-filled with liquid bone composition, not to be opened

The volumes forthe bone ring are:

Outer volume: 15.6 cu inch: ~256 cc / Inner volume: 6.7 cu inch: ~110 cc

### **Jaszczak SPECT Phantom**

SK-3773



The Jaszczak SPECT Phantom provides consistent performance information for any SPECT or PET system. Multiple performance characteristics of camera-based SPECT systems are evaluated from a single scan of the phantom.

Cylinder Interior Dimensions : 8.5" dia x 7.32" h (21.6 x 18.6 cm)

Cylinder Wall Thickness : 0.125" (3.2 mm)

Volume: 6.9 LVolume With Inserts : 6.1 L

Cold Rod Insert Height : 3.46" h (8.8 cm) Height of Spheres From Base Plate : 5" h (12.7 cm)

SPECT Phantom, Deluxe

Cold Rod Dimensions : 4.8 mm, 6.4 mm, 7.9 mm, 9.5 mm, 11.1 mm, 12.7 mm Solid Sphere Diameters : 9.5mm, 12.7 mm, 15.9 mm, 19.1 mm, 25.4 mm, 31.8 mm

SPECT Phantom, Standard

Cold Rod Dimensions : 6.4 mm, 7.9 mm, 9.5 mm, 11.1 mm, 12.7 mm, 16.0 mm Solid Sphere Diameters : 12.7 mm, 15.9 mm, 19.1 mm, 25.4 mm, 31.8 mm, 38 mm

## **Disposal Associated Products**

# In-House Container for Disposed Liquid

The container has a inside polyethylene bottle in it, which protects the disposed liquid from leaking. The lid is fastened by a nut, so that the container is closed very tightly.

Size

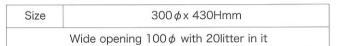
 $350 \phi \times 470 H \times 0.6 mmt$  (handle not included)

Various colors and sizes are available according to the order.



### Polyethylene Bottle for Disposed Liquid Container

The bottle is put in the container for the disposed liquid, and it is a polyethylene made bottle with a wide opening, which directly pools RI.





SK-611

### In-House Container for Disposed Solid

The contaminated solids to be disposed such as wastepaper and glass dust produced in RI processing can be stored in the in-house container for disposed solid. The upper lid is opened and closed up and down by a foot pedal, so that the diffusion of the radioactive fine or particles in the air is minimized.

Size

335φ x 485Hmm

The specific polyethylene bag (SK-604) is available as a separate commodity.



SK-601

### Carton Box



Size

280 φ x 345Hmm

### Radioactive material decontaminant





### Radiacwash™

This compound is formulated to decontaminate the widest possible range of contamination from radioisotopes and fission products, without affecting surfaces as acids and reagents do.



SK-3100A



### Radiacwash™ Spray Mist

Radiacwash™ Spray Mist combines the power and economy of Radiacwash™ with the convenience of aerosols. Radiacwash™ Spray Mist is a Radiacwash™ Solution packed into a special high pressure mist applicator.

When the activator is depressed, over 200 lb of pressure is created at the nozzle. The pressure misting effect allows Radiacwash™ to penetrate around and under contaminants and lift them off the surface into solution to be wiped up and disposed.



SK-3101



### Radiacwash™ Towelettes

Radiacwash™ Towelettes are individually packaged paper towels saturated in a special Radiacwash<sup>TM</sup>

Simply remove the towelette form the foil packet, scrub hands thoroughly and wash the contamination away with running water.



SK-3102



Wipe Test Kits may be used to perform wipe tests as indicated in NRC and Agreement State Regulations. They provide an efficient, convenient means of sampling contaminated areas with radioactivity on either wet or dry surfaces.





The leading surface active cleaning agent/radioactive decontaminant, for laboratory, medical and industrial applications.( Prepare a 2% to 5% solution of Decon 90 with water.)

Supplied in 1 litre, 5 litre and 20 litre.



SK-501A.B

### **Dustpan Mat**

#### SK-526A~SK-526C

Dustpan mat is used in various facilities in the world such as the factories to produce electrical products, hospitals, and institutes, which must be protected form any trouble caused by the dust. In many cases, the dustpan mat is used in the clean room as an anti-dust mat. The mat catches the dusts and bacteria under the shoes or on the wheels of carts very effectivery, when they get in the facility, and keeps the room clean.

#### Size and Packing Unit

Type	Color	Size(mm)	Pile	Packing
Disposable (SK-526A)	White	600x900x23	30	6 mats/case
Disposable (SK-526B)	White	600x1200x23	30	6 mats/case
Disposable (SK-526C)	Navy Blue	600x1200x23	30	1 mats/case

### **Acetic Acid Plastic Sheet**

This sheet protects the floor from the diffusion of the contamination, and does not contain chlorine, which allows you to burn it up.

Various colors and sizes are available to meet the demand:

Size(mm x m x m)
0.1 x 1.80 x 50
0.2 x 1.80 x 50
0.3 x 1.80 x 50
0.2 x 1.35 x 50



SK-534

### Tape for Masking

The masking tape is used for many purposes such as the paper patterns for painting, sandblast, ecching, plating, lettering, surface protection of the materials or products, or protection of the corrosion caused by a different kind of material contacts. The tape is also used for making drawings, drafts, or leather processing as well. In all the cases, the tape must be easy taping, high performance and hard removed, and no paste left after removing it.

The tape is available with different sizes and shapes according to the various demands after the very severe testing for quality assurance.



### **Smear filtering Paper**

The Smear filtering paper is processed for testing the contamination.

For ease in use, the Type SK-513 is designed with number and perforations.

SK-514 in spoon shape is also available.



#### SK-513, SK-514



## **RI Treating Products**

# SKK

### Polyethylene Filtering Paper/Box

Special polyethylene laminated filtering paper in the back protects the contamination from RI contained liquid, when the liquid is accidentally spilled in the hood, on the experiment or measurement table.

Polyethylene Filtering Paper

Size

800Wmm x 33m roll



### Paper Towel / Box

In order to avoid RI diffusion, you can clean your hands with this paper towel after working with RI.

Paper Towel	30 bundles / box
1 bun	dle = 200sheets



SK-535

Filtering Paper

### **RI Marking Tape**

This tape appears with a printed radioactive mark and a blank column, in which a corresponding nuclide is described. This tape should be affirmed on the RI liquid test tube or experiment tools for the purpose of danger protection.

The portable cutter (SK-531) is also useful to cut the tape.

Size	24mm x Length 35m roll	
,	5 rolls / box	



### **AT Tongs**

You can use these products to work with the tools without a direct contact with them in working with RI or toxic liquid. These products allow you to safely and steadily pick the tools such as beakers or test glasses up.

5М Туре	Size	total length 30cm
\$	stainless mad	le, with buff treating



## RI Slippers



### RI Sandals



### **RI Shoes**



SK-367

## RI Long Boots

with steel protection on the toe



### **Shoe Covers**



### **Shoe Covers**





### **Cotton made Thin Gloves**

According to the nature of works, it is recommended to use the cotton made thin gloves and rubber made gloves together for RI use.



### **Polyethylene Gloves**

Very thin gloves with anti-slipping tretment, salable in 100 pairs unit.



### Rubber made Gloves for RI use



Call Number	Length of Middle Finger	Width of Palm	Total Length
6	71mm	77mm	
6.5	74mm	83mm	
7	77mm	89mm	290+-10
7.5	80mm	95mm	2904-10
8	83mm	102mm	
8.5	86mm	108mm	

### **Arm Covers**

Tyvek made



### **Arm Covers**

EVA made



## **X ray Protective Clothes**

### **SGE Economy Coat**

Reduced down to the basic need only, deleting pokets and inner-mesh, and thus realizing lightness and economy.

#### **Belt Loop**

Belt Loop is adjustable in hight.



#### Overlap type Side Slit

Overlap type Side Slit helps increase protective ability and safety.





#### **Lead Equivalent**

0.25mmPb





B	а	C	k

Size	Lead Equivalent	Weight	W x H (cm)	B (cm)
S	0.25mmPb	2.7kg	51 x 85	65~80
М	0.25mmPb	3.1kg	53 x 88	75~90
L	0.25mmPb	3.8kg	55 x 96	80~95
LL	0.25mmPb	3.9kg	60 x 102	90~105





Yellow



Blue



Green



Pink Brown



Orange Lilac

Cover material Anti-germ+Fluoridization

Shoulder pad

Hanger included

#### **●**tag

**OLE** Indication

# VAO Value Apron Value One-Touch Apron

Basic type with basic functions. Easy wearing by Velcro. Its economy is attractive.

Lead Equivalent	Size	Weight	W x H (cm)	B (cm)
	М	2.7kg	58 x 100	85~95
0.25mmPb	L	3.0kg	60 x 110	90~100
	LL	3.2kg	63 x 115	95~105
	М	3.4kg	58 x 100	85~95
0.35mmPb	L	3.9kg	60 x 110	90~100
	LL	4.2kg	63 x 115	95~105
	М	4.2kg	58 x 100	85~95
0.5mmPb	L	4.7kg	60 x 110	90~100
	LL	5.0kg	63 x 115	95~105

#### Color



Blue







### SSM Skirt Smart Light Velcro type Skirt

No worry about getting loosened aside. Wearing /taking off are smooth.

Lead Equivalent	Size	Weight	WxH(cm)	Weast (cm)
	SS	0.3kg	25 x20	40~65
0.25mmPb	S	0.4kg	30 x 30	60~75
0.25mmPb	M	0.6kg	40 x 37	70~85
	L	0.8kg	45 x 40	80~95
	SS	0.3kg	25 x20	40~65
0.35mmPb	S	0.6kg	30 x 30	60~75
0.35mmPb	M	0.9kg	40 x 37	70~85
	L	1.1kg	45 x 40	80~95
	SS	0.4kg	25 x20	40~65
0.5mmPb	S	0.8kg	30 x 30	60~75
	М	1.2kg	40 x 37	70~85
	L	1.4kg	45 x 40	80~95



- tag
- Cover material Anti-germ+Fluoridization
- **OLE Indication**

### SNN Neck Guard Smart Light Neck Guard

Covering even the upper part of chest with overlapping on Apron and Coat, thus safeguarding the body more surely.

Also you can wear it in more sanity by using deodorant sheet.

Size	Lead Equivalent	Weight
Free	0.25mmPb	0.3kg
	0.35mmPb	0.5kg



Deodorant Sheet (NS: 100 pcs set) is available separately. Shipping cost will be charged.

#### tag

- Cover material Anti-germ+Fluoridization
- LE Indication



### **Shield Glasses**



Okabe Manufacturing SG-06

### **Neck Protector**



Type	Lead Equivalent	Specifications (mm)
SK-325A	0.13mm	60W x 550L weight 88g(approx)
SK-325B	0.26mm	60W x 550L weight 117g(approx)
SK-325C	0.39mm	60W x 550L weight 230g(approx)

NOTE: As a special order, we are ready to supply the one with a different width and length from the above fixed sizes.





# 產業科学株式会社 SANGYO KAGAKU CO.,LTD.

: 2-6-11, Higashi-Nihonbashi, Chuo-ku, Tokyo, 103-0004 JAPAN

Phone : 81-3-5825-7117 Facsimile: 81-3-5825-7118

URL