

1st Malaysia Radiation Protection Apparels Brand



MalRay

Block Shield Protect





Eightfold Sdn Bhd (200701017119)

TESTED by AGENSI
NUKLEAR MALAYSIA

MALAYSIA LEAD APRON BRAND

- LEAD LT • LOW LEAD/LIGHT WEIGHT • SUPER LEAD FREE

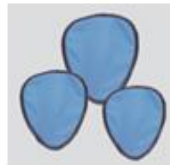
Lead metal is the preferred material for radiation shielding and is highly effective in providing protection from sources of radiation. Having very evenly distribution of lead, the performance of the protection is perfect. Under the normal use, the lead equivalent will not attenuate. It is wearable X-ray protective materials, lead equivalent rubber sheet.

DEFAULT FABRIC:

- 210D Oxford Nylon Fabric
- 420D Ripstop Nylon Fabric
- 420D Oxford Nylon fabric 86T±2T 124g/m2 with single layer PU Coating 15g/m2 base



Comply with
IEC61331:2014



Why choose us?



Affordable price



Tailor made to
your satisfaction



Light weight



Trusted Malaysia
Brand



Quality checked

Visit us and get latest update at www.eighfold.com.my



LEAD LT SHIELDING LEAD EQUIVALENT

Lead LT (Lead Polymer) apron is made of lead oxide and other composites dissolved in natural rubber, produce a homogeneous sheet that is excellent in radiation protection, flexible, long lasting and resistant to hardening. The special composites produce a protective apron that is lighter than those fabricated with last decade technology. Lead LT apron absorb up to 99% of scattered radiation that reaches protected object, and the stated lead equivalency are verified by facility with require test method comply with Standard IEC-EN 61331-01. The inner core material is certified to be in compliance, within an allowed +/-5% manufacturing tolerance (as mm Pb).

LOW LEAD / LIGHT WEIGHT AND SUPER LEAD FREE APRON

We carry protective apron in lead-free and Low Lead/Light Weight materials, to suffice customers that willing to pay more for lighter apparels. The material used are **Edge Bi-layer** products from UK. **Super Lead Free** takes advantage of the physics associated with using individual layers of specific materials to provide maximum attenuation by eliminating the effects of fluorescence and secondary scatter radiation with the low atomic weight metals used in Lead-free or low-Lead composites.

No other Lead-free or low-Lead material passes IEC 61331-1:2014, DIN 6857-1 and ASTM F2547-06 at a lower weight.

LEAD LT, LOW LEAD/LIGHT WEIGHT OR LEAD FREE APRON?

Below is a comparison of Malray's Lead LT (Lead Polymer) and Low Lead/Light Weight and super lead free apron in various aspects, to help the user in determination of type of apron to be used.

Media	Benefits	Protection	Attenuation	Weight
LEAD LT (Lead Polymer)	Most Economical and Recyclable	Lead fibre and composites in natural rubber	0.5mm Pb Equiv. protection average 98% attenuation over 80, 100, 120 KvP	4.5 kg (Flexi Guard, Size L, 0.5mmPb front protection apron)
Low lead/Light weight or No Lead (Lead Free, Super Lead Free)	Lightest weight, low lead or lead free, more environment friendly	Tungsten-Antimony	0.5mm Pb Equiv. protection average 96% attenuation over 80, 100, 120 KvP	4.2/3.4 kg (Flexi Guard, Size L, 0.5mmPb)

Sample materials tested by Agensi Nuklear Malaysia

AGENS NUKLEAR MALAYSIA (NUKLEAR MALAYSIA)
KEMENTERIAN SAINS, TEKNOLOGI DAN INOVASI
BANGSI 43000 KAJANG
SELANGOR DARUL EHSAN, MALAYSIA
Tel: 6-03-89112000 Faks: 6-03-89112173 <http://www.nuclearmalaysia.gov.my>

LAPORAN UJIAN KETEBALAN KESETARAAN PLUMBUM
No. Laporan: D(E6) 2008046

A) KETERANGAN PEMILIK SAMPEL
(Nyatakan nama dan alamat klinik/hospital yang dilawati serta nombor rujukan pengguna/pemohonan perkhidmatan)
Nama Pemilik: Eightfold Sdn Bhd,
Alamat: 69-1, Jalan SS19/6,
47500 Subang jaya,
SELANGOR.



Rajah 1 : Keluk kalibrasi (calibration curve) bacaan dos (µSv) melawan ketebalan Pb (mm) pada jarak 100 cm SSD.

Ketebalan Pb (mm)	Punata Bacaan (µSv)
0	3919
0.1	1107
0.2	572
0.3	347
0.4	217
0.5	138



Custom Apparel Quote Form

Eightfold Sdn Bhd

Custom Made Benefit: Custom made ensure best fit and comfort when wearing. On the other hand, it reduces overall weight of the apron by around 5 – 20%, which indirectly compensate the choice of lead free that cost double or triple the price! Please fill out the following form and submit for a pricing quote on all custom apparel. All custom sized apparel will include an additional fee for each item ordered. Custom sized apparel is non-refundable, non-returnable.

CUSTOM SIZE APPAREL

Please use the provided CAT numbers and pricing for each custom apparel item.

ACP1	RM 280 for custom aprons, vests and skirts
ACP2	RM 90 for custom apparel items (ex: Thyroid, Gonadal, Semi Guard)
ACP3	RM 90 for Embroidery single line up to 20 letters

Name: _____ Facility: _____ Date: _____

Apron CAT#: _____ Description: _____

Lead Type: _____ Lead Equivalent: _____ mmPb Fabric color: _____

EMBROIDERY LINE 1, UP TO 20-LETTERS: _____



Getting Accurate Measurements (all in cm)

GENDER: M / F **OVERALL HEIGHT:** _____cm

BUST/CHEST (B): _____
Circumference around the widest part of your chest.

WAIST / TUMMY (C): _____
Standard Apron: measure your waistline.
Skirt/Kilt: measure where you want the skirt/kilt top (may be higher than your regular waistline).

HIP (D): _____

LENGTH (A):
FRONT APRON or WRAP-ROUND: _____
Sternal notch to just above the knee.

VEST/TORSO (E): _____
Sternal Notch to desired length below your waist.

SKIRT/KILT (F): _____
Desired skirt/kilt top (may be above your regular waistline) to just above your knee.

Please submit this information with your order.

Embroidery Add-On Patch

This flexible option has your information embroidered onto a patch. Hook & Loop on the back of the patch and on the garment secure the patch in place



(Patch above pocket)



Monogram and Logo



CLEANING AND CARE

Thank you for choosing MalRay for your radiation protection needs. X-ray aprons serve a very specific purpose, to protect and shield you from the potentially harmful effects of ionizing radiation. Shielding, one of the three concepts of basic radiation safety, should always be used when the use of time and distance principles are not possible.

Protective x-ray aprons constructed of lead or a non-lead equivalent are designed to protect the radiosensitive areas of the body when it is necessary for the healthcare worker to be near the source of radiation. Typically, x-ray aprons will offer protection from 0.25mm to 0.5 mm lead equivalency. In some instances, wrap-around x-ray aprons are required when medical personnel will have their backs exposed to the radiation source.

Lead rubber is a very flexible and durable lead shielding products however, it still requires proper care in order to maximize its use and produce best result in term of radiation safety.

The following are recommended actions for the care of X-ray protective apron:

1. Regular Inspect and check apron for defects, cracks, creases, and perforations

X-ray aprons should be evaluated every 12 months to determine if replacement is needed, depending on the amount of usage and general wear and tear. It is advisable to perform more frequent inspection once it have been used for more than 5 years. To ensure proper inspection procedure, it is recommended to send the lead apron to a qualified lab to perform annual inspection and safety validation.

2. Clean Regularly

X-ray Aprons should be cleaned daily or weekly (depend on usage) and deodorized by scrubbing with a soft bristle brush, using [cold water and a mild detergent](#). Completely remove cleaning residue by thoroughly rinsing with clean, cold water.

- Never use products that contain bleach.
- Do not soak or submerge x-ray apron in water.
- Do not machine launder, autoclave or dry-clean.
- Once cleaning is complete, if possible, hang the apron on the designated apron wall rack to air dry.

3. Properly Store X-Ray Aprons

The x-ray apron manufacturer's recommendation regarding the proper handling and storage of the apron must be strictly observed. When not in use, x-ray aprons shall be stored on a flat surface or approved hangers to prevent cracks in the protective core materials. Lead free and low lead core material is more resistance to fold and crease than lead LT material. However, it is advisable NOT to fold or crease any type of apron unnecessary, to prolong their lifespan. Hook and loop fasteners must be secured properly to avoid snagging or tearing of fabric. Always store apron with fasteners completely secured.

4. Dispose of Lead Aprons Properly

X-ray protective aprons that contain lead (low lead and Lead LT model) cannot be disposed of as municipal solid waste. Consequently, they must be disposed of as hazardous waste or recycled. The user may send it back to us or contact us for any further information on handling of disposal.

5. Sit While Wearing Your Apron

Unless the x-ray apron has been designed specifically for seated procedures, you will want to avoid sitting while wearing your apron. Cracks in the core material can develop while wearing the apron if seated. Also, you will want to avoid sitting on the apron for the same reason.

6. Expose Apron to Extreme Temperatures

The x-ray apron shall be avoid for being exposed to extreme hot or cold temperatures or to direct sunlight.

7. Lean Against Pointed Objects or Sharp Edges

Avoid storing sharp objects in the pockets. X-ray aprons can become damaged while leaning up against sharp or pointed objects, creating perforations in the core material and reducing the attenuating qualities of the lead.

8. Store Aprons Over Chair Backs or Equipment

Laying aprons over a chair back or piece of equipment can create creases in the core material and can reduce the useful life of the apron.



FULL PROTECTION APRON

WRAP ROUND GUARD (FULL OVERLAP)

Wrap around, full-body protection coat-style garment. Distributes weight between shoulders and hips. 0.5mmPb equivalency protection front, 0.25mm back. Buckle closure. Generous armholes for EZ-fit.

Suitable for use in medical imaging / diagnostic department that poses risk of frequent exposure to X-ray environment.

CAT#: ELWA / EWWA / EGWA

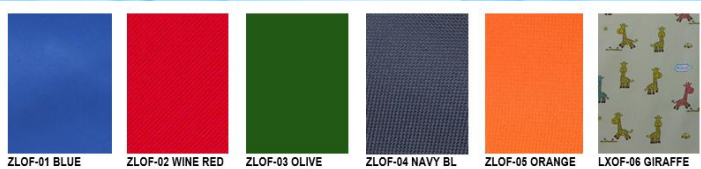
Material : Lead LT / Low Lead / Super Lead Free
Lead Equiv. : Back 0.25 / Front 0.5

Size:

S	850 x 530mm
M	900 x 550mm
L	1000 x 600mm
XL	1100 x 600mm
2XL	1200 x 625mm

*The size is for reference purpose only and the actual garment size depends on the final order and size adjustment.

Fabric color:



VEST N SKIRT GUARD

CAT#: EWVG, EWKG / EGVG, EGKG

Full front overlap design saves weight. Distributes weight between shoulders and hips. 0.5mm Pb equivalency protection front, 0.25mm back. Hook and Loop closure is fast and easy.

Lead equiv: Back 0.25 / Front 0.5

S	850 x 530mm
M	900 x 550mm
L	1000 x 600mm
XL	1100 x 600mm
2XL	1200 x 625mm

*The size is for reference purpose only and the actual garment size depends on the final order and size adjustment.





MAX GUARD

Partial overlap in front, maximum protection full-body protection coat-style garment. Distributes weight between shoulders and hips. 0.35/0.5mmPb equivalency protection. Generous armholes for EZ-fit.

Suitable for use in medical imaging / diagnostic department that poses risk of frequent exposure to X-ray environment.

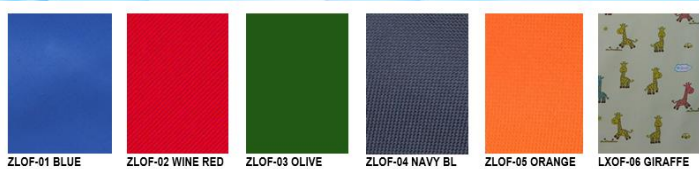
CAT#: EWMG / EGMG

Material : Low Lead / Super Lead Free
Lead Equiv. : 0.35 / 0.5

S	850 x 530mm
M	900 x 550mm
L	1000 x 600mm
XL	1100 x 600mm
2XL	1200 x 625mm

*The size is for reference purpose only and the actual garment size depends on the final order and size adjustment.

Fabric color



HALF APRON - LAP GUARD

Easy-to-use hook and loop / Buckle Closure
Excellent protection for patient and staff.

CAT# : ELLG / EWLG / EGLG
Material : Lead LT / Low Lead / Super Lead Free
Lead equiv : 0.35/0.5mmPb

Size	Width x Length (mm)
P	250 (W) x 250 (L)
S	300 (W) x 300 (L)
M	400 (W) x 360 (L)
L	500 (W) x 420 (L)
XL	550 (W) x 500 (L)
FAB-2	600 (W) x 600 (L)





FRONT APRON - EZ GUARD



All Purpose Front Protection Apron. EZ-On / EZ-Off. Available with an easy criss-cross back and Hook and Loop closure on the front. Optional Buckle strap closure. Perfect for every day imaging protection.

CAT# : ELEZ / EWEZ / EGEZ

Material : Lead LT / Low Lead / Super Lead Free
Lead Equiv. : 0.5

P	800 x 500mm
S	850 x 530mm
M	900 x 550mm
L	1000 x 600mm
XL	1100 x 625mm
2XL	1200 x 650mm

- The size is approximate only and the actual apparel size may differ up to 5% from listed.



NEW FABRIC COLOR

420D RIPSTOP DIAMOND NYLON FABRIC



FLRS-06 SAPPHIRE



FLRS-14A ONYX



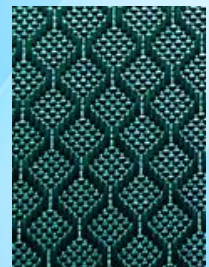
FLRS-14 RUBY



FLRS-31 EMERALD



FLRS-39 PERIDOT



FLRS-NAVY BLUE

420D OXFORD POLYESTER + PU COATING



ZLOF-01 BLUE



ZLOF-02 WINE RED



ZLOF-03 OLIVE



ZLOF-04 NAVY BL



ZLOF-05 ORANGE



LXOF-06 GIRAFFE



Dental Guard

Dental apron provides some protection in the case of the vertex occlusal examination, especially in a patient who is, or may be, **pregnant**. On the other hand, the use of a lead apron may reassure patients that every effort is being made to ensure their safety, and may reduce the amount of time that needs to be taken to reassure them.



Panoramic Dental Drapes

CAT# : ELDP-5A / 5C
Material : Lead LT
Lead Equiv. : 0.5

Panoramic Dental Drapes - Short

CAT# : ELDS-5A
Material : Lead LT
Lead Equiv. : 0.5

Panoramic Dental Drapes - with collar

CAT# : EWDC-5F
Material : Low Lead
Lead Equiv. : 0.5
Adult: 700mmL x 570mmW
Child: 580mmL x 450mmW



Breast Guard

The breast shield is primarily used in head and neck imaging. The shield features adjustable belt for proper positioning. The neck area is empty, allowing visibility of the upper spine and bones during x-ray, while offering protection to the breast area.

CAT#: ELBG
Lead Equiv. : 0.5mmPb
Material : Lead LT / Low Lead

Scolio Guard

Unprotected neck for cervical view. Wrap around belt allows custom positioning of the open area. No-slip fabric underside.

Adult: 190mmW x 660mmL **Child:** 150mmW x 500mmL
CAT#: ELSC / EWSC
Lead Equiv. : 0.5mmPb
Material : Low Lead

Thyroid Guard

Thyroid/ collar guard should be used in all examinations where the thyroid may be exposed to the main beam or to a considerable amount of scatter radiation. MALRAY Monolithic thyroid guards are design to provide essential shield area to cover thyroid gland position and at the same time remain soft to reduce patient discomfort.



CAT#: ELTG - Visor
ELTG-5F 0.5mmPb, Lead LT
EWTG-5F 0.5mmPb, Low Lead
EGTG-5F 0.5mmPb, Lead Free
Neck size: 14" to 23"

CAT#: ELTR - All round (US) type
ELTR-5F 0.5mmPb, Lead LT
EWTR-5F 0.5mmPB, Low Lead
EGTR-5F 0.5mmPB, Lead Free
Neck size: 14" to 23"

CAT#: ELTM - Monolithic type
ELTM-5F 0.5mmPb, Lead LT
EWTM-5F 0.5mmPB, Low Lead
EGTM-5F 0.5mmPB, Lead Free
Neck size: 14" to 23"



Gonadal Guard / Ovarian Guard

Easy and fast to put on Easy adjustment due to the stretch belt
Set includes belt and 3 shield: Small, Medium, Large. Comply with IEC 61331-1. Attached belt with 1” buckle. 0.5mm Pb equivalency protection. Available in three sizes.



CAT#: ELOG / EWOG

Set of 3

Lead Equiv. : 0.5mmPb

Material : Lead / Low Lead

Gonadal Guard / Ovarian Guard BELT

Protects the ovaries of female standing patients during X-rays in medical diagnostics. The elastic stretch belt with snap buckle guarantees easy putting on and taking off and a comfortable size adjustment. Comply with IEC 61331-1.

Attached belt with 1” buckle. 0.5mm Pb equivalency protection. Available in three sizes.



CAT#: ELOB / EWOB

Set of 3

Lead Equiv. : 0.5mm / 1.0mmPb

Material : Low Lead

Hat Guard

Protection for the top of head. Hook and Loop fitted closure.

CAT#: ELCS / EWCS / EGCS

Lead Equiv. : 0.5mmPb

Material :Lead LT / Low Lead

Head Circumference up to 18”



Hand Guard

Five fingered protection for full dexterity. 0.5mm Pb Equivalency. Durable, soft vinyl covering. Sell as a pair.

CAT#: ELHG

Lead Equiv. : 0.5mmPb

Material :Lead LT / Low Lead

Length M: 350mm, L:390mm



MALRAY Apron Bag

Carry bag for your valuable apron and protect it from unexpected damage. Made of apron nylon fabric with tear resistant lining. Come with accessories to roll apron. Plastic bottom to prevent sagging. Opening on top of bag

CAT#: MAB

Material : Ripstop / Oxford Nylon Fabric
tear resistant lining





Why You Should Protect Your Eyes from Radiation Exposure

Requiring hospital staff, doctors and x-ray technicians to wear lead glasses is an important step to helping prevent x-ray radiation damage to the eyes. Lead glasses can greatly reduce the risk of x-ray radiation exposure to only 2-3%.

There are several risks with leaving the eyes unprotected from x-ray radiation exposure. At the time of unprotected x-ray radiation exposure, most people do not experience any pain. However, it is very common to experience a dull pain in exposed tissues, including the eyes, within 1 to 3 hours of the x-ray radiation exposure. Exposure to x-ray radiation can also cause swelling and first degree burns.

Secure-Guard

Vented goggle for extreme protection. Adjustable headband keeps goggles securely on head and prevents slippage. Neoprene foam cushioning for facial comfort. Large lens pocket allows for maximum viewing area. Vented to prevent fogging.

CAT#: ELES

Lead Equiv. : 0.75mm front and sides.
Frame : impact resistant plastic
Weight : 105g



Cover-Guard

CAT#: ELEC

Comfortable protection over regular glasses. Excellent front and side visibility. Provides limited splash protection. **Can be worn over prescription eyewear.** Regular hinges with molded nose piece. Includes 0.75mm Pb glass side shields. Includes premium case.

Lead Equiv. : 0.75mm front and sides.
Frame : black rubberized nylon.
Weight : 90g



Fitover-Guard

CAT#: ELEF

Designed to be worn over prescription eye glasses. Optional detachable inner frame to fit permanent prescription lenses. Lead glasses for radiation protection. Fits large sized faces. Above industry standard protection with 0.75mm Pb lead glass lenses. Includes comfortable cotton retention strap and protective storage case. (Price excludes prescription lens)

Lead Equiv. : 0.75mm LE
Frame : rubberized nylon.
Weight : 90g



CT Eyes Shield

CAT#: EWES

Designed to protect the eye, which becomes especially sensitive to radiation after repeated CT procedures. 70% protection to the complete eye. Perfect fit to prevent accidental exposure to radiation. Designed to mould to the eye's shape. Set of 2, Child and Adult

Lead Equiv. : 0.75mm LE





Mobile Lead Screen with Window

CAT#: MLSW

Mobile Lead Screen with lead Screen features a 2.00mm Pb equivalence and comes in two standard sizes

- with 4 lockable castle wheels
- lead glass window Glass size:
150x200mm, 200x300mm, 300x400mm
- Lead Equivalent = 2.0mmPb

Dimension:

- Standard Panel - MLSW-198502: 850 x 1880mm
- Wide Panel - MLSW-191202: 1200 x 1880mm



Mobile Wheeled Apron Hanger

Mobile 5/10 Swing Arm Apron Rack organizes and protects up to 10 X-ray aprons in a traditional garment-style rack. Ideal radiation protection storage solution for a busy radiology department. 10 pivoted arms fan out for flexibility to easily store and retrieve aprons. Locking casters glide smoothly for easy mobility.

CAT#: ESMH

- 5 / 10 arms (stainless steel) with detachable bracket

Materials:

- Full stainless steel arms and frame
- 75mm swivel wheel x 4, 2 lockable diagonally fit.

Dimension:

540mm(L) x 600mm(D) x 1320mm (H)

*the dimension varies between batches to cope with different customers need. Please confirm the final dimension before you place the order.



Wall Mounted Apron Hanger

CAT#: ESWH-5

- 5 arms (stainless steel) with detachable bracket
- Stainless steel apron hanger organizes and protects up to 5 X-ray aprons in a wall mounted rack.



Single Apron Hanger

- Stainless Steel 304
- 165mm (H) x 500mm (L)





Wall Mounted Apron Hanger –Peg Rack (Economic)

CAT#: WMAH-P

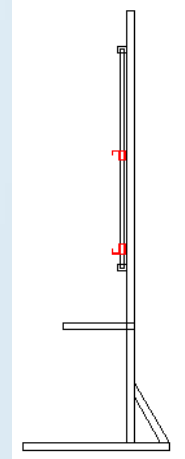
- 1 / 3 / 5 aprons rack (stainless steel)
- Stainless steel apron hanger organizes and protects up to 5 X-ray aprons in a wall mounted rack with 140mm pegs.



CHEST STAND / BUCKY

CAT#: CSSM-SS

- Mobile CR DR Image Receptor Plate Holder.
- Stationary mount with 4 rubber pads
- Clamp range: Vertical 200 - 500mm,
Horizontal: 345 - 520mm
- c/w collapsible board for kid
- Material:
- Grade 304 Stainless Steel Frame and members, vertical rails and horizontal clamp
-
- Approx. Dimension: 1830mmH x 600mmW x 440mmL



MOBILE RADIATION SHIELD FOR CHEST X-RAY

CAT#: MRSA-5

0.50mm LE Low Lead
Lead Shield Dim: 760mm(H) x 610mm(W)
Base dimension: 550 x 450mm
Overall Height: 1540mm
Adjustable range: 780 - 1500mm
Stainless Steel Base with 3 swivel wheels, 2 lockable

- Full stainless steel 304 construction
- Stable frame and smooth movement
- Easy disassemble for long distance travelling





MYRAY LEAD APRON WARRANTY – STANDARD 1 YEAR AND EXTENDABLE TO 2 YEARS

- Extended to 2 Years for Annual Protective Apron Quality Assurance Program (“AGAP”) Participation

Eightfold Sdn Bhd (“ESB”) warrants that all x-ray protective aprons manufactured under its label to be free of defects in material and workmanship for a period of 1 year from the date of purchase, extendable to 2 years if the client prefer to participate in our Apron Quality Assurance Program (“AGAP”).

Seller's obligation is limited exclusively to the repair or replacement of the defective product. This warranty does not cover damage as a result of abuse, abrasion, or failure to follow care and use instructions.

Customer mishandling of products is not covered under warranty. These include, but are not limited to, the following:

- Melting of apron due to heat exposure
- Any physical damage to the fabric, such as puncture holes through the fabric or core materials of apron due to a sharp object
- Submersion of apron for cleaning purposes

ESB hereby disclaims all other warranties, either expressed or implied. There are no warranties which extend beyond the time frame stated. In no case shall the liability of ESB exceed the purchase or replacement price of the product.

MYRAY’S RADIATION PROTECTION APRON PERFORMANCE

Lead aprons generally have shielding equivalence equal to a 0.25–0.5mm lead barrier, and will only attenuate the radiation. Lead aprons absorb 90%–99% of scattered radiation that reaches them. “Wrap-around” lead aprons are useful when medical personnel spend a lot of time with their backs turned away from the patient.

SHIPPING

Shipping of goods are available within Malaysia and from Malaysia to Singapore, Brunei, Indonesia and Thailand only. Our garments are packed with less folding and maximum protection, in special paper package to ensure the goods reach you is as perfect as it came out of factory.

Should your good receive is not in acceptable forms due to poor courier service handling, please take photo evidences and send it back to us. We will undertake the responsibility to replace you with new one.

APRON RECYLCING

Lead is included in the Toxic Substances List and it should not be disposed of as conventional garbage, but rather as hazardous waste. Lead-free garments are environmentally friendly and do not need to be recycled.

ESB will gladly accept Lead, low lead (light weight), lead free apparels and accessories back for recycling. Call our sale representative for "Recycle Return Authorization". There will be no recycling charge to you; we only ask that you pay for your own shipping if you happen to be out of Klang Valley.