

BC LightRecycle

Consolidation Site Guidelines:

Institutional, Commercial and Industrial Lamps



Version 1 - Oct 1, 2012

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This guideline is intended to provide practical guidance and best management practices for consolidation site operators regarding staff handling and storing of program products collected under the Product Care LightRecycle program. This guideline should be used by consolidation site operators to instruct staff in using required practices of the program.

The practices described in this guideline are not intended to replace any standards, acts or regulations required under Local, Provincial or Federal law; nor is the guideline intended to relieve the consolidation site operator or staff of requirements under the law.

Product Care accepts no responsibility and assumes no liability resulting from the incorrect use of information contained in this guideline or from the use of this information in any circumstances other than those described.



Guidelines Overview

These Guidelines must be used to instruct workers in the correct handling and storage practices for lamp products collected under the program.

If workers have questions about subjects in these Guidelines, the best way to help them is to explain or show them the correct practice. For instance, you can teach them which products are accepted in the program or show them how to correctly prepare a box for shipping.

The following guidelines are intended for the collection of **whole lamps** from the residential, institutional, commercial and industrial sectors.

Additional Information

For more information regarding this program or if you have any questions after reading this manual please contact:



Product Care Association
105 West 3rd Avenue
Vancouver, BC V5Y 1E6
604-592-2972 ext. 216 | 1-888-811-6234
Email: pickup@lightrecycle.ca

LightRecycle Program Overview

The LightRecycle Program was developed by Product Care Association in response to the BC Recycling Regulation and was approved by the Ministry of Environment. The program includes a province wide recycling program for all lamp technologies including, but not limited to, fluorescent tubes, CFLs, LEDs, HIDs, halogens and incandescents used in residential, institutional, commercial and industrial applications.

There are three types of collection sites included in the program:

1. Collection sites for consumers with up to 16 residential-use whole lamps
2. Collection sites for consumers and large volume generators with whole lamps used in residential, institutional, commercial and industrial applications
3. Collection sites for large volume generators with whole lamps used in institutional, commercial and industrial applications (advertised and non-advertised)

The program also includes “consolidators” that will collect lamps from off-site projects, customers and/or generators without charge, transport the lamps to a consolidation site and consolidate the lamps into collection containers provided by the Program before receiving pick-up services by the program.

This guideline manual is designed for consolidation sites contracted by Product Care to act as consolidators, as described above.

Safety

Fluorescent light bulbs/tubes and high intensity discharge bulbs (HID), such as high pressure sodium lamps and metal halide lamps, are commonly used in households, businesses and commercial/ industrial applications and are considered safe under normal conditions of use. However, these lamps do contain a very small amount of mercury, which is a highly toxic substance. The risk to health and the environment only occurs if the light bulb is broken so care must be taken in handling the bulbs to ensure they do not break.

Consolidation Site Guidelines

This guidebook is written for consolidation sites that are consolidating large volumes of lamps from the institutional, commercial, industrial and/or residential sectors as part of Product Care’s BC LightRecycle program. It is intended to ensure that the program products are collected and handled in a manner that adequately safeguards the environment and worker health and safety. It provides direction on:

- Receiving, sorting, packaging and shipping lamps
- Health and safety issues related to lamps management
- Paperwork and record keeping

If, after reading these guidelines, you have any questions, please contact:



Product Care Association
604-592-2972 ext. 216 | 1-888-811-6234
Email: pickup@lightrecycle.ca

Section 1: Program Products

This program covers all lamp types designed to be removed by the user, which can be categorized as either “bulbs” or fluorescent tubes. Lamps are often referred to as “lights” or “bulbs” by the public. The program includes the following types of lamps:

Fluorescent Tubes:

- Fluorescent tubes – linear/straight
- Fluorescent tubes – curved/circular

Bulb Types:

- UV and Germicidal lamps
- Compact Fluorescent Lights (CFLs)
- Halogen and Incandescent bulbs
- Light Emitting Diodes (LEDs)
- Ultra High Performance (UHP) lamps
- High Intensity Discharge (HID) lamps

For further details to assist in identifying accepted lamps, including definitions and pictures, please refer to Appendix B.



Accepting Broken Lamps

Consolidation sites are expected to collect intact (whole) lamps, but the program will accept light bulbs that have been broken accidentally.

A consolidation site may include any accidentally broken bulbs and the materials they used to clean it up (such as paper towel or cardboard) in the collection containers provided by the program. Ensure it is in a sealed plastic bag or sealed glass container and put it in the lamps collection containers provided by the program. The program **does not** accept liquid mercury and consolidation sites should **NOT** accept liquid mercury from customers in any type of container.

Currently, there are businesses that use equipment such as a drum-top crusher or bulb crusher to intentionally crush lamps for consolidation purposes. While the program will pick-up drums of pre-crushed lamps directly from generators, consolidators are **NOT** required and **CANNOT**

accept these intentionally pre-crushed lamps as they have other regulatory implications. Any inquiries on pre-crushed lamps collection services should be redirected to Product Care.

Service Fees

Under the program, **NO FEES** can be charged to customers and/or generators for the collection service offered by the consolidator on behalf of the program. The program will reimburse consolidation sites for their services rendered under the program according to the schedule outlined in their signed contract with Product Care.

The program is funded by fees applied to the sale of new lighting products in BC. The fee rates vary according to the type or length of the lamp and can be found at www.lightrecycle.ca

Section 2: Consolidation Site Set-Up

Unsupervised collection containers located outside staffed areas (e.g. parking lots) is **not** permitted. The consolidation site should be or have:

- Well planned and allow for efficient and safe removal of lamps boxes. Additionally, it should be easy to replace full boxes with empty ones
- Secure from theft and tampering
- Protected from weather
- On impervious surfaces
- Well-ventilated



Lamps **MUST** be kept dry; the program will not compensate for wet lamps

Storage Location

Once the collection boxes are full, they can be removed from the handling area to the storage location to stage for shipping. The storage area for collected materials should be:

- Away from high-traffic areas
- Inaccessible to the public (i.e. staff only)
- Monitored and safely maintained
- Able to provide adequate room to support at least four pallets of boxes, as per the instructions below on how to consolidate boxes onto pallets.
- Protected from the elements, away from drains and on an impervious surface
- Secured during non-operating hours

It is important that the program products are packed properly to:

- Reduce breakage
- Maximize use of storage space
- Simplify handling and prevent injuries as well as exposure to staff and the environment
- Consolidate large volumes on the pallets provided by the program in order to reduce the cost of transportation

Security

When the site is closed, access by people or animals must be prevented to make sure that stored lamps are protected from improper handling, theft, or damage. Make sure that all materials are secured inside your facility and protected from weather at all times.

Section 3: Handling, Packing & Arranging Transport

3.1 Supplies Provided

For consolidation sites that are **NOT** currently utilizing durable collection containers provided by contracted service providers, Product Care will provide:

- Cardboard “bulb boxes” for all bulbs and shaped tubes (24”x20”x 24”)
- Gaylord boxes for fluorescent tubes 4 feet or less (48”x40”x48”)
- Cardboard boxes for fluorescent tubes over 4 feet and up to 8 feet (96”x10”x10”)
- Pallets
- Packing tape

Product Care will also provide each consolidation site with a Lamp Spill Kit

Consolidation sites that are utilizing durable collection containers provided by Product Care approved service providers can continue utilizing these containers, though the program will require the use of a plastic liner to contain any accidentally crushed lamps. Please see below for more information.

The cardboard boxes listed above and further described throughout these guidelines may be received by consolidation sites at any time if alternatives are not available.



NOTE: Cardboard boxes will require assembly prior to use.



If you need more of any of these items, please contact Product Care at 604-592-2972 ext. 216 | 1-888-811-6234

Email: pickup@lightrecycle.ca

You may also order them when you contact us for a pickup

Alternative Packaging Supplies

Consolidation sites that currently utilize reusable wooden boxes and other containers provided by Product Care approved service providers for the collection of lamps can continue utilizing these supplies.

Alternative supplies may include:

1. Fibre drums, durable plastic containers or small plywood boxes for CFLs, Halogen, Incandescent, HID and shaped tubes.
2. Plywood boxes for 4 foot fluorescent tubes

See further below for instructions on how to utilize these boxes, including instructions on the use of plastic liners.

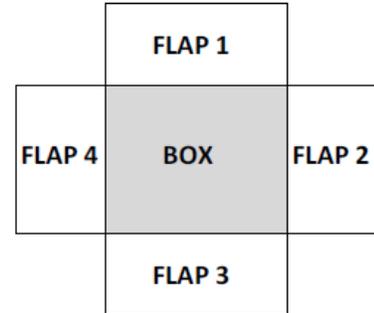


NOTE: These guidelines include instructions on the use of cardboard boxes. This information will not be relevant to consolidation sites that are not utilizing these materials.

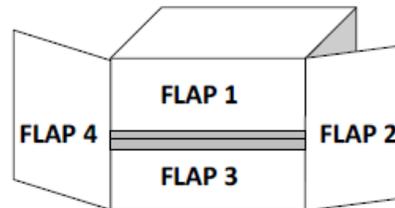
3.2 Assembling Empty Boxes

Collection Box Assembly: Cardboard Bulb Boxes (24"x20"x24")

1. Start by unfolding the flattened box into a square shape.

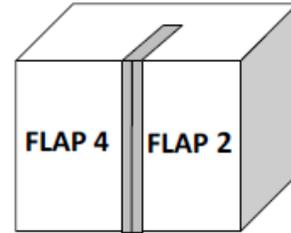


2. Fold Flap 1 and Flap 3 over the box opening until they meet in the middle.



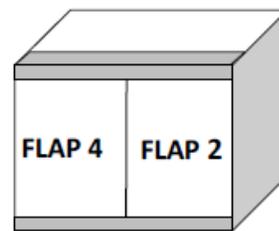
3. Affix two (2) strips of packing tape down the middle of the flaps.

4. Fold Flap 2 and Flap 4 until they meet in the middle.



5. Affix two (2) strips of packing tape down the middle of the flaps. Make sure that the strips of tape reach down the side of the box at least six (6) inches (15 cm).

6. Affix two (2) strips of packing tape along each side of the box where the flaps were closed.



7. Ensure that all open edges of the bottom of the box are securely taped up.

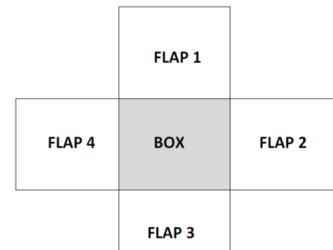
8. Open the plastic liner bag provided inside the box and fold the liner over the top end of the box.

Upon completion of steps 1-8, the box is now ready for use.

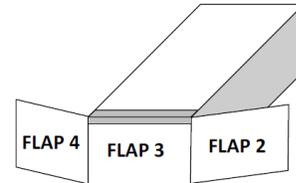
Collection Box Assembly: 8ft Tube boxes (96"x10"x10")

1. Start by unfolding the flattened box into a rectangular shape.

Note: All four flaps are full flaps.

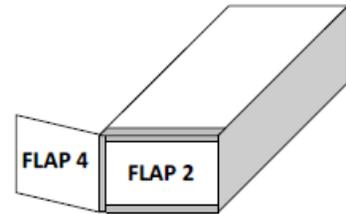


2. Fold Flap 1 and Flap 3 over the box opening.



3. Affix two (2) strips of packing tape along the edge of the box where the flap is closed.

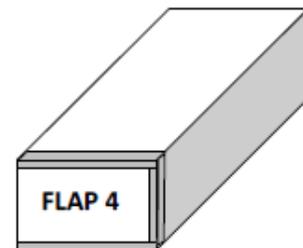
4. Fold Flap 2 over.



5. Affix two (2) strips of packing tape along each of three (3) edges of the box where the flap was closed.

6. Fold Flap 4 over.

7. Affix two (2) strips of packing tape along each of the three (3) edges of the box where the flap was closed.



8. Make sure all the open edges of the bottom of the box are securely taped up.

9. Open the plastic liner bag provided inside the box and fold the liner over the top end of the box.

Upon completion of steps 1-9, the box is now ready for use.

Gaylord Collection Box Assembly: 4ft Tube Boxes (48"x40"x48")

1. Start by unfolding the flattened Gaylord box into a rectangular shape.
2. Fold two of the bottom flaps over the box opening until they meet in the middle.
3. Fold the other two flaps until they meet in the middle.
4. Affix two (2) strips of packing tape down the middle of the flaps.
5. Once the bottom of the box is sealed it can be centered on the pallet (48x40) so it does not sit outside the pallet, as it may create loading problems if shifts in transportation.
6. Open the plastic liner provided and place it inside the box so the edges overlap the box walls with enough overlap to be later taped together in the middle.
7. Place the bottom pad (flat piece of provided cardboard) inside the box for extra protection of the tubes. Note that the pad will be laid inside the plastic liner to protect the bottom of the liner from being punctured by the pins on the end of fluorescent tubes.
8. Place the long divider inside the box, then the 2 smaller divides so it create a honeycomb like structure.
9. Assemble the lid by affixing two (2) strips of packing tape along each of the four (4) edges so it fits over the open end of the Gaylord.
10. Place the box on a pallet provided by Product Care.



Upon completion of steps 1-10, the box is now ready for use

3.3 Handling and Sorting Lamps into Boxes

Lamps, once received and transported back to the consolidation site should be placed in the collection containers (boxes) provided. Consolidation site staff must sort lamps into the collection boxes provided in the following manner (4 categories):



- **All regular sized bulbs** (CFL's, incandescent, halogen, LED, UHP and small HID etc.) and tubes with unusual shapes (U shape, curved, circular shape etc.) can be mixed in the "bulb boxes" (24"x20"x24" cardboard boxes or other containers provided). Refer to Appendix B for pictures of these bulb types to assist with identification.
- **Large HID bulbs** should be separated from all other bulb types and placed separately in their own "bulb box" (24"x20"x24" cardboard boxes or other containers provided). These bulbs can be much bigger and heavier than a regular sized bulb. Refer to Appendix B for pictures of these bulb types to assist with identification. Staff should clearly mark these boxes on the outside as "HID" using a dark pen, marker or label to ensure they are counted separately from the other bulb boxes on the Bill of Lading.
- **4 foot fluorescent tubes** and shorter straight fluorescent tubes should be placed in the Gaylord boxes (48"x40"x48") or wooden boxes provided
- **8 foot fluorescent tubes** (and those under 8 feet but longer than 4 feet) should be placed in the 8ft cardboard boxes (96"x10"x10") provided. If you receive 8 foot tubes in an original box that is in good shape (not broken or with holes) you can ship that box instead of repackaging the tubes into Product Care provided boxes.

Correctly filling boxes protects against shifting and breakage during transport. The lamps should be stored and packaged in a way that avoids breakage.

The following methods will ensure safe handling of all lamp types and minimization of risk:

- The containers and packages must remain structurally sound and lack evidence of leakage, spillage or damage.
- Containers should be set up on pallets so they don't tip over easily.
- Containers should be stored in such a way that they won't easily tip over or get damaged.
- Do **NOT** stack cardboard boxes of lamps more than 3 high because the lamps on the bottom could be crushed by the weight of the pile.
- The lamps should be handled by their bases, not the glass portion.
- Lamps should be carefully placed into boxes and not dropped or thrown in to prevent breakage.

- Lamps should be placed inside the plastic liners provided for each box type. When the boxes are full the liners ends should be tied or taped together to create a seal with all lamps inside the liner.
- Ensure boxes are filled to capacity (to prevent breakage during transport and to qualify for payment) but do not overfill boxes.
- Seal boxes with packing tape in preparation for ship-out. Ensure all seams are taped. Refer to the Taping Method instructions below.
- If boxes other than cardboard boxes are used for the collection of bulbs (i.e. fibre drums, small plywood boxes etc.) ensure any lid provided is securely placed on top and will not shift during transportation. Use tape or shrink wrap if required.
- Any lamp that is broken must be cleaned up immediately using the spill procedure under the Clean-up Procedures.



NOTE: Large HID bulbs are to be separated from other bulb types and placed in their own boxes. HID boxes must be clearly marked as HID boxes on the outside. See above for more detail and Appendix C for pictures to distinguish these bulb types.

- Do **NOT** tape bulbs or tubes together or use rubber bands.
- Do **NOT** over fill the lamps collection containers as they will be difficult to close during shipping preparations.
- Do **NOT** stack material on top of the collection containers.

Gaylord Box Instructions

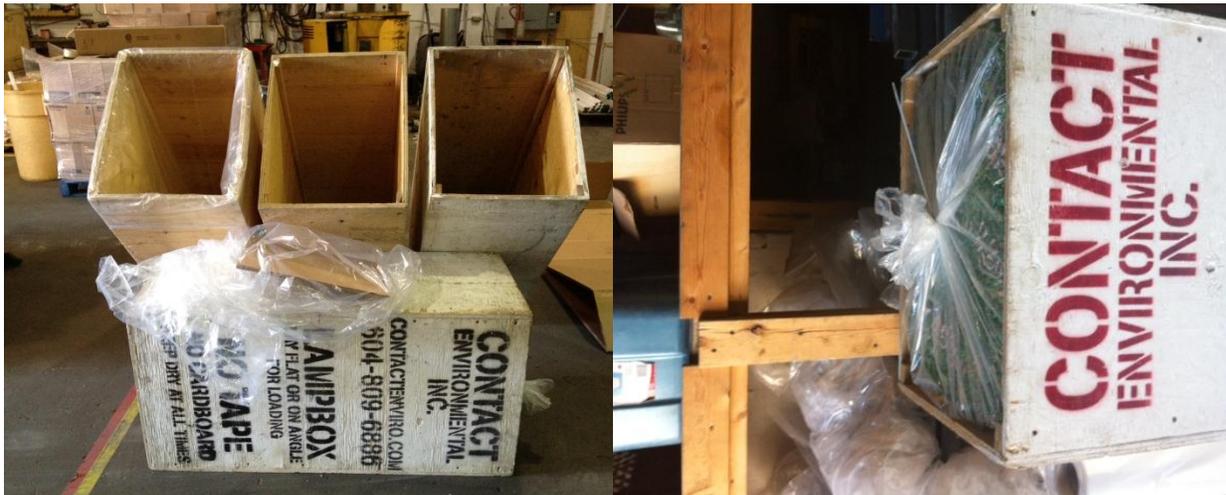
Gaylord boxes should be placed on pallets prior to being filled as they will be shipped on a pallet.

1. Gaylord boxes should be centred in the middle of the pallet.
3. Make sure that the box is placed securely on the pallet (should not extend or fall beyond the edges of the pallet).
4. Begin filling Gaylord boxes from the middle of the box going outward to prevent tubes from tipping over.
5. When the Gaylord box is full, pull the plastic liner over the top and tie or tape it shut to prevent the items from falling out of the box or to contain any breakage.
6. Do **NOT** overfill the Gaylord boxes.
7. Place the lid on top of the box opening and shrink wrap it to prevent it from shifting during transportation.
8. Write the name of your company on the shrink-wrap.

Plywood Box Instructions

The following procedures should be used to handle straight fluorescent tubes up to 4 feet in length in the wooden boxes if they are received/used by a consolidation site.

- Plywood boxes can be placed on their side (as pictured below) or at an angle to be filled.
- Plastic liners provided should be placed inside the boxes prior to placing lamps inside, as well as any cardboard pads provided.
- Tubes should be placed inside the boxes carefully and not thrown or dropped in to prevent breakage.
- Tubes should not protrude past the top of the box
- When the plywood box is full, pull the plastic liner over the top and tie ,tape or zap strap it shut to prevent the items from falling out of the box or to contain any breakage.
- Do NOT overfill the plywood boxes.
- Once the boxes are filled they should be placed vertically (tubes pointing upwards) for shipment. Four vertical boxes will fit on a pallet. They should then be shrink-wrapped together for shipment.
- Test the pallet's stability by pushing on the stack. A properly stacked and shrink-wrapped pallet is difficult to move side to side.
- If the pallet is unstable, restack or wrap with additional shrink wrap.
- Write the name of your company on the top of the liner





Service Fees



NOTE: Under the program, NO FEES can be charged to customers and/or generators for the collection service offered by the consolidator on behalf of the program. The program will reimburse consolidation sites for their services rendered under the program according to the schedule outlined in their signed contract with Product Care.

If your company provides collection services for other products (non-program) and you charge a fee for that service, you may continue to charge the fees for collection of the other products but not the program products and explain to the customer that it is being accepted outside of the program. The non-program products must go into a separate system than the program lamps (i.e. not be placed in Product Care containers, and must be stored, tracked and transported separately.) If fees are being charged to customers for the collection of non-program products, ensure the customer understands the fee is not being charged under the LightRecycle program.

3.4 Accepting Broken Bulbs

Consolidation sites are not intended to handle lamps that have been crushed on purpose (i.e. by a drum-top crusher, also known as a bulb crusher), but may need to handle lamps that have been broken accidentally. The program **does not** accept liquid mercury and consolidation sites should NOT accept liquid mercury from customers in any type of container.



Currently, there are businesses that use equipment such as a drum-top crusher or bulb crusher to intentionally crush lamps for consolidation purposes. While the program will pick-up drums of pre-crushed lamps directly from generators, consolidators are **NOT** required and **CANNOT** accept these intentionally pre-crushed lamps as they have

other regulatory implications. Any inquiries on pre-crushed lamps collection services should be redirected to Product Care.

The Health Canada website (and others) provides information on what a resident should do in case of a broken light bulb. If a lamp is accidentally broken, ensure it is in a sealed plastic bag and put it in the program container that it fits in (usually the “bulb” box). Do not open this container to avoid unnecessary risk.

3.5 Preparing Boxes for Shipment

Once boxes have been completely filled and the box liners have been tied or taped shut they must be prepared for shipment.

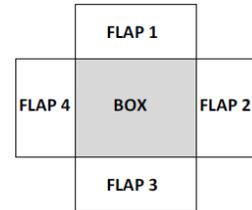
Mark/label each box with your company name. If the box is a bulb box containing Large HID bulbs that have been separated from the other bulb types in accordance with the instructions above, ensure you have marked/labelled the box with “HID” on the outside.

Follow the instructions above for how to prepare Gaylord boxes and wooden boxes for shipment.

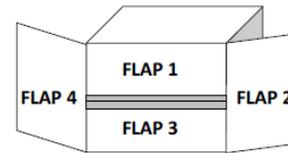
Instructions on how to tape and consolidate cardboard bulb boxes and 8 foot tube boxes on pallets are included below.

Taping Method for Full Cardboard Bulb Boxes (24"x20"x24")

1. Once the box is full, open the flaps as shown (top view).

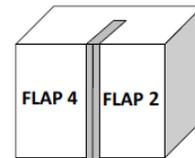


2. Fold Flap 1 and Flap 3 over the box opening until they meet in the middle.



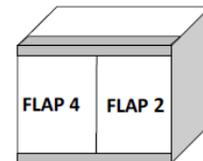
3. Affix two (2) strips of packing tape down the middle of the flaps.

4. Fold Flap 2 and Flap 4 until they meet in the middle.



5. Affix two (2) strips of packing tape down the middle of the flaps. Make sure that the strips of tape reach down the side of the box at least six (6) inches (15 cm).

6. Affix two (2) strips of packing tape along each of the box where the flaps were closed.



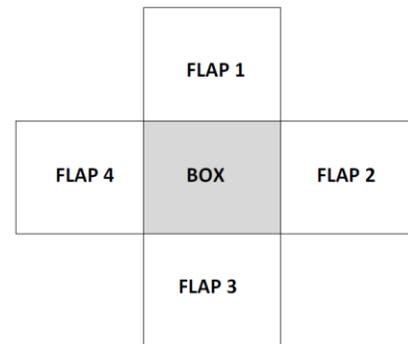
7. Ensure all seams are taped.

8. Mark/label the outside of the box with your company's name.

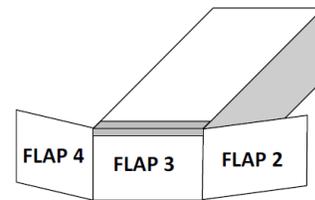
Taping Method for Full Fluorescent 8ft Tube Boxes (96"x10"x10")

1. Once the box is full, open the flaps as shown (top view).

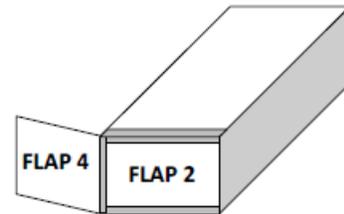
Note: All flaps are full flaps.



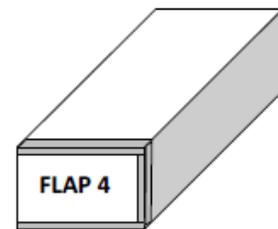
2. Fold Flap 1 and Flap 3 over the box opening.
3. Affix two (2) strips of packing tape along the edge of the box where the flap is closed.



4. Fold Flap 2 (full flap) over.
5. Affix two (2) strips of packing tape along each of the three (3) edges of the box where the flap was closed.



6. Fold Flap 4 (full flap) over.
7. Affix two (2) strips of packing tape along each of the three (3) edges of the box where the flap was closed.



8. Ensure all seams are taped.
9. Mark/label the outside of the box with your company's name

Consolidating Full Boxes on Pallets

Bulb Boxes:

Cardboard bulb boxes (24"x20"x24"), if used, must be stacked on pallets for transport and shrink wrapped. Bulb boxes should be stacked 4 boxes to a level, 2 levels high (8 boxes total per pallet). Test the pallet's stability by pushing on the stack. A properly stacked and shrink-wrapped pallet is difficult to move side to side. If the pallet is unstable, restack or wrap with additional shrink wrap. If alternative bulb containers are used (fibre drums, small plywood boxes), ensure these boxes are consolidated on a pallet in a similar manner.



8ft Tube Boxes:

The 8ft tube boxes (96"x10"x10"), once full, can be staked on a pallet to reduce the space required to store the full boxes. These boxes can be stacked 4 boxes to a level, 3 levels high (12 boxes total per pallet). 8 ft tube boxes should not initially be shrink-wrapped together as the transporter will likely require each box to be loaded into the truck individually, given their size. However, if the transporter is able to load these boxes by the pallet, ensure the entire pallet is shrink wrapped and test the pallet's stability by pushing on the stack. A properly stacked and shrink-wrapped pallet is difficult to move side to side. If the pallet is unstable, restack or wrap with additional shrink wrap.





3.6 Arranging Transport of Full Boxes and New Supplies

Full containers are to be picked up by approved PCA transporters. The full containers will be picked up from the collection site and empty collection containers and pallets dropped off. Requested supplies may also be dropped off at this time or they may be shipped separately at a later date.

Shipment of Full Boxes

To qualify for a pick-up of full boxes, a consolidation site must have consolidated a **MINIMUM** of 2 pallets of full boxes, packaged and consolidated in accordance with the instructions above. This could consist:

- 2 gaylords, or;
- 2 pallets of stacked bulb boxes, or;
- 1 gaylord and 1 pallet of stacked bulb boxes, or;
- Any combination of containers that equates to a minimum of 2 pallets.

Collection sites are encouraged to consolidate more than two pallets of full boxes prior to arranging a pick-up of full boxes if they have the storage space available.

Before advising how many full collection containers you have available for pickup:

- Check the collection containers to ensure they are packed correctly.
- Pallets:
 - Stable
 - Shrink-wrapped correctly
 - Stacked cardboard bulb boxes are 8 to a pallet
 - Each box is labelled with your company name
 - Boxes that contain large HID bulbs separated from the other bulb types, in accordance with the instructions above, are clearly marked/labeled as “HID”
- Gaylords
 - Square on the pallet
 - Lamps are tightly placed inside
 - The plastic liner is sealed and the top is secured in place
 - No items are protruding from the top



- Each box is labelled with your company name
- Plywood Boxes
 - Square on the pallet, facing up
 - Lamps are tightly placed inside
 - The plastic liner is sealed
 - No items are protruding from the top
 - Boxes are shrink-wrapped together correctly
 - Each box is labelled with your company name on the top of the liner

When you have consolidated at least two pallets of lamps and would like them picked up you can call, email or fax your information to Product Care directly (see below for instructions).

NOTE: All consolidation sites contracted by Product Care, including those that may have been collecting lamps prior to the program and were serviced by a transporter/recycler, must contact Product Care directly to have their full boxes picked up or to request empty boxes after October 1, 2012. Transportation/recycling providers should NOT be contacted directly as may have occurred prior to the program.

Requesting New Supplies

Do NOT wait until you are down to your last box to request additional boxes or supplies. Empty boxes should be ordered in advance to ensure you have all of the boxes required. As a general rule of thumb, you should order additional boxes once half of any of your boxes have been filled. Additional supplies can be ordered by following the instructions below.

Arranging Shipment

Whether you choose to phone, email or fax in your order, we will send the carrier to pick up the full boxes and/or deliver empty replacement ones to you.

BY PHONE:

Please call Product Care at 1-888-811-6234 to place your order (toll-free) OR

BY EMAIL:

Please complete the 'Container Request Form' as shown in Appendix A, scan the form and then email the completed form to pickup@lightrecycle.ca OR

BY FAX:

Please complete the ‘Container Request Form’ as shown in Appendix B then fax the completed form to Product Care at 1-604-592-2982 or email to pickup@lightrecycle.ca



NOTE: Please keep this form blank and photocopy as needed and request any supplies needed at the same time.

Before the truck arrives, make sure the loading area is clear and that all collection containers are easily accessible.

Bill of Lading (shipping document) – Full Boxes

The transporter dispatched by the program, will arrive at your location within 5 days of your request in most locations in BC.

The transporter will supply the bill of lading, but you must complete it.

The number of full boxes being picked up must be recorded on the bill of lading. The number of **EACH TYPE** of full boxes being picked up must be recorded separately. The number of bulb boxes (24”x20”x24”) containing HID bulbs must be recorded separately from the bulb boxes containing all other types of bulbs. The HID boxes must be clearly marked with HID on the outside, as described above.

It is the collection site’s responsibility to list the quantity of each specific type of box being picked up, unless this is provided by the transporter. The bill of lading should include the following information:

Type of Full Box	Number of Full Boxes for Transport
Gaylord boxes (48” x 40” x 48”)	
8 foot tube boxes (96” x10” x10”)	
Bulb Boxes – HID (24” x 20” x 24”)	
Bulb Boxes – Other Bulbs (24” x 20” x 24”)	
Plywood boxes	
Other (give details)	
Other (give details)	

If the transporter has provided a bill of lading, it is the collection sites responsibility to ensure that the information on the bill of lading is correct.

NOTE: If you have more than the number of boxes recorded on their bill of lading or if the total is correct but the types of boxes have changed you will need to ensure the bill of lading is changed appropriately and reflects your actual piece counts and type of boxes. It is your responsibility to make sure that the shipping information including the quantity and contents are correct.

Bill of Lading – New Supplies

The number of empty boxes and pallets delivered must also be checked and recorded on a bill of lading. The transporter dropping of these materials will generally have a copy of this bill of lading listing the supplies the collection site is receiving. It is the collection site's responsibility to confirm that the information listed on the bill of lading is correct before signing off on it.

NOTE: Even if the transporter completes the paperwork, you are still responsible for making sure it is completed correctly before you sign.

Truck Loading

When the truck arrives at your site, it is the consolidation site's responsibility to assist the carrier in unloading and re-loading of the boxes. Forklift loading/unloading only if the driver agrees. In some case you will need to help load the 8ft tubes manually.

Forklift loading approval is dependent on many factors including, but not limited to:

- Stability of collection containers
- The driver's routing (they may have other deliveries to make)
- The type of trailer he/she is using (some floors may not support the weight of a forklift)
- Weather conditions
- Loading conditions
- Other site factors

It is the consolidation site's responsibility to:

- Make sure loading area is clear
- Collection containers are easily accessible
- Verify all paperwork has been completed (quantity of pieces, types of containers, pick up date, etc.)
- Verify all full containers are properly labelled or mark with your company name
- Verify any boxes that contain large HID bulbs separated from the other bulb types, in accordance with the instructions above, are clearly marked/labeled as "HID"
- Verify quantity of empty and full containers that are being delivered and/or picked up
- Sign all shipment paperwork once details have been confirmed
- Ensure the driver has given you a copy of the shipment paperwork

It is the truck driver's responsibility to:

- Dictate how the empty collection containers are to be unloaded
- Dictate how the full collection containers are to be loaded and/or stacked
- Secure load to prevent movement during transport using straps, load bars or some other type of bracing

- Verify completed paperwork & leave the consolidation site with one copy of the bill of lading (shipment paperwork)



NOTE: Drivers will **NOT** accept loose lamps, improperly packaged boxes or boxes that are not consolidated on pallets as described above.

Section 4: Clean-Up Procedure for Broken Lamps

Risks

Intact (unbroken) fluorescent lamps (CFLs and fluorescent tubes) and HID lamps pose no health risk. Mercury in fluorescent lamps is in vapour form and also with the phosphor powder which coats the inside of the lamp. Broken lamps release the mercury, which can enter the body by absorption through the skin or by inhalation of the vapour.

HID lamps contain more mercury than fluorescent lamps (30 mg on average). The mercury is sealed in a sealed glass or quartz capsule (referred to as an “ampoule” or “arc tube”) within the lamp. If the capsule remains intact the mercury is contained. However if the capsule is broken mercury will be released to the ground.



In both cases a careful and prompt cleanup of the spill by the designated worker will minimize exposure to the staff, customers and to the environment.

A mercury spill must be treated as a serious safety concern. Staff should be trained in the management of broken lamps and the use of a spill kit.



NOTE: no health risks are posed from broken incandescent, halogen or LED lamps other than risk of cutting by broken glass.

Clean-up Directions for Hard Surfaces

If you break a fluorescent lamp (CFL or fluorescent tubes) or HID lamp, follow these directions for clean-up:

Leave the room:

- Leave the room and keep people out from the room during the clean-up process.
- Avoid stepping on broken glass

Ventilation:

Ventilate the room for at least 15 minutes prior to starting clean-up by opening windows and doors to the outdoors. This will ensure that the mercury vapour levels are reduced before you start cleaning.

If you break a fluorescent lamp or the ampule contained within an HID lamp is visibly broken follow these directions for clean-up:

- Do **NOT** use a vacuum or broom to clean up the initial breakage, as it will spread the mercury vapour and dust throughout the area. Additionally, contamination may occur within the vacuum and/or on the broom.
- Wear disposable gloves to avoid direct contact with mercury and to reduce the risk of cuts.
- Scoop or sweep up the broken pieces and debris with the two pieces of cardboard provided in the clean up kit and place into the sealable plastic bag. Make sure to work from the outside of the spill to the centre. Use the cardboard to gather the beads of mercury. Tip- a flashlight held at a low angle in a darkened room can be used to find beads of mercury which can travel quite far on a hardened surface.
- Use eyedropper to collect mercury and then squeeze carefully into a damp paper towel. Repeat this step as often as necessary to cover the affected area thoroughly. Place the paper towel into the same sealable plastic bag (note this is only required for HID lamps with a visibly broken ampoule).
- Use packing tape to pick up smaller beads and place in plastic bag (note this is only required for HID lamps with a visibly broken ampoule).
- Residual mercury can be removed by wiping with vinegar followed by peroxide (note this is only required for HID lamps with a visibly broken ampoule).
- Keep the area well ventilated for 24 hours.
- Place the broken glass and all clean-up materials in the plastic bag and seal it to further minimize the release of mercury vapour.
- All contaminated items and mercury should be double or triple bagged.
- Once the clean-up effort is completed, place the sealed bags in a sturdy container (plastic container, glass jar etc.) and then place the container in a bulb box.

Washing:

Wash your hands after storing and disposing of waste.

Resources

US EPA:

- <http://www.epa.gov/mercury/spills/index.htm>

Environment Canada:

- <http://www.ec.gc.ca/mercure-mercury/default.asp?lang=En&n=D2B2AD47-1>

Health Canada:

- <http://hc-sc.gc.ca/hl-vs/iyh-vsv/prod/cfl-afc-eng.php>

Spill Kit

The program will supply you a spill kit containing the following:

- Sealable Plastic Bags
- Eye dropper
- Packing tape
- Cardboard
- Disposable gloves
- Disposable mask

Note: if the materials provided by Product Care for the containment of broken lamps are insufficient for the quantity of broken lamps handled by your facility, please contact Product Care directly for alternative supplies.

Section 5: Record Keeping and Reporting

Training

Consolidation sites are responsible for training their employees so they can safely and effectively perform the responsibilities outlined in this manual. The program is designed to be self-directed study, using this manual as a guideline. If you require additional information after reading this manual or need clarification please contact PCA at 604-592-2972 ext. 216

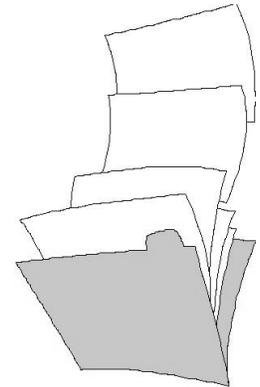
Training Records

Ensure that documentation is kept showing that staff had been trained on the information contained in these Guidelines.

Reporting Incidents or Fines

The collection site will provide notice of the following to the program:

- Any incidents that required the assistance of first responders within 24 hours of the occurrence
- Any regulatory orders or fines within 48 hours of receiving such orders or fines.



Product Care Association
604-592-2972 ext. 216 | 1-888-811-6234
pickup@lightrecycle.ca

Section 6: Health & Safety

IMPORTANT: The Health and Safety section of these Guidelines is a supplement to your facility's existing Occupational Health and Safety Manual and is not intended to replace any standards, acts or regulations required under Provincial or Federal legislation nor are these Guidelines intended to relieve the consolidation site or workers of any obligations under this or other legislation.

The section only includes health and safety issues as they pertain to the BC LightRecycle Program and NOT the other services offered or activities conducted at your facility.



For further information on general health and safety issues, including accident prevention and procedures, please consult the Occupational Health and Safety manual at your facility or WorkSafe BC.

Lifting Hazard

Moving boxes of lamps requires bending and lifting which can cause injury if done incorrectly. Simple precautions should be used as a means of prevention.



- When lifting, bring objects near to the body; do not try to lift at arm's length.
- Bend your knees and keep the back straight.
- Only lift what you can manage safely; ask for assistance if it is needed.

Ensure that boxes are not overfilled to avoid unsafe lifting.

Mercury Hazards

While mercury is a highly toxic substance, only a very small amount is used in fluorescent lamps and HID lamps. There is no risk to your health when the lamps are unbroken but care needs to be taken if the lamps are broken. The best defense is to handle the lamps with care to avoid breakage. Should a lamp get broken, follow the Clean-up procedure found in Section 4.

Broken Glass Hazard

The main risk with handling lamps is of getting cut with broken glass. As with the mercury hazard, preventing breakage is the most important way to avoid this. Should a lamp get broken, follow the Clean-up procedure found in Section 4.

Safety Equipment

No safety equipment is required for the regular handling of intact light bulbs. The personal protective equipment (PPE) required to handle broken lamps is noted in Section 4 Clean Up Procedure.

Section 7: Training

All consolidation site workers must understand the information provided in these Guidelines and provide a clear understanding of:

- the handling and management of lamps including but not limited to:
 - Potential hazards and risks associated with handling of lamps
 - Proper and safe handling of lamps
 - Ways to reduce risk
 - Safety and emergency procedures
- spill/breakage cleanup procedures and management
- the operations training program and policies/procedures set by the program
- the identification of which products are accepted and not accepted by the program
- the completion of proper shipping documentation and record keeping



Newly hired employees must also be instructed on the information in these Guidelines before they are permitted to handle lamps.

Consolidation Site Operators should schedule regular training sessions with staff members who have emergency response responsibilities. This will help staff to regularly practice the correct response actions and be informed up to date on recommended response measures.

Appendix A - Forms

The Container Request Form is listed on the following page. Please keep this form blank and photocopy as need.



12337 - 82A Avenue, Surrey, B.C. V3W 0L5
 Phone: 604 592-2972 ext. 216 Fax: 604 592-2982
 Web: www.lightrecycle.ca

LightRecycle Container Request Form

Please fax this form to 1-604-592-2982 or email to pickup@lightrecycle.ca

AUTHORIZATION #: _____

TODAY'S DATE: _____

SITE NAME: _____

ADDRESS: _____

PHONE: _____ **FAX:** _____

SHIPPING HOURS: _____

TO BE PICKED UP:

# OF BULBBOXES (24" x 20" x 24")	
# OF Gaylord BOXES (48" x 40" x 48")	
# OF 8' TUBE BOXES (96" x 10" x 10")	
# OF FIBRE DRUMS	
# OF PLYWOOD BOXES	
# OTHER (give details)	

SUPPLIES NEEDED:

GAYLORD box (48" x 40" x 48")	SPILL KIT
8ft Boxes (96" x 10" x 10")	Packing Tape
Bulb boxes (24" x 20" x 24")	PALLETS
Fibre Drums	Plywood boxes
Other (give details)	

SPECIAL SHIPPING INSTRUCTIONS:



Appendix B-Accepted Products

Accepted Products

The program includes all lamp technologies including:

LAMPS	
Fluorescent Tubes - Straight/Linear	
Includes all diameters and light outputs in a straight/linear configuration. Can range in size from under 2 feet in length to 8 feet in length.	
	
Fluorescent Tubes - Curved/Circular	
Includes all diameters and light outputs in a curved/circular configuration (curved, square, U, etc.).	
	
UV and Germicidal Lamps	
UV or germicidal lamps of all shapes and sizes. All base types including pin-type, screw-in, etc.	
	

LAMPS

Compact Fluorescent Lamps (CFLs)

Fluorescent bulbs that are typically similar in size and intended to replace an incandescent (traditional) light bulb.



Halogen and Incandescent- Bulbs

Filament lamps of all shapes, sizes and wattages. All base types including pin-type, screw-in, etc.



Light Emitting Diodes (LED)

Solid-state lamps used for specialty purposes and conventional lighting applications. All base types including pin-type, screw-in, etc.



LAMPS

Ultra High Performance (UHP) / Mercury Arc Lamps

Replacement lamps designed for commercial projection systems, home theatre projectors, MD-PTVs and video walls. Often housed within a metal casing.



High Intensity Discharge (HID) and Other

Includes all HID technologies, such as high pressure sodium, low pressure sodium, mercury vapour and metal halide. These lamps vary in size but are much larger than a typical bulb. In some cases, they can be as big, or bigger, than a football.



