

Budget Pack Risk Assessment - Batteries Containers

Edition: 3.1




Overview

This risk assessment considers hazards associated with the assembly and handling of Budget Pack's battery collection containers and the subsequent storage and collection of such containers when filled with mixed household batteries.

Waste batteries are classified as a 'hazardous waste' under UK legislation because of the damage that they could do to the environment if their disposal is not undertaken correctly. It is important to promote the collection of waste batteries so that the materials can be recycled into new products. In 2009, only 3% of waste household batteries were recycled and 97% went to landfill – enough to fill 110 jumbo jets! Approximately 80% of the environmental impact during the lifecycle of a battery arises in the mining and refining of raw materials, and so the ability to re-use these materials makes a significant difference to the sustainability of our Earth's resources.

Collection Container Model

Budget Pack's collection model for waste portable batteries is made up from three main container components as follows:

Component Name	Description	Picture
Battery Box	Cardboard box with presentation flap which also acts as a lid made from 83% recycled cardboard - complete with printed instructions for use.	
Battery Bag	Clear plastic bag with sealing strip made from 100% recycled (clean stream) plastic - complete with printed instructions for use.	
Storage Sack	Thick plastic rubble sack in either blue or black colour - complete with separately affixed labels with instructions for use.	

Intended use for battery collection containers:

The **Battery Box** is designed to be used in a variety of situations such as on or below counter-tops at shops, receptions, schools and offices.

The **Battery Box** is designed to be kept in a safe and dry place and to be used in conjunction with the plastic liners (battery bag) for receiving batteries from individual collectors of portable household batteries.

The **Battery Bags** are designed to be removed from the **Battery Box** when full with batteries and placed inside a holding stack called a “**Storage Sack**” until collection is arranged.

Hazard Ratings

Risk is measured using the following formula:

$$\text{Risk Score (R)} = \text{Likelihood of a hazard occurring (L)} \times \text{Severity of that hazard (S)}$$

In assessing risk, the following criteria are applied:

Likelihood (L)	Severity (S)	Rating
Harm is not very likely to occur, if at all	Minor injury, or one that may require basic/minor first aid	Low (1)
Harm may occur from time to time and is reasonably likely	Short term injury or professional medical treatment may be required	Med (2)
Harm is very likely to occur or may be a certainty	Death or significant and professional medical treatment required	High (3)

Risk Score

The resultant risk score that is calculated from applying the hazard ratings are expressed in the following table:

Risk Score (R)	Meaning	Action
Low (1-2)	Low Risk	Acceptable
Med (3-5)	Medium Risk	Cautionary, improvements to process, or an alternative system to be identified and implemented
High (6+)	High Risk	Unacceptable, process or system in use to be prohibited

Initial Risk Score

The following table details the types of hazards that may be present when using the Budget Pack collection model:

Risk ID	Hazard	Relevant Component	Typical Person(s) at Risk	L	S	R
1	During assembly of the flat-pack Battery Boxes, edges may cause minor paper cuts	Battery Box	Person assembling box	Low (1)	Low (1)	Low (1x1=1)
2	Full Battery Boxes or Battery Bags may weigh approx. 10kg when full	Battery Box/Battery Bag	Person moving full Battery Box	Low (1)	Low (1)	Low (1x1=1)
3	Storage Sacks contain several Battery Bags when full and should not be lifted	Storage Sack	Persons responsible for storing batteries	Low (2)	Low (1)	Low (2x1=2)
4	Battery Box or Storage Sack may be a trip hazard and if inappropriately located or may present a falling hazard	Battery Box/Storage Sack	Persons moving in vicinity of Battery Box or Storage Sack	Low (1)	Low (1)	Low (1x1=1)
5	Storage of household batteries may cause potential for fire	Not specific to any one container	Persons in the building	Low (1)	High (3)	Med (1x3=3)
6	Severely damaged household batteries may expose chemistries to skin contact	Not specific to any one container	Persons collecting batteries and bringing them to the Battery Box	Low (1)	Low (1)	Low (1x1=1)
7	Structure of the Battery Box may weaken if in contact with external fluid	Battery Box	Persons moving the Battery Box	Low (2)	Low (1)	Low (2x1=2)
8	Batteries may be ingested if removed from part-filled Battery Box	Battery Box	Young children in contact with the Battery Box	Low (1)	High (3)	Med (1x3=3)
9	Plastic Battery Bags may cause asphyxiation	Battery Bags & Storage Sacks	Young children in contact with the Battery Bag/Storage Sack	Low (1)	High (3)	Med (1x3=3)
10	Integrity and appropriateness of general container may diminish if used incorrectly	Any Containers	Not specific	Low (1)	Low (1)	Low (1x1=1)

Revised Risk Scores

In direct response to the risks identified above, the following improvement actions have been identified to reduce the likelihood and/or severity of such hazards occurring and therefore reduce the resultant risk score. These points should be considered in addition to those which arise from risk assessments that are made by the responsible person at the collection point for all sites. Release dates for improvement actions are recorded in our management systems and available upon request.

Revised Risk Scores and Improvement Actions:

Risk ID	Risk	Prev Risk	Person Exposed	Action Suggested to Reduce Risk	Action	New L	New S	New R
1	Paper Cuts	1	1	Provide clear assembly instructions within accompanying guidance letter, included in despatch pack.	Budget Pack	Low (1)	Low (1)	Low (1x1=1)
2	Manual Handling	1	1	Provide cautionary notice on container regarding potential for heavy weight and provide advice on handling full Battery Boxes in guidance letter.	Budget Pack	Low (1)	Low (1)	Low (1x1=1)
3	Manual Handling	2	1	Provide cautionary notice on container regarding potential for heavy weight of container and provide advice on storing and moving Storage Sacks in a 'Caretaker's Guide'.	Budget Pack	Low (1)	Low (1)	Low (1x1=1)
4	Trip / Falling Hazard	1	1	Positioning of Battery Box to be in a safe location in accordance with the general responsibilities of the collection point. Guidance to be issued on the dry and safe environment within introductory letter.	Collection Point	Low (1)	Low (1)	Low (1x1=1)
5	Fire Hazard	3	Not specific	Provide clear instructions on the collection container for the type of batteries that can be collected and how to safeguard the battery types and condition of batteries entered. Make reference within introductory letter and Caretaker Guide also. Include information about trailing wires and taped button cells. Use of clear plastic bags for observation and checking batteries before sealed storage in Storage Sack. Positioning of battery containers should not be in front of a fire exit to a building. Storage Sacks should be positioned in such a location where cool, dry conditions are maintained does not encourage propagation of fire and which will not require frequent movement.	Budget Pack	Low (1)	Low (1)	Low (1x1=1)
6	Irritant	1	Not specific	Provide guidance to collectors to discourage damaged batteries being brought in for collection. Sealed Battery Bags will contain any damaged batteries in small batches (where not identified and removed by responsible person) and also ensure no direct tissue surface contact is required from		Low (1)	Low (1)	Low (1x1=1)

				handling of batteries. Restricted aperture for the Battery Box is sufficiently small that secondary contact of batteries is restricted.				
7	Collapse of Battery Box in wet conditions	2	1	Provide clear instructions to store in a dry location on Battery Box and in the introductory letter. Include Battery Bags to provide strengthened wall containment for batteries in event that Battery Box fails and to limit any external fluids penetrating the box and contacting the batteries.	Budget Pack (design & site (location of Battery Box)	Low (1)	Low (1)	Low (1x1=1)
8	Ingestion of batteries	3	Not specific	Maintain small aperture to Battery Box to prevent batteries being removed from container. Provide safety information on what to do following ingestion of batteries within the Introductory Guidance letter. Keep out of reach by correct placement.	Budget Pack	Low (1)	High (3)	Med (1x3=3)
9	Asphyxiation	3	Not specific	Provide clear information in the introductory letter of the hazards presented by plastic bags.	Budget Pack	Low (1)	High (3)	Med (1x3=3)
10	General Container Integrity	1	Not specific	Ensure visibility of batteries collected through use of Battery Bags and note related guidance, to ensure there is no other waste material, trailing wires, taped button cells or wetness within the Battery Bag prior to sealing it and storage in Storage Sack. Responsible person at the collection point to check and educate others.	Budget Pack (design) and resp. person on site.	Low (1)	Low (1)	Low (1x1=1)

Declaration

Signed off by name: Stephen Clark
 Latest Revision: 03/04/2011
 Position: Managing Director
 Company: Budget Pack

General Manual Handling Notes for Further Information

What is manual handling?

The Manual Handling Operations Regulations defines manual handling as 'any transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying or moving thereof) by hand or by bodily force'.

As a result this definition means that any activity requiring an individual to lift, move or support a load will be classified as a manual handling task.

The MHOR 1992 states in order of priority the measures appropriate for dealing with the risks associated with manual handling, these are:

- 1) To avoid hazardous manual handling operations so far as is reasonably practicable;
- 2) That any hazardous manual handling operations that cannot be avoided need to be assessed;

Any and all steps to be taken that will reduce the risk of injury (so far as is reasonably practicable).

What are the risks of manual handling?

Statistically, it has been shown that more than a third of all (reportable) injuries of over three days or more off work involve manual handling, and that approximately 10% of major injuries are related to manual handling. Therefore it is proven that incorrect manual handling has a direct, negative, and major impact on all workplaces, and costs the economy hundreds of millions of pounds every year.

Anyone involved in the moving and handling of goods could be at risk. Injuries, disability, pain and incapacity can be linked to any work involving handling of loads. There are inherent risks handling even light loads if a repetitive task is being carried out in poor conditions. Poor ergonomics and workplace layout are a factor in many hazardous manual handling tasks.

Legal duties and obligations around manual handling

The Manual Handling Operations Regulations

These regulations state that employers should adopt a hierarchy of control measures:

1. To avoid any hazardous manual handling Operations so far as is reasonably practicable
2. To assess any hazardous manual handling operation that cannot be avoided
3. To reduce the risk of injury so far as is reasonably practicable.

Assessing manual handling risks

One method to assess any potential risks associated with manual handling activities is to look at four specific areas – **T**ask, **I**ndividual, **L**oad and **E**nvironment (easily remembered by the acronym ‘**TILE**’).

When faced with a situation which requires manual handling you should ask yourself a number of questions. These questions only require a ‘yes’ or ‘no’ answer. The greater the number of ‘yes’ answers given, the higher the risk. If all questions could be answered ‘no’, then the assessment would suggest no associated risks.

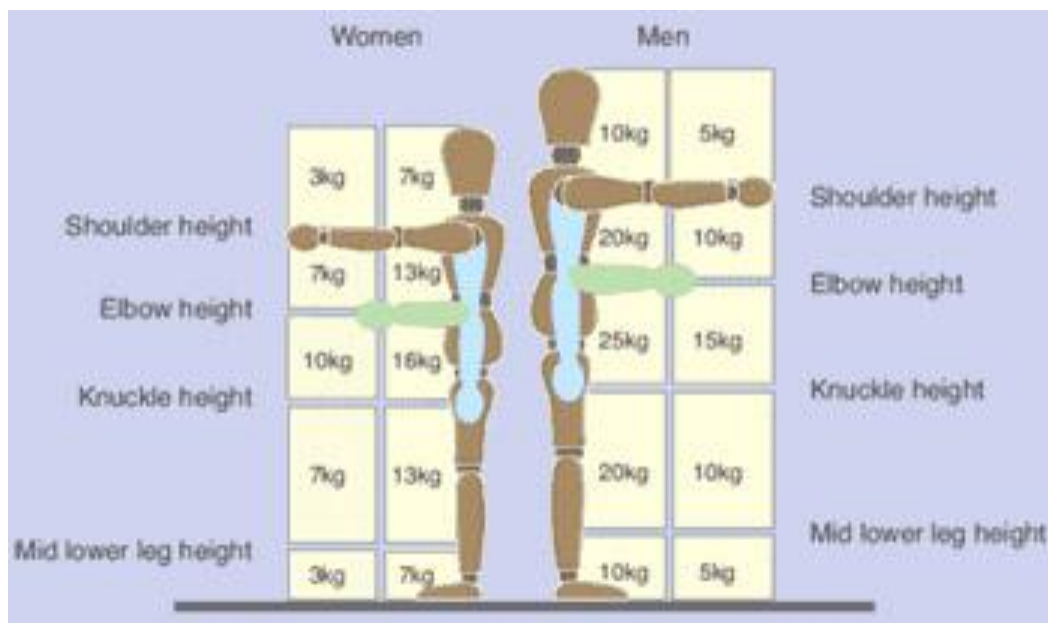
Guideline weights for lifting and lowering

The chart (below) gives indicative/ guideline weights for lifting and lowering. It is assumed that the handling is taking place in reasonable working conditions, and that the load can be easily grasped with both hands by a reasonably fit, well-trained individual.

It is a ‘given’ that no manual handling activity is completely safe. Utilizing these guidelines in conjunction with a well thought-out risk assessment will reduce the risks from manual handling activities.

Weights to be lifted may need to be reduced below the guideline values if there are environmental or other factors that could have an adverse effect on the activity or if it involves twisting or bending.

Similarly, if the task is being carried out frequently then weights should be reduced.



From [Getting to Grips with Manual Handling: a short guide INDG143 \(external site\)](#) (The Health and Safety Executive, reproduced by kind permission).

Basic principles of manual handling

There are some basic principles that everyone should observe prior to carrying out a manual handling operation:

1. Firstly ensure that the object is light enough to lift, that it is stable and unlikely to shift or move
2. If the object is heavy or an awkward shape, the load should be moved using an appropriate handling aid
3. Check and make sure that the route is clear of any obstructions
4. Assess the location to which the load is being moved and make sure there is somewhere to put the load down.
5. When lifting, stand as close to the load as possible, and spread your feet to shoulder width.
6. Bend your knees and try and keep the back's natural, upright posture
7. Take hold of the load firmly and keep it as close to the body as possible.
8. Using your legs, lift the load smoothly as this provides more leverage and reduces the strain on your back.
9. Transport the load close to the body with the elbows tucked into the body
10. Keep any twisting of the body to a minimum by turning your feet to position yourself with the load.

Handling aids

1. Use mechanical handling aids whenever possible as an aid to reduce the risk of injury. Aids such as trolleys, sack-trucks and wheelbarrows can be used to move items and consequentially reduce the likelihood of injury.
2. Remember it is better to push rather than pull; pushing uses the body weight and the muscles of the legs to do the work and not the back. Again you need to be aware of your surroundings and route plus a requirement to ensure that the load is kept under control. Particular care will need to be taken on slopes.
3. In some cases more sophisticated manual handling aids may be required.
4. Cranes, hoists, pallet trucks, conveyors and fork lift trucks are used extensively in many industries to eliminate manual handling.
5. It should be remembered that, although the handling aids will eliminate many of the manual handling risks, their use will introduce others to an activity with an inherent risk and these risks must be assessed.

6. Another consideration is that regulations require that many of these items require a periodic statutory inspection for safety critical components.

Manual Handling Risk Assessment Overview:

The following identifies elements that it is necessary to consider when the need exists to assess potential manual handling risks:

Task

One needs to assess the nature of the task. The reason behind this is to establish to what extent reaching, bending, stooping, stretching and twisting could be involved.

Consideration also needs to be given to where the load is position/proximity in relation to the handler as this will determine how much control and effort will need to be expended to do the task. An example of this is that in the unlikely event that the battery collection box has to be lifted above head height the degree of control and effort needed will be greater than if the activity were carried out at waist height.

The **frequency** of the task and **how much time taken** in the handling process are used to calculate the associated risk. Repetitive lifting, along with frequent bending, twisting and reaching over a time span, significantly increases the net effect of all these combined tasks and thus increases the potential of injury.

Key Considerations:

1. Are you holding the object at a distance from the trunk?
2. Is there any twisting in your movement?
3. Is there any bending in your posture?
4. Is there a risk of sudden movement of load?
5. Does it require frequent or prolonged physical effort?
6. Does it occur frequently?
7. Does it occur repetitively?

Individual Capability

Generic risk assessments can ameliorate the majority of risks, however thought must be given to the individual(s) carrying out the task. An individual's age, strength, level of skill and experience will affect how much that person can safely handle. Does the job require someone of unusual height or strength and will that impact on the handling task? Additionally it is necessary to establish the physical wellbeing of the individual and do they have any existing health problem which increases the risk?

Key Considerations:

1. Does the job require unusual height or strength?
2. Does the job put at risk those who are pregnant/have health problems?
3. Does the job require special knowledge or training to be done safely?

Load

The nature of the load also has a significant influence on the potential risks; the combined effect of handling heavy, bulky or possibly hard-to-grasp items, together with the weight, size, shape and stability of the same load will determine the dexterity, control and effort needed to handle the load effectively and safely.

Key Considerations:

1. It is heavy?
2. Is it bulky?
3. Is it difficult to grasp?
4. Is it unstable or with content likely to shift?
5. Is it sharp?
6. Is it hot?

Environment

A work environment holds a multitude of factors that can have an effect on the risk potential;

1. What is the physical nature of the working environment? Is the environment hot, cold or windy?
2. How well-lit is the working environment?
3. Are there slopes? Carrying items on slopes requires greater effort than carrying on the level.
4. Is the ground uneven? Any poor surfaces will make slips and trips more likely.

Any and all constraints on posture need consideration as these will increase the degree of control and effort needed for the task, with a subsequent rise in the risk of injury.