

# Safety guidelines for petrol-powered garden products

## Introduction

The purpose of this report is to provide an outline of the steps the company should take in order to meet their due diligence obligations for a safe product for consumer use, with reference to the relevant legislation, with the appreciation that key staff may otherwise be held criminally liable. This will be based on practical measures to take and information of which to remain cognoscent.

**Due diligence** consists of meeting all 'reasonable' steps to ensure product safety, where a product is considered 'safe' if it is 'not unsafe'; as this can be more objectively determined. The legislation relevant to the safety of petrol powered garden products for personal use is primarily the following two:

- The General Product Safety Regulations 2005 - (referred to henceforth as GPSR)
- The Supply of Machinery (Safety) Regulations 2008 (as amended in 2011) - (referred to henceforth as SMSR)

In both of these pieces of legislation, products are presumed safe if they correspond with the relevant national standards, however this is **not sufficient** to meet due diligence requirements of product safety - there is precedent in the UK of a company being held criminally liable for a product that met the relevant British Standard (Balding vs Lew-ways [1995]).

**Relevant standards** include, but are not limited to:

- Mechanical vibration — Hand-held and hand-guided machinery — Principles for evaluation of vibration emission (ISO 20643:2005)
- Garden equipment — Safety requirements for combustion engine-powered lawnmowers Part 1: Terminology and common tests (ISO 5395-1:2013)

## Understanding your user

Before designing, you must have a clear idea of who your intended users are, in order to understand how and where the product will be used. Doing this will allow for a better understanding of what design criteria must be in place to provide necessary features such that hazards and their corresponding risks can be minimised for both intended use and foreseeable misuse.

This should be carried out by interviewing potential users about:

- the tasks they would aim to complete with the product
- the environments in which it would be used
- familiarity with similar products and the problems they have with them
- the people they expect to be present when using the product

## Product Design

The general mindset for the design process is well summarised by the SMSR 1.1.2(a): "Machinery must be designed and constructed so that it is fitted for its function, and can be operated, adjusted and maintained without putting persons at risk... under the conditions foreseen [and for] reasonably foreseeable misuse." This includes "transport, assembly, dismantling, disabling and scrapping."

The GPSR requires products to be safe throughout their entire lifecycle, for all users (including those who come into contact with, but do not operate, the product), under foreseeable use, and allowing for the product to be used as expected.

There are a number of considerations as dictated by the SMSR that need to be taken into account to meet safety due diligence requirements. These include but are not limited to materials used, onboard lighting, seating, control systems including emergency stops, hazardous mechanics (including fast moving parts) and exposure to them, and both cognitive and physical ergonomics factors. The latter two can be addressed in part using relevant literature and static and dynamic anthropometric data (with percentiles in mind), and all must take into account the user information gathered previously as well as the relevant standards. Risk assessments must be carried out for each hazard, each user, and each environment, and scaled for availability. Retailers must enforce that consumers buying the product have the appropriate PPE, which could be achieved in a number of ways.

## **Information for consumer/user**

All information accompanying the product must be understandable by users. This should preferably take the form of symbols and pictograms, and any verbal information must be expressed in the major language spoken of each country in the European Economic Area (as specified by the SMSR).

**Instructions** must mention:

- How the product complies with the appropriate legislation
- Appropriate and inappropriate use, maintenance, transport and storage of the product
- What hazards/risks remain despite safeguards put in place (e.g. average and peak noise and vibration levels as well as more general risks), and what precautions (including PPE) need to be taken by the user
- How safe repairs can be performed on the product, including the specifications of safe spare parts
- When repair or maintenance should be performed by a qualified technician

**Markings and Labels** must include the mandatory CE marking, which asserts that the product complies with the appropriate legislation.

All hazards must be made obvious to the user, however warning the user of a potential hazard is not sufficient if said hazard could have reasonably been designed out.

## **User Trials**

User trials must be carried out (safely) to find out the typical use and possible forms of misuse of the product as it cannot be assumed that it will be used as expected. It is also necessary that users can demonstrably understand the information (instructions and markings/labels) that accompanies the product, however this does not absolve poor or misleading design.

## **Summary**

In order to meet your due diligence requirements for making safe petrol-powered garden products, there are many areas relating to product design and accompanying information that must be considered with respect to the relevant legislation as a baseline for safety. Beyond this, it is necessary to consider the task, environment and user characteristics that your product will encounter. The standards and literature relating to safety both generally and specifically to your products make a good first step to meeting your obligations, but further user testing should be performed as far as reasonably practicable to ensure your product's safety in the real world. Additional considerations should also be made towards the impression of product safety from surrounding PR projects, including TV, in-store and online advertising.

## References

*Balding v. Lew-Ways Ltd* [1995] 159 JP 541

*General Product Safety Regulations 2005* (SI 2005/1803). Available at:

[http://www.legislation.gov.uk/ukSI/2005/1803/pdfs/ukSI\\_20051803\\_en.pdf](http://www.legislation.gov.uk/ukSI/2005/1803/pdfs/ukSI_20051803_en.pdf) (Accessed: 3 Dec 2015).

*Supply of Machinery (Safety) Regulations 2008* (SI 2008/1597). Available at:

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