

# *ProductSafe*

## **Safety Guidelines and Procedures for Entrepreneurs**

### **Gas Appliances [GAD]**

#### **INTRODUCTION AND BACKGROUND**

This directive contains the **essential requirements** that a gas appliance or a fitting must meet before it is placed on the Community market. It defines both the types of products and gas fuel that are included and it includes appliances that run on natural gas and LPG amongst others. The directive does not indicate how the essential requirements must be met, thus leaving flexibility to manufacturers as regards the technical solutions to be adopted. However it does also contain provisions on conformity assessment procedures, involving notified bodies. Manufacturers of new products must meet protection requirements (which are checked through type testing), compile a technical file, mark the product with a CE logo and implement production quality control measures. In order to facilitate market access, harmonised standards, the reference numbers of which have been published in the Official Journal, provide a **presumption of conformity** with the directive's essential requirements. The use of harmonized standards is voluntary. When **second-hand products** are sold, they are also required to be safe.

**NOTE: Gas is defined as a fuel which is in a gaseous state at 15 degrees Celsius at a pressure of 1 bar and therefore includes natural gas (methane) and all types of bottled LPG (propane, butane and mixtures)**

#### **APPLICATION**

**Appliances** burning gaseous fuels used for:

- **cooking,**
- **heating**
- **hot water production**
- **refrigeration**
- **lighting**
- **washing**

and having, where applicable, a normal water temperature not exceeding 105 deg. These products are referred to as appliances.

Forced draught burners and heating bodies to be equipped with such burners will also be considered as appliances.

**Fittings**, other than forced draught burners and heating bodies to be equipped with such burners, such as:

- **safety devices**
- **controlling devices**
- **regulating devices**
- **sub-assemblies**

**NOTE** - Appliances specifically designed for use in industrial processes carried out on industrial premises are excluded from the scope of the Directive.

## APPLIANCES BURNING GASEOUS FUELS USED FOR:



**Cooking**



**Heating**



**Hot water production**



**Refrigeration**



**Lighting**



**Washing**

## SAFETY REQUIREMENT

### Essential Requirements (Annex 1)

The obligations resulting from the essential requirements for appliances also apply to fittings where the corresponding risk exists.

#### General Conditions

- Appliances must be so designed and built as to operate safely and present no danger to persons, domestic animals or property when normally used
- When placed on the market, all appliances must:
  - be accompanied by technical instructions intended for the installer,
  - be accompanied by instructions for use and servicing, intended for the user,
  - bear appropriate warning notices, which must also appear on the packaging.
  - *The instructions and warning notices must be in the official language or languages of the Member States of destination.*
- The technical instructions intended for the installer must contain all the instructions for installation, adjustment and servicing required to ensure that those operations are correctly performed and that the appliance may be used safely. In particular, the instructions must specify:
  - the type of gas used,
  - the gas supply pressure used,
  - the flow of fresh air required:
    - for the combustion air supply,
    - to avoid the formation of dangerous unburned gas mixtures for appliances not fitted with the device'
  - the conditions for the dispersal of combustion products,
  - for forced draught burners and heating bodies intended to be equipped with such burners, their characteristics, the requirements for assembly, to assist compliance with the essential requirements applicable to finished appliances and, where appropriate, the list of combinations recommended by the manufacturer.
- The instructions for use and servicing intended for the user must contain all the information required for safe use, and must in particular draw the user's attention to any restrictions on use.
- The warning notices on the appliance and its packaging must clearly state the type of gas used, the gas supply pressure and any restrictions on use, in particular the restriction whereby the appliance must be installed only in areas where there is sufficient ventilation.

- Fittings intended to be part of an appliance must be so designed and built as to fulfil correctly their intended purpose when incorporated in accordance with the instructions for installation.
- The instructions for installation, adjustment, operation and maintenance must be provided with the fittings concerned.

### **Materials**

- Materials must be appropriate for their intended purpose and must withstand the technical, chemical and thermal conditions to which they will foreseeably be subjected.
- The properties of materials that are important for safety must be guaranteed by the manufacturer or the supplier of the appliance.

### **Design and Construction**

- **General:**
  - Appliances must be so constructed that, when used normally, no instability, distortion, breakage or wear likely to impair their safety can occur.
  - Condensation produced at the start-up and/or during use must not affect the safety of appliances.
  - Appliances must be so designed and constructed as to minimize the risk of explosion in the event of a fire of external origin.
  - Appliances must be so constructed that water and inappropriate air penetration into the gas circuit does not occur.
  - In the event of a normal fluctuation of auxiliary energy, appliances must continue to operate safely.
  - Abnormal fluctuation or failure of auxiliary energy or its restoration must not lead to an unsafe situation
  - Appliances must be so designed and constructed as to obviate hazards of electrical origin. In the area in which it applies, compliance with the safety objectives in respect of electrical hazards laid down in Directive 73/23/EEC (;) shall be equivalent to fulfilment of this requirement.
  - All pressurized parts of an appliance must withstand the mechanical and thermal stresses to which they are subjected without any deformation affecting safety.
  - Appliances must be so designed and constructed that failure of a safety, controlling or regulating device may not lead to an unsafe situation.
  - If an appliance is equipped with safety and controlling devices, the functioning of the safety devices must not be overruled by that of the controlling devices.
  - All parts of appliances which are set or adjusted at the stage of manufacture and which should not be manipulated by the user or the installer must be appropriately protected.

- Levers and other controlling and setting devices must be clearly marked and give appropriate instructions so as to prevent any error in handling. Their design must be such as to preclude accidental manipulation.
- **Unburned gas release:**
  - Appliances must be so constructed that the gas leakage rate is not dangerous.
  - Appliances must be so constructed that gas release during ignition and re-ignition and after flame extinction is limited in order to avoid a dangerous accumulation of unburned gas in the appliance.
  - Appliances intended to be used in indoor spaces and rooms must be fitted with a special device which avoids a dangerous accumulation of unburned gas in such spaces or rooms. *Appliances which are not fitted with such devices must be used only in areas where there is sufficient ventilation to avoid a dangerous accumulation of unburned gas.*
  - Member States may define on their territory adequate space ventilation conditions for the installation of such appliances, bearing in mind the features peculiar to them.
  - Large-scale kitchen appliances and appliances powered by gas containing toxic components must be equipped with the aforesaid device.
- **Ignition:**
  - Appliances must be so constructed that, when used normally:
    - ignition and re-ignition is smooth,
    - cross-lighting is assured.
- **Combustion:**
  - Appliances must be so constructed that, when used normally, flame stability is assured and combustion products do not contain unacceptable concentrations of substances harmful to health.
  - Appliances must be so constructed that, when used normally, there will be no accidental release of combustion products.
  - Appliances connected to a flue for the dispersal of combustion products must be so constructed that in abnormal draught conditions there is no release of combustion products in a dangerous quantity into the room concerned.
  - Independent flue less domestic heating appliances and flue less instantaneous water heaters must not cause, in the room or space concerned, a carbon monoxide concentration likely to present a danger to the health of persons exposed, bearing in mind the foreseeable duration of their exposure.
- **Rational use of energy:**
  - Appliances must be so constructed as to ensure rational use of energy, reflecting the state of the art and taking into account safety aspects.

- ***Temperatures:***
  - Parts of appliances which are intended to be placed in close proximity to the floor or other surfaces must not reach temperatures which present a danger in the surrounding area.
  - The surface temperature of knobs and levers of appliances intended to be manipulated must not present a danger to the user.
  - The surface temperatures of external parts of appliances intended for domestic use, with the exception of surfaces or parts which are associated with the transmission of heat, must not under operating conditions present a danger to the user and in particular to children, for whom an appropriate reaction time must be taken into account.
  
- ***Foodstuffs and water used for sanitary purposes:***
  - Without prejudice to the Community rules in this area, materials and components used in the construction of an appliance, which may come into contact with food or water used for sanitary purposes, must not impair their quality.

### **PRODUCTS NOT COVERED BY THE DIRECTIVE**

Gas powered cutting and burning torches used for industrial or agricultural uses do not come within the scope of the requirements

### **LATVIAN LAW**

The safety of gas appliances is controlled in Latvia by the following legislation:

- Consumer Rights Protection Law, 1999
- Law on the Safety of Goods and Services, 2004

This legislation has transposed the requirements of the relevant European Directives into Latvian law.

### **HAZARDS ASSOCIATED WITH GAS APPLIANCES**

The safety of gas appliances can be affected both by the integral design and manufacture of the product and the process of installation into the premises in which they will operate.

### **INSTRUCTIONS AND WARNINGS**

There are a number of matters which must be taken into account in assessing the safety of a product. These include instructions for assembly, use, maintenance and disposal of the product, as well as warnings given with the goods. **Producers** have a specific duty to provide consumers with relevant information about risks that may not be immediately obvious to the user of the product. Such instructions and warnings are particularly relevant for the safety of gas appliance.

### **IMPORTANT INFORMATION FOR IMPORTERS**

Importers should be aware that gas appliances are produced and conformity assessed with specific regard to the country or countries of their intended use. Supply for use in any other country without any further assessment processes would be in contravention of the law.

Any modifications that they make to the products that they import in order to make them compatible for use in Latvia may result in the importer being classified as a producer of gas appliance within the scope of the law.

Instructions for installation and use are part of the Type Approval process and must be applicable for use in Latvia.

### **NOTIFICATION OF DANGEROUS PRODUCTS**

Producers and distributors of gas appliances must inform the competent national authorities where they know that a product they have placed on the market poses risks to consumers.

### **FURTHER INFORMATION**

In order to ensure a coherent application of the Gas Appliances Directive, Guidance Sheets are being established and agreed in the framework of the Commission's Working Group Gas Appliances (WG-GA). This working group is composed of representatives of Member States, European federations, the Gas Appliances Directive Advisory Committee (GADAC), Notified Bodies Gas Appliances (NB-GA) and CEN and chaired by a representative of the Commission services. The Guidance Sheets are neither a legally binding interpretation of the directive nor can they formally commit authorities or Notified Bodies. The legally binding text remains that of the Directive 90/396/EEC. However, based on a wide consensus, they represent a reference for ensuring consistent application of the Directive by all those involved

**Further information is available from: [http://ec.europa.eu/enterprise/gas\\_appliances/guidances.htm](http://ec.europa.eu/enterprise/gas_appliances/guidances.htm)**

### **RECENT UNSAFE PRODUCTS**

Examples of recent Rapex notifications are attached on the next page.

## RECENT RAPEX NOTIFICATIONS OF GAS APPLIANCES THAT FAIL TO MEET THE ESSENTIAL SAFETY REQUIREMENTS

### PATIO HEATERS



This gas heater for use on patios poses a risk of burns because during igniting a burst of flame can happen or the heat development can be so high that burning of cloth and/or skin can occur.

### GAS LAMP



The product poses:

- ⚡ A chemical risk because its mantle contains thorium. The mantles become "crumbly" with use, i.e. they fall apart upon contact. As a result, dust containing thorium can be absorbed into the body through inhalation or ingestion, meaning that radioactive substances may be incorporated into the body causing damage to health.
- ⚡ A risk of injuries because the metal sheets have very sharp edges.

## GAS BOILER FLUE



The product poses a risk of poisoning and explosion because of presence of high levels carbon monoxide (CO) leakage (1,000 and 3,000 ppm measured) due to non-compliance of tight joints on the ventilating system. The boilers are mounted with vertical balanced ventilation which is lead through existing chimney. The air shaft to the flue gas works through the top hat under effect of heat from the combustion. Under cooling when the boiler is not working the pipe is contracting by opening in the spigot-and-socket joints on the cord in the existing chimney because the air shaft through the top hat is not coming back to its starting point due to a tight packing. When combustion products (flue gas) recirculate to the boiler a flue gas explosion can arise in the beginning of the boiler which can cause burns and fire. By leaks on the fresh-air conduit (existing chimney) CO can be discharged to the adjoining rooms at the risk of CO poisoning of the persons who are staying there.

## GAS GRILL



Signet Series

Sovereign Series



Sovereign XL Series

The product poses a risk of fire and burns because the bottom of the cooker that contains the burners can melt or crack as a result of a grease fire.

## PORTABLE GAS HEATER



With this portable gas heater there is evidence of failure of stops designed to prevent over rotation of the burner head. Over rotation of the burner head may lead to damage to the gas supply capillary thereby causing a **risk of explosion**.

In addition, failure to provide safety critical information prevents the purchaser from being able to make safe use of the appliance.

## LPG GAS REGULATOR



The function of this LPG gas regulator is to reduce the gas pressure for gas appliances (cooking, heating, barbecues etc.).

It poses a risk of injury due to the potential leakage of unburned gas; insufficient reduction of the gas pressure; and insufficient resistance of the device.

**THE GAS REGULATOR DOES NOT COMPLY WITH THE RELEVANT EUROPEAN STANDARDS.**