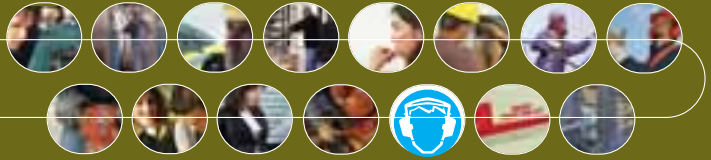


Safety Toolkit and Short Guide to General Application Regulations 2007
Explosive Atmospheres Section



Explosive Atmospheres

Introduction



Safety Toolkit

The objective of the Toolkit is to provide guidance on the prevention of accidents or ill health at work and to provide a practical tool towards a safer workplace. It covers requirements of the Safety, Health and Welfare at Work (General Application) Regulations, 2007 as amended and is aimed specifically at small and micro businesses. It is not intended as a legal interpretation of the legislation. Legal advice should be sought where required.

Checklists provided are non-exhaustive and in no particular order

How do I use the Toolkit?

The Toolkit is intended to assist you to monitor and improve standards of safety, health and welfare. It will assist you towards complying with the law.

1. Use the checklists to monitor how you're doing.
2. Make any required improvements.
3. If necessary, investigate further to find out what you need to do and set a timescale for achieving it.
4. Use the Action Date column to show when action taken.

Checklists provided are non-exhaustive and in no particular order.

At the end of each point in the check list reference is made to the corresponding part of the Regulations, for example (r51) indicates Regulation 51.

Where can I get further advice?

The Health and Safety Authority's website www.hsa.ie contains a large amount of additional information. Most of the information on the website can be accessed free-of-charge. The website has detailed guides on each section of these Regulations. Each guide contains advice on where to find further information.

The Health and Safety Authority's Workplace Contact Unit (WCU) is a helpdesk resource for employers, employees and the public. You can contact the WCU through

- ▲ Locall: 1890 289 389 (Monday to Friday, 9am to 5pm)
- ▲ Fax: 01 614 7125
- ▲ Email: wcu@hsa.ie
- ▲ Write to: Workplace Contact Unit, Health and Safety Authority, Metropolitan Building, James Joyce Street, Dublin 1



Explosive Atmospheres

This section applies only to workplaces with a potential risk of explosive atmospheres.

What does this section deal with?

This section deals with the risk of fire and explosion arising from the presence of flammable materials at the workplace. Employers and the self-employed must carry out a risk assessment. Where an explosive atmosphere is likely to occur they must record the findings in the “explosion protection document”. Hazardous area classification is an integral part of the risk assessment process.

Does this section apply to all workplaces?

This section applies only to workplaces where there is a potential risk from explosive atmosphere.

This section does not apply to

- ▲ areas used directly for medical treatment of patients
- ▲ use of appliances burning gaseous fuels in accordance with Directives
- ▲ manufacture, handling, use, storage and transport of explosives or chemically unstable substances
- ▲ mineral extractive industries
- ▲ means of transport to which ADR applies

Note that means of transport for use in a potentially explosive atmosphere are not excluded for example fork lift trucks.

Some Important Points

- ▲ Places must be classified into zones
- ▲ Suitable equipment must be selected – CE marked and Ex rated
- ▲ Explosion protection document to be prepared
- ▲ Employers at same workplace must cooperate
- ▲ Instructions and permits to work where necessary



Explosive Atmospheres Checklist

Interpretation

Yes

No

N/A

Action
Date

“ADR”, “explosion protection document”, “hazard”, “risk”, “substance” and “workplace” defined (r167)

“hazard” and “risk” to include harmful physical effects from fire, explosion or other events from hazardous properties of a substance (r167)

“workplace” excludes public road (r167)

This Part applies only to workplace where potential risk from explosive atmosphere

Does not apply to

▲ area directly for medical treatment of patients (r168)

▲ use of appliances burning gaseous fuels in accordance with Directives (r168)

▲ manufacture, handling, use, storage and transport of explosives or chemically unstable substances (r168)

▲ mineral extractive industries (r168)

▲ means of transport to which ADR applies (r168)

Means of transport for use in a potentially explosive atmosphere not excluded eg fork lifts (r168)

Requirement

Yes

No

N/A

Action
Date

Where explosive atmosphere is present or likely, make assessment of risk (r169)

In assessment have regard to

▲ likelihood explosive atmospheres will occur and persistence (r169)

▲ likelihood ignition sources will be present and become active (r169)

| Requirement | Yes | No | N/A | Action Date |
|--|-----------------------|-----------------------|-----------------------|-------------|
| ▲ installations, substances used, work processes and possible interactions (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ scale of anticipated effects (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ places which are or can be connected to places in which explosive atmospheres may occur (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ additional safety information as employer may need (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Having carried out assessment | | | | |
| ▲ prepare an explosion protection document (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ revise as necessary if significant changes, extensions or conversions (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ include explosion protection document, or reference to it, in safety statement (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ make explosion protection document or any revision available to employees (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| In explosion protection document specify | | | | |
| ▲ that explosion risks determined and assessed (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ that measures have been or will be taken and such measures are adequate (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ places classified into hazardous zones (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ that workplace and equipment, including warning devices, are designed, operated and maintained with due regard for safety (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ in accordance with workplace requirements and safety signs requirements adequate arrangements for the safe use of equipment (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ the purpose of co-ordination required and measures and procedures for implementing (r169) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

| Requirement | Yes | No | N/A | Action Date |
|--|-----------------------|-----------------------|-----------------------|-------------|
| Classify places where explosive atmospheres may occur into hazardous or non-hazardous (r170) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Classify places classified as hazardous into zones 0, 1, 2, 20, 21 or 22 (r170) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Display “Warning sign for places where explosive atmospheres may occur” in a prominent position at or near each point of entry to hazardous place (r170) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Before workplace containing hazardous place used for first time, ensure | | | | |
| ▲ overall explosion safety verified by a competent person (r170) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ condition(s) necessary for protection from explosion maintained (r170) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| For preventing and providing protection against explosions, take technical and organisational measures and in order of priority (r171) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ prevent formation of explosive atmospheres (r171) or | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ where activity does not allow, avoid ignition including electrostatic discharges (r171) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ mitigate detrimental effects (r171) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Take necessary measures, in compliance with explosion protection, to ensure | | | | |
| ▲ work can be performed safely (r171) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ appropriate supervision including appropriate technical measures (r171) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ escape and/ or release diverted or removed or safely contained or rendered safe by some other suitable method (r171) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

| Requirement | Yes | No | N/A | Action Date |
|--|-----------------------|-----------------------|-----------------------|-------------|
| ▲ if explosive atmosphere contains several gases, vapours, mists or dusts, protective measures are appropriate to greatest potential risk (r171) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Plant, equipment, protective systems and associated devices only brought into service if the explosion protection document indicates that they can be safely used in an explosive atmosphere NOTE This applies to equipment or protective systems to which statutory provisions do not apply if their incorporation can give rise to an ignition hazard (r172) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Measures taken to prevent confusion between connecting devices (r172) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Ensure the workplace, equipment and associated connecting device available to employees are designed, constructed, assembled, installed, maintained and operated | | | | |
| ▲ to minimise risks of explosion, and | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ if explosion does occur to control or minimise propagation of explosion within workplace and/ or equipment (r172) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Following categories of equipment used in the zones indicated are suitable for gases, vapours, mists or dusts, or any combination of them | | | | |
| ▲ in zone 0 or zone 20, category 1 equipment (r172) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ in zone 1 or zone 21, category 1 or 2 equipment (r172) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ in zone 2 or zone 22, category 1, 2 or 3 equipment (r172) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Sufficient and appropriate training with regard to explosion protection (r173) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Ensure where required by explosion protection document | | | | |
| ▲ work in hazardous places carried out in accordance with written instructions (r173) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

| Requirement | Yes | No | N/A | Action Date |
|---|-----------------------|-----------------------|-----------------------|-------------|
| ▲ a system of permits to work is applied for both hazardous activities and activities which may interact with other work to cause hazards (r173) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| ▲ permits to work are issued by a competent person responsible for this function, before the activity concerned commences (r173) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Provide work clothing which does not give rise to electrostatic discharges for use in zones 0, 1, 2, 20, 21 or 22 (r174) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Ensure persons at work are given optical and/ or acoustic warnings and withdrawn before explosion conditions are reached (r174) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Where required by explosion protection document, provide and maintain escape facilities to ensure persons at work can leave endangered places promptly and safely (r174) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Where employees employed by different employers are present in or at the same workplace, each employer shall ensure safety of their employees and the matters under the employer's control comply with this Part (r175) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |
| Where 2 or more employers share the same workplace, the employer responsible for the workplace shall co-ordinate all the measures required to protect employees from the explosive atmosphere (r175) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | |

This is a guidance document and using the checklist should help you comply with the Regulations. The checklists are non-exhaustive and in no particular order. Further guidance can be found at www.hsa.ie