The Irish PACKAGING SOCIETY
Affiliated with I·M3

Diploma in Packaging Technology

Legal Aspect of Packaging

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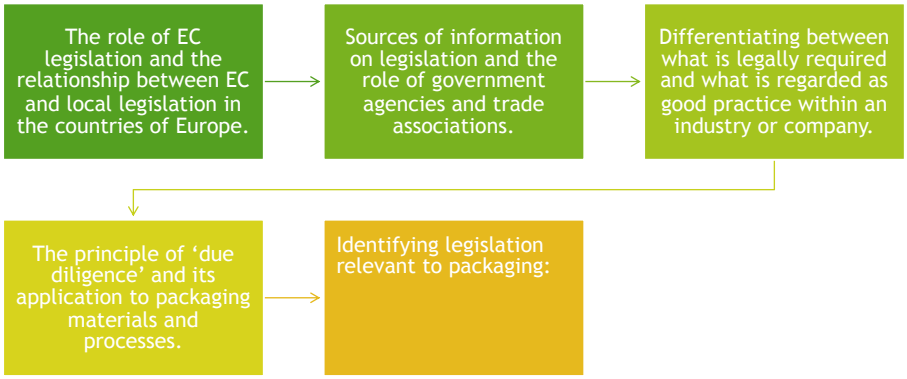
1

Contents

Part One	Part Two	Part Three
Syllabus	Additional Information	Supply Chain Hazards
General Themes	Dangerous Goods/Substances	Dangerous Goods
Packaging Law Direction	Pharmaceutical Labelling	Classification
Relevant Legislation	REACH	Packaging
Common Legislation	HACCP	Testing
	Food Safety (FSAI/BRC)	Marking
	ISPM 15 Pallets	Labelling
	Irish Medicines Board (IMB)	Documentation
	Patents and Trademarks	Substances

2

Learning Aims – be able to:



3

PART 1 - GENERAL THEMES (1)

- The role of EC legislation and the relationship between EC and local legislation in the countries of Europe.
- Sources of information on legislation and the role of government agencies and trade associations.
- Differentiating between what is legally required and what is regarded as good practice within an industry or company.
- The principle of 'due diligence' and its application to packaging materials and processes.

4

GENERAL THEMES (2)

- • Identifying legislation relevant to packaging:
- – Product quality and health hazard • Food Safety
- • Materials and Articles in Contact With Food
  • Plastic Materials and Articles in Contact With Food
- – Protection of the workforce
- – Honesty in trade
  • Food Labelling Regulations
  • Weights and Measures Acts (UK) / Quantity Control Acts (Irk)
- – Protection of the environment • Packaging and Packaging Waste

5

PART 1 - PACKAGING LAW DIRECTION?

1. Choice of Packaging Material
2. Choice of Design
3. Printing and Laminating Processes
4. Purchase of Packaging
5. Process of Packing a Product
6. Storage, Handling and Distribution
7. Display, Sale and Use
8. Disposal of Used Packaging

6

1. Choice of Packaging Material

May be influenced by:

- Suitability for use with product
- Regulations regarding hazardous goods
- Environmental Impact

Essential Requirements (minimum adequate amount)

7

2. Choice of Design

May be restricted by:

- ✓ Existing Patents Registered
- ✓ Trademarks
- ✓ Laws on deceptive packaging (IP/Copyright)

8

3. Printing and laminating processes

Must comply with legislation regarding emissions of solvent vapours to the atmosphere.

9

4. Purchase of Packaging

- Laws of Contract
- Insurance

10

5. Process of Packing a Product

- Health and Safety
- Manual Handling
- Hygiene
- Quantity Control
- Food Safety Act

11

6. Storage, Handling and Distribution

- Transport Legislation
- Manual Handling
- Dangerous Goods Packaging
- Bills of Lading / Insurance

12

7. Display, Sale and Use

- Product Fit For Purpose
- Product Liability
- Deceptive Packaging

13

8. Disposal of Used Packaging

- EC DIRECTIVE 94/62 ON PACKAGING AND PACKAGING WASTE
- *IRL:* EUROPEAN UNION(PACKAGING) REGULATIONS 2014
- *UK:* PRODUCER RESPONSIBILITY (PACKAGING WASTE) REGULATIONS 2007 (AMENDED IN 2017)
- UK: PACKAGING (ESSENTIAL REQUIREMENTS) REGULATIONS 2015

14

PART 1 - RELEVANT LEGISLATION

Legislation in Specific Product Areas, e.g.: -

1. *Food (e.g. HACCP)**
2. *Pharmaceuticals**
3. *Cosmetics**
4. *Toys*
5. *Textiles*
6. *Aerosols*
7. *Hazardous Substances**

15

4 Broad Categories:

1. Product Quality and Health Hazard
2. Honesty in Trade
3. Worker Protection
4. Environmental Protection

16

Product Quality and Health Hazard

1) Product and pack compatibility
2) Shelf life of the product
3) Safe use of goods by the consumer

Safe movement and storage of goods throughout the supply chain

17

Honesty in Trade

Typical Legislation (Irk): -

- Sale of Goods Act No. 16 of 1980
- Consumer Protection Act No. 19 of 2007 Guidance: Search 'Consumer Rights' at www.citizensinformation.ie
- EC (Requirements To Indicate Product Prices) Regulation - S.I. No. 639/2002
- EU (The provision of food information to consumers) Regs. 2011 (S.I. No. 1169/2011) (Amended up to 2015)
- Packaged Goods (Quantity Control) Regulations S.I. No. 39/1981 (i.e. Weights and Measures)
- Trade Marks Act, No. 6 of 1996
- Copyright and Related Rights Act, No. 28 of 2000 (Amended up to 2014)

18

Food Legislation (Irk):

Food Safety Authority of Ireland Act, 1998

EC (Plastics and other materials) (Contact with food) SI No. 549 of 2017

EC Food Hygiene Regulations SI No. 369 of 2006 (Amended by SI No. 82 of 2018)

19

Worker Protection (1)

- Considerations - Health and Safety
  - manufacture of packaging material
  - during the packer/filler operation
  - during all storage and transport stages

HEALTH AND SAFETY AUTHORITY

20

Worker Protection (2)

Typical Legislation (Irk):

- Safety, Health and Welfare Act 2005 (No. 10 of 2005)
- Safety, Health and Welfare at Work (General Application) Regulations 2007 (S.I. No. 299 of 2007)
- Manual Handling of Loads
- Fire detection and fire fighting
- Control of Noise at Work
- Safety, Health and Welfare At Work (Chemical Agents) Regulations, S.I. No. 623/2015

– See www.hsa.ie

21

Other Legislation (and Standards) (Irk) (1):

General Product Safety Directive 2001/95/EC and SI 199 of 2004

Guidance: see 'General Product Safety' on www.fsai.ie/legislation

ISO 8317:2015 Child-resistant packaging Requirements and testing procedures for closable packages

EN 862:2005 Packaging – Child Resistant Packaging – Requirements and testing procedures for non re-closable packages for **non-pharmaceutical** products

ISO 14375:2018 Child Resistant non re-closable packaging for **pharmaceutical** products – Requirements and testing procedures

22

Other Legislation (2)

- – Reg's on labelling (specific to product sector) e.g.
  - Regulation (EU) No 1169/2011 on the provision of food information to consumers (Amended up to 2015)
  - – Combines 90/496/EEC – 'Nutrition labelling for foodstuffs' and – 2000/13/EC – 'Labelling, presentation and advertising of
  - foodstuffs'
  - Chemicals Act No. 13 of 2008 (Amended in 2010)
  - **R**egistration, **E**valuation, **A**uthorisation and Restriction of **Ch**emicals (REACH) Regulation (EC Reg No. 1907/2006)
- – EC (Cosmetics Products) Regulations SI 440 of 2013 • Guidance: See www.hpra.ie
- – EC (Safety of Toys) Regulations SI 14 of 2011
- – Carriage of Dangerous Goods by Road Act SI 349 of 2011 (Amended up to 2017)

23

Environmental Protection Legislation

- Protection of the Environment Act No. 27 of 2003
- Waste Management Acts 1996-2013
- European Union (Packaging) Regulations 2014 (SI 282)
- EC (Waste Directive) Regulations 2020 (Si 323)
- Eu (Single Use Plastics) Regulations 2021 (SI 326)

24

Environmental Considerations:

- ✓ Environmental impact during the manufacture of packaging materials
- ✓ Environmental impact of packaging on disposal

25

EU and State Legislation

EC Regulations - Mandatory and Immediate

EC Directives – Mandatory or Optional
(e.g. HACCP went from Directive To Regulation)

National Legislation – Statutory Instruments (SI) Given unique number and year

26

PART1 - COMMON LEGISLATION AFFECTING PACKAGING

1. Food Safety (see www.fsai.ie)
2. Materials and Articles in Contact with Food Regulations
3. Plastic Materials and Articles in Contact with Food Regulations
4. Food Labelling Regulations
5. Quantity Control Act (see www.nsai.ie)
6. Packaging and Packaging Waste (see Part One)

27

Food Safety

EC Directive 178/2002 on the General Principles and Requirements of Food law, and Procedures on Food Safety

UK: Food Safety Act 1990

IRL: Food Safety Authority of Ireland Act 1998

EC Regulation 852/2004 on the Hygiene of Foodstuffs (includes HACCP requirements)

IRL: EC (Food and Feed Hygiene Regulations) via SI No. 432 of 2009

28


Food Safety Legislation Application
Food Legislation affects everyone working with food:
Industry
Self-employed – Non profit
Production – Processing
Distribution - Sale

29


Key Obligations of Food and Food Business Operators (1)
Safety - Operators shall not place on the market unsafe food or feed
Responsibility - Operators are responsible for the safety of the food and feed which they produce, transport, store or sell
Traceability - Operators shall be able to rapidly identify any supplier or consignee
Transparency - Operators shall immediately inform the competent authorities if they have a reason to believe that their food or feed is not safe

30

Key Obligations of Food and Food Business Operators (2):

Emergency - Operators shall immediately withdraw food or feed from the market if they have a reason to believe that it is not safe

Prevention - Operators shall identify and regularly review the critical points in their processes and ensure that controls are applied at these points

Co-operation - Operators shall co-operate with the competent authorities in actions taken to reduce risks

31

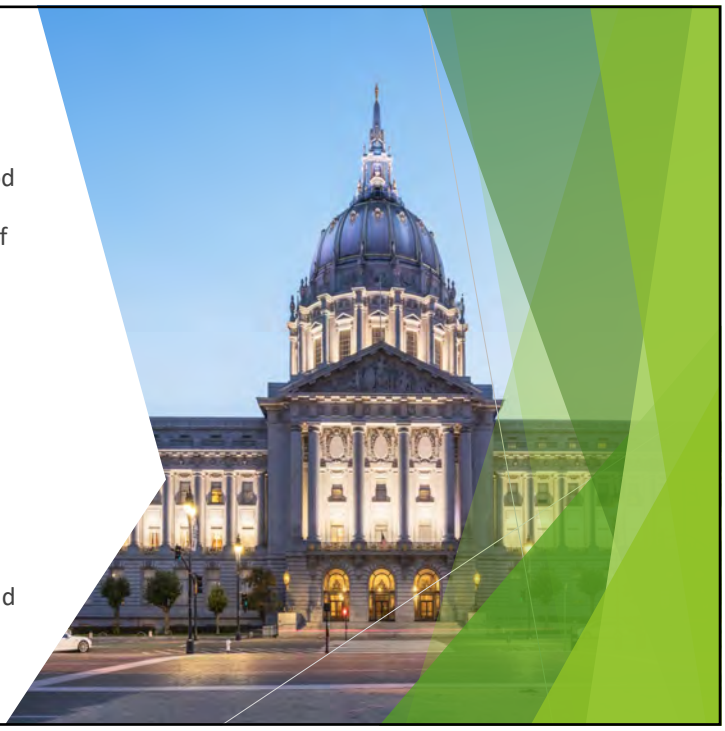
Authorities

The main role of central government is to formulate food policy and to negotiate on food law in the E.C.

The FSAI is responsible for the enforcement of all 'food legislation' in Ireland .

The Authority carries out this enforcement function through "service contracts" with **official agencies -** Penalties include imprisonment (€5000) and fines (6 months)

- County Councils and City Councils
- Health Service Executive
- The Department of Agriculture, Fisheries and Food
- The Marine Institute
- The National Standards Authority of Ireland
- The Sea Fisheries Protection Authority



32

Due Diligence

- Main defence under UK **Food Safety Act:** (also now used as a defence in Ireland) *"Due Diligence Defence"*
- The defendant took all **reasonable precautions** and exercised all **due diligence** to avoid committing that offence
- Firm evidence required.
- Food manufacturer or packer must be aware of his packaging suppliers' activities and capabilities so that their own position in law is not compromised.

33

Materials and Articles in Contact with Food Regulations
EC Regulation 1935/2004 on Materials and Articles in Contact with Food

2012

United Kingdom: Materials and Articles in Contact With Food Regulations 2619 of 2012

IRL: EC (Plastics and other materials) (Contact with food) SI No. 49 of 2017

2017

34

Materials and Articles in Contact with Food Regulations - Materials

- Materials must be manufactured in compliance with good manufacturing practice so that, under normal or foreseeable conditions of use, they do not transfer their constituents to foodstuffs in quantities that could:
- – Endanger human health
  – Bring about an unacceptable change in the composition of the foodstuffs, or
- – deterioration in their organoleptic properties (taste, texture, aroma and appearance)
- The labelling, advertising and presentation of a material or article shall not mislead the consumers

35

Materials and Articles in Contact with Food Regulations In addition to the EC framework reg., the IRL reg.:

- – Places controls on the use of regenerated cellulose film in direct contact with food.
- – Limits the quantity of Lead and Cadmium in Ceramics
- – Plastics in contact with Food must comply with the EC Plastics Directive
- – Teats and Soothers must comply with the EC Teats and Soothers Directive
- – Restricted the use of vinyl chloride monomer in the manufacture of food contact plastics.

36

Plastic Materials and Articles in Contact with Food Regulations -Directive EU/10/2011 on Plastic Materials and Articles in Contact with Food

- Lists permitted monomers and approved additives • Sets overall and specific migration limits
- ENG: Plastic Materials and Articles in Contact With Food Regulations 2006 (1401-2006)
- Scotland, Wales and NI have separate legislation
- IRL: (Plastics are included in the Materials and Articles in contact with food legislation)

37

Plastic Materials and Articles in Contact with Food Regulations - All below have been added to EU/10/2011:

- Vinyl chloride monomer (78/142/EEC, 80/766/EEC, 81/432/EEC)
- Testing for migration of substances into foods (82/71/EEC)
- List of simulants to be used for migration testing (85/572/EEC)
- Overall migration limits, lists of monomers and additives (90/128/EEC)

38

(IRL) Plastic materials and articles may only be placed on the market if they:

(a) comply with Article 3 of Regulation (EC) No 1935/2004 (intended and foreseeable use); and

(b) comply with Article 15 of Regulation (EC) No 1935/2004 (labelling requirements);

(c) comply with Article 17 of Regulation (EC) No 1935/2004 (traceability requirements) and

(d) are manufactured according to GMP as set out in Commission Regulation (EC) No 2023/2006; and comply with the compositional and declaration requirements set out in Chapters II, III and IV of Regulation (EU) No 10/2011.

39

(Irk) Food Labelling Regulations - EU (The provision of food information to consumers) Regs. 2011 (S.I. No.1169/2011) (Amended up to 2015)

Food Information must be accurate, clear and easy to understand for the consumer, it must **not be misleading** particularly:

- 1a) As to the characteristics of the food and, in particular, as to its nature, identity, properties, composition, quantity, durability, country of origin or place of provenance, method of manufacture or production;
- 2b) By attributing to the food, effects or properties which it does not possess;
- 3c) By suggesting that the food possesses special characteristics when in fact, all similar foods possess such characteristics, in particular by specifically emphasising the presence or absence of certain ingredients and/or nutrients;
- 4d) By suggesting, by means of the appearance, the description or pictorial representations, the presence of a particular food or an ingredient, while in reality a component naturally present or an ingredient normally used in that food has been substituted with a different component or a different ingredient
- Food products, including food imports sold in Ireland must be labelled in English (with optional labelling in Irish).

40

(Irk) Food Labelling Regulations Specific information required on a pack:

- – the name of the food
- – a list of the ingredients, in % or in descending order
- – Any ingredient or processing aid that can cause allergies or intolerances
- – quantity of certain ingredients or categories of ingredients
- – Net quantity of the food
- – Date of minimum durability
- – any special storage conditions or conditions of use
- – the name and address of the manufacturer/ packer/ seller
- – the place of origin (If absence would mislead the consumer)
- – instructions for use
- – Nutrition declaration

41

(Irk) Food Labelling Regulations – additional requirements on:

- Foods packaged in certain gases (protective atmospheres)
- foods containing sweeteners
- Foods containing glycyrrhizin acid or its ammonium
- salt (liquorice)
- high caffeine content
- Foods with added phytosterols, phytosterol esters, Phyto stanols **or Phyto stanol esters** (plant sterols)
- Frozen meat and fish
- Foods containing specific food colours
- Guidance: See 'Food Information on Pre-packed Foods' on WWW.FSAI.IE

42

Labelling of Frozen Foods:

- – 'Quick Frozen' Requirements
- – Date of minimum durability
- – Maximum advisable storage time
- – Temperature at which and the equipment in which it should be stored
- – Batch reference
- – Clear message not to re-freeze after defrosting

43

Indication of maximum durability (shelf life)

Expected Shelf Life	Marking
Highly perishable/likely to constitute an immediate danger to health	Use by 1st April XXXX (year can be omitted)
3 months or less	Best Before 1st April XXXX (year can be omitted)
3 to 18 months	Best Before 1st December XXXX Best Before end December XXXX
More than 18 months	Best Before December XXXX Best Before end of XXXX

44

(Irk) Quantity Control Act

- IRL: Packaged Goods (Quantity Control) Act, (No. 11 of 1980)
- IRL: Packaged Goods (Quantity Control) Reg's, (S.I. 39 of 1981)
- Guidance Manual for Packers and Importers (see WWW.NSAI.IE)

– Packers and Importers have the following responsibilities:

1. a) They must ensure that packages will pass an inspector's reference test
2. b) Packages must be labelled in accordance with the legislation
3. c) They must carry out quantity checks on the contents of packages and keep records of those checks (Unless exempted from this requirement)
4. d) Inspectors are to be provided with all necessary assistance to carry out their duties.
5. e) Packers and importers require prescribed measuring instruments to comply with the legislation
6. f) Packers and importers are required to give notice to the Minister if they intend to export e-marked packages (NSAI manage this through the Legal Metrology Service)

45

(Irk) Quantity Control Act -Details the Average System for Packages

Three Rules for Packers

1. The contents of the packages must not be less on average than the nominal quantity (i.e. that marked on the label).
2. Not more than 2.5% of the packs may be **non-standard**; i.e. have negative errors larger than the TNE (Tolerable Negative Error) specified for the nominal quantity. (T1)
3. No pack may be **inadequate**, i.e. have a negative error larger than twice the specified TNE. (T2)

46

(Irk) Quantity Control Act -Average system of filling also requires:

- – adequate checks in production,
- – adequate recording of checks, and
- – use of suitable equipment for conducting such checks.
- – Measurements of weights and volumes apply over the whole shelf life of the product. (e.g. cheese)

47

Directive 94/62/EC on Packaging and Packaging Waste

Directive 94/62/EC on Packaging and Packaging Waste and Amendments is the basis for Irish packaging legislation. The Directive broadly defines packaging and requires that packaging recovery systems be put in place. The Directive requires that a hierarchical approach be adopted to manage packaging waste, with the emphasis on waste reduction, reuse and recycling initiatives.

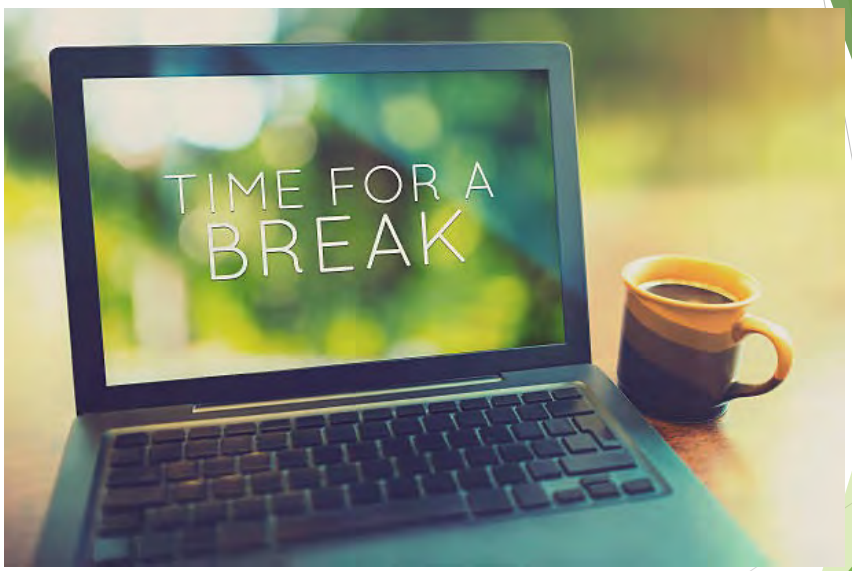
In the case of Ireland, the Directive set a packaging recovery target of 25% to be met by 2001 (has been met), with a target of 50% set for the end of 2005, with a minimum of 15% recovery for specified materials (has also been met). As a country we must meet a recovery target of 60% by 2011 and material specific targets that range from 15% (wood) to 60% (paper and glass). (Was met by 2008)

* See notes from yesterdays presentations

48

Food Contact – EU FCM View

49



50

PART TWO ADDITIONAL INFORMATION

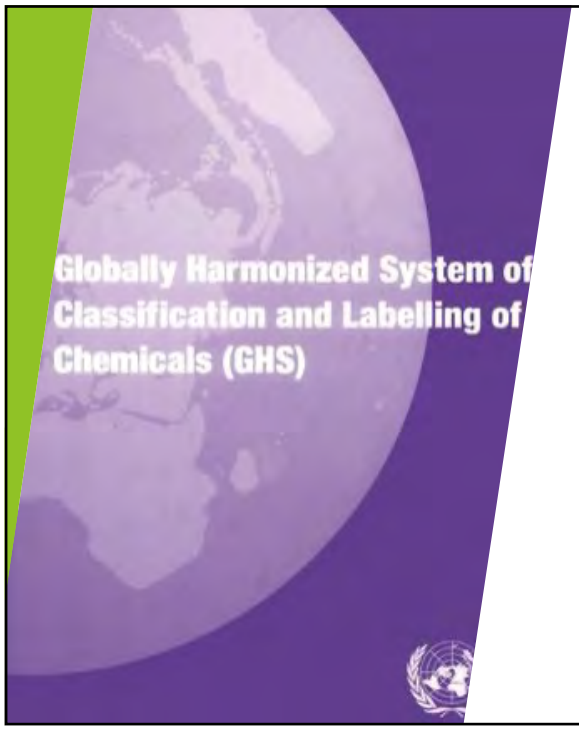
- Dangerous Goods/Substances
- Pharmaceutical Labelling
- REACH
- HACCP
- Food Safety (FSAI/BRC)
- ISPM 15 Pallets
- Irish Medicines Board (IMB)
- Patents and Trademarks

51

Dangerous Goods

- **Dangerous Goods** include acids, solvents, explosives and radioactive substances.
- Each is placed in a class depending on its nature and
- the quantity being transported
- Irish leg'n enacts provisions of international ADR agreement
- IRL: Carriage of Dangerous Goods by Road Act SI 349 of 2011
- The main features of the regulations are:
  - – Classes of materials are clearly defined
  - – Packaging must carry the legally required hazard labelling
  - – Hazardous materials in defined classes have limitations on the size and strength of the container
  - – Packaging must have approved child resistance if on retail sale, e.g. bleach

52



UN Hazard System

Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

- Classifies product according to risk during transport, and
- Defines the test methods for packages
- Proof of having undertaken and passed specified tests conducted by an accredited Test House is essential for the shipment of products falling into the Hazardous Goods category
- See Classification, Labelling & Packaging (CLP) of Chemical Substances EC_1272_2008

53

Approving Bodies

- There are several bodies in Europe who approve dangerous goods packaging. Three of the biggest are;
  - PIRA – UK
  - TNO – Holland
  - BVT – France.
- Dangerous goods package testing provided by:
  - Anecto in Galway, & Loughry College, Armagh

54

Drugs and Poisons

- Dangerous Substances **Drugs and Poisons** also highly regulated
- Poisons Regs SI_511_2008 - Defines poisons (Section 4) and lists labelling requirements (section 6)
- Classification, Labelling & Packaging (CLP) of Chemical Substances EC_1272_2008
- Irish Medicines Board Act 29-1995 Set up the Irish Medicines Board (IMB)
- The Medical Preparations (Labelling & Package Leaflets) Regulations, SI_71_1993 Specifies requirements on packages and leaflets

55

Pharmaceutical Labelling Requirements – Primary Pack

a) name of the medical preparation and strength if it is available in several forms;.
b) a statement of the active ingredients;
c) the pharmaceutical form and contents by weight, volume or number of doses;
d) list of those excipients known to have a recognised action or effect;
e) the method and, if necessary, the route of administration;
f) warning that the medical preparation must be stored out of reach of children;
g) special warning, if this is necessary for the medical preparation concerned;
h) the expiry date in clear terms (month/year);
i) special storage precautions, if any;
j) the name and address of who places the preparation on the market;
k) the authorisation number for placing the medical preparation on the market;
l) the manufacturer's batch number;
m) instructions on the use of self-medical preparations, if necessary

56

REACH Legislation

- REACH is the Regulation for
  - – Registration,
  - – Evaluation,
  - – Authorisation and
  - – Restriction of
  - – Chemicals.
- It entered into force on 01 June 2007 to streamline and improve the former legislative framework on chemicals in the EU.

57

Key Elements of REACH

- Registration of substances manufactured or imported in quantities >1 tonne / yr.
- Evaluation of selected substances of concern by the authorities.
- Authorisation required for use of substances of very high concern.
- Restrictions – Community wide action on substances posing an unacceptable risk.

58

REACH Implementation

- In Ireland, the Health and Safety Authority (HSA) has been appointed as the interim competent authority for REACH working closely with the EPA and other state bodies and stakeholders to manage implementation of REACH in Ireland
- The HSA has set up a helpdesk to provide support to manufacturers, importers, downstream users and other stakeholders in meeting their requirements under REACH
- Information on REACH seminars held by the HSA are also available on www.hsa.ie

59

Hazard Analysis and Critical Control Points (HACCP)

What is HACCP?

Hazard Analysis and Critical Control Points (HACCP) is a systematic approach to identifying and controlling hazards (i.e. microbiological, chemical or physical) that could pose a danger to the preparation of safe food.

HACCP involves identifying what can go wrong and planning to prevent it.

In simple terms, it controls the safety of ingredients and supplies coming into a food business and what is done with them thereafter.

60

HACCP

- Since 1998 it has been a legal requirement for all food businesses to have a food safety management system based on the principles of HACCP.
- In Ireland, the European Communities (Food and Feed Hygiene) Regulations 2009 (S.I. No. 432 of 2009) outline what is required by a food business.
- The proprietor/manager of a food business has a legal obligation to understand what the Hygiene of Foodstuffs Regulation demands and be able to explain how it has been applied in the food business**.**
- – Guidance: See Guidance document on HACCP at www.fsai.ie

61

HACCP Example

62

Food Safety Authority Ireland Introduction

63

British Retail Consortium (BRC)

- The BRC published the first issue of the Packaging Standard in 2002 (now in its 3rd Edition), followed by Consumer Products Standard in August 2003.
- Each of these Standards is regularly reviewed and each standard is fully revised and updated at least every 3 years after extensive consultation with a wide range of stakeholders.

64

ISPM 15 – What is it? (1)

- **IPPC**: the International Plant Protection Convention is a Multilateral treaty to Harmonise regulations governing those imports that could impact the physical condition of Forests and Crops. (Search 'ISPMs' at www.IPPC.int)
- **ISPM 15**: This section of the IPPC describes phytosanitary measures to reduce the risk of introduction and/or spread of quarantine pests associated with wood packaging material for use in international trade.

The pests in question are the pinewood nematode (found in the U.S. Canada, Mexico, and Japan where it is not a threat due to natural predators) and the Asian long horned Beetle (which is found in China and several other locations and is a threat to U.S. forests.)

65

ISPM (2)

- The ISPM 15 was originally agreed by 118 nations and there are now 134 participating members. The ISPM was passed in March 2002 with all countries required to comply by 2004
- To comply pallets must be fumigated using Methyl Bromide (MB) or heat treated to 56°C for a minimum of 30 minutes
- **Note:** ***heat treating is not the same as Kiln drying.***

66

Irish Medicines Board (IMB)

- The Irish Medicines Board carries out the following activities within Ireland:
- Licensing:-
  - Medicinal products for human use
  - Veterinary products
  - Wholesalers of human medicines
  - Manufacturers of human and veterinary medicines
  - Pharmacovigilance & Drugs safety monitoring
  - Clinical Trial Licensing
- Inspection of wholesale and manufacturing sites
- Regulation of Medical Devices
- Competent authority under the Tissue & Cells Directive

IRISH MEDICINES BOARD

67

Patents

A patent is a set of exclusive rights granted by a state to a patentee (the inventor or assignee) for a fixed period of time in exchange for the regulated, public disclosure of certain details of a device, method, process or composition of matter (substance) (known as an invention) which is new, inventive, and useful or industrially applicable.

The exclusive right granted to a patentee in most countries is the right to prevent or exclude others from making, using, selling, offering to sell or importing the claimed invention. The rights given to the patentee do not include the right to make, use, or sell the invention themselves.

The patentee may have to comply with other laws and regulations to make use of the claimed invention. So, for example, a pharmaceutical company may obtain a patent on a new drug but will be unable to market the drug without regulatory approval, or an inventor may patent an improvement to a particular type of laser, but be unable to make or sell the new design without a license from the owner of an earlier broader patent covering lasers of that type.

OIFIG NA bPAITINNÍ
PATENTS OFFICE

68

Trademarks

- A **trademark**, **trade mark**, **TM** or ® is a distinctive sign of some kind which is used by a business to uniquely identify itself and its products and services to consumers, and to distinguish the business and its products or services from those of other businesses. A trademark is a type of industrial property which is distinct from other forms of intellectual property.
- Conventionally, a trademark comprises a name, word, phrase, logo, symbol, design, image, or a combination of these elements. There is also a range of non-conventional trademarks comprising marks which do not fall into these standard categories.

Oifig Maoine
Intleachtúla na hÉireann
Intellectual Property
Office of Ireland

69

70

PART THREE – SUPPLY CHAIN HAZARDS

a) Dangerous Goods
b) Classification
c) Packaging
d) Testing
e) Marking
f) Labelling
g) Documentation
h) Substances

71

Dangerous Goods

What are they?

- Defined by the hazard they represent • e.g. explosive, flammable, toxic
- United Nations system classifies and identifies substances and articles as dangerous
- The Classification determines the packaging, marking, labelling and documentation required

72

Dangerous Goods Classification

- 9 Classes – no hierarchy through Classes
- 3 Packing groups:-
  - I - Great Danger
  - II - Medium Danger
  - III - Minor danger
- UN number& proper shipping name(PSN) - no indication of danger

73

Dangerous Goods Classification (1)

1 Explosives

2.1 Flammable gases
2.2 Non-flammable and non-toxic gases
2.3 Toxic gases

3 Flammable liquids

4.1 Flammable solids
4.2 Substances liable to spontaneous combustion
4.3 Substances which in contact with water emit flammable gases

74

Dangerous Goods Classification (2)

5.1 Oxidizing substances
5.2 Organic peroxides

6.1 Toxic substances
6.2 Infectious substances

7 Radioactive material

8 Corrosive substances

9. Miscellaneous dangerous substances

75

Dangerous Goods Packaging (3)

- Specified according to product type and pack size
- Requires consideration of the hazards of the journey
- Must be compatible with the product
- Does not have to be new - may be reconditioned, but must be in good condition and conform to requirements

76

Dangerous Goods Testing (1)

Limited quantity provision:

– Mainly for consumer use
– Also for shipping samples
– Do not need to undergo testing
– Specific requirements for transport modes

Not applicable to some substances:

- explosives
- organic peroxides
- radioactive material

Packing Group I substances

77

Dangerous Goods Testing (2)

Packaging for all other sizes must be:

- Tested for suitability to survive hazards
- Testing varies with pack type/size

Typical tests:

- Dropping (shock) Pressure Lifting
- Leak proofness (containment)
- Stacking (compression) Tearing
- Certified by Competent Authority
- Marked

78

Dangerous Goods Marking

- Proper Shipping Name (PSN)
- UN certification including UN classification and number
- Transport-mode specific requirements e.g.
  - – names and address of consignor
  - – names and address of consignee
  - – Fragile – this way up
  - – Danger warning labels
  - – Description and Quantity of contents
  - – Unit Weight and Volume (Net weight)
  - – Case Weight (Gross weight)

79

Dangerous Goods - Labelling

Diamond-shaped labels

– Indicate hazard
– Colour and design specific
– One label per pack (2 for IBCs)

• Additional requirements specific to transport modes

80

Dangerous Goods - Documentation

- • Provides information to transporter, emergency services and enforcement agencies
- • Requires at least:
  – Proper shipping name
  – Classification
  – UN number and packing group (if app.) – Description and quantity of goods

81

Dangerous Goods Recap

82

Questions and Answer's

83

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84