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# Key tasks for EU waste classification according to the new legislative framework

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# Aim

- Point out the importance of waste management for the circular economy
- Highlight that waste management is linked to waste classification
- Provide assistance in the field of (hazardous) waste management
- Indicate the basic concepts and specific aspects for waste classification

# Circular Economy & Waste Management

The EU's aim for circular economy towards the waste management is to:

- secure access to the resources
- reinforce the ability to recover raw materials from waste

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# Circular Economy & Waste Management

Products

**Circular Economy**

Wastes

The products should be labeled and packaged according to the provisions of Regulation 1272/2008 (CLP Regulation)

The framework for classification of waste has been aligned to CLP Regulation

# Circular Economy & Waste Management

*What does the circular economy means for the industry sector?*

The term is becoming increasingly familiar to the industry sector but there are hugely mixed views as to:

- Whether the term is used now is fully understood by many that use it
- How to change the consumer culture
- How the circular economy may incorporate in the current and future roles of the supply chain.

# EU Waste Classification

## 1. LEGISLATIVE FRAMEWORK

**The Waste Framework Directive 2008/98/EC (WFD):**

- *sets the basic concepts and definitions related to waste management, such as Definitions, Principles and Obligations*

***The scope of the Directive focuses on 'waste' as defined in Article 3(1)***

***'any substance or object which the holder discards or intends or is required to discard'***

***The WFD also defines 'hazardous waste' in its Article 3(2)***

***'waste which displays one or more of the hazardous properties listed in Annex III' ****

*** Commission Regulation 1357/2014 amending Annex III to WFD***

# EU Waste Classification

## 1. LEGISLATIVE FRAMEWORK

**European List of Waste (LoW)*:**

- *is the key document for classification of waste*
- *provides further provisions for the assessment of hazardous properties*
- *provides the list of wastes, categorized into chapters, sub-chapters and entries*

***The identification of the most appropriate entry, between the 842 entries in the LoW, is a key tool in the classification of waste***

* ***The last amendment is by the Decision 2014/955/EU that should have been applied since 1 June 2015***

# The assessment & classification of waste

**Step 1**
- Identification of the appropriate entry in the LoW*

**Step 2**
- Data sources

**Step 3**
- Hazardous property Assessment

**Step 4**
- Waste sampling & specific tests per HP*

**LoW: List of Waste*
**HP: Hazardous Property*

# The assessment & classification of waste

## STEP 1: Identification of the appropriate entry in the LoW

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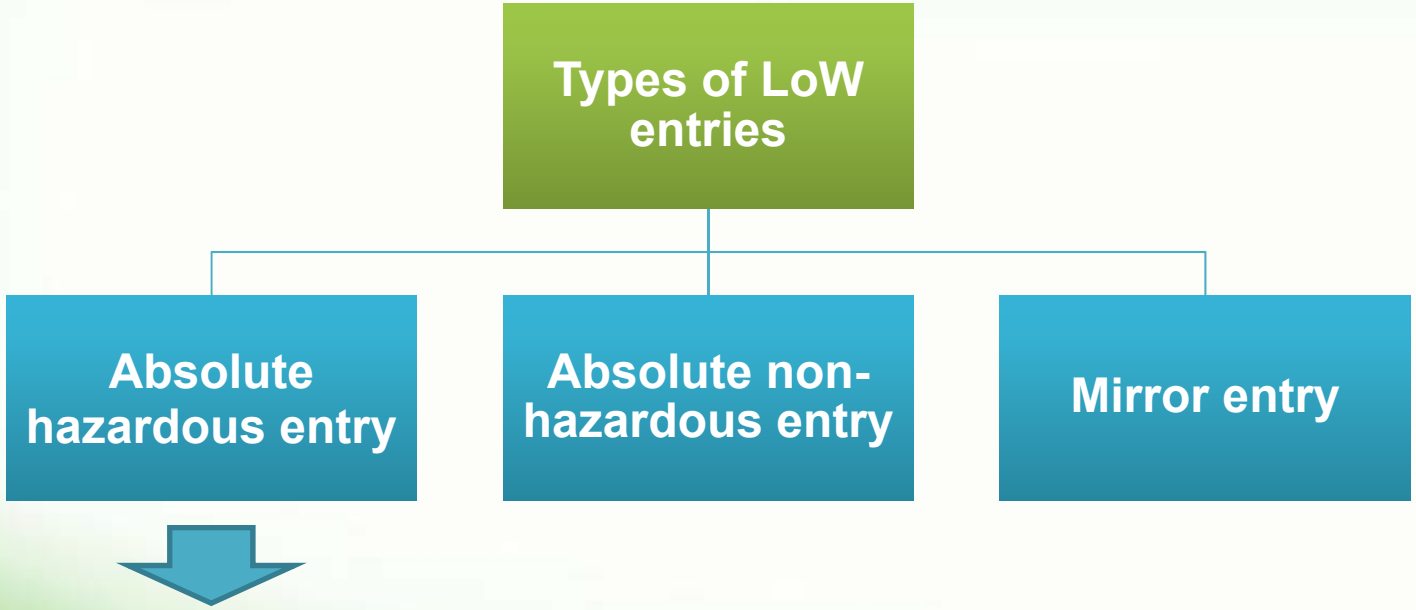
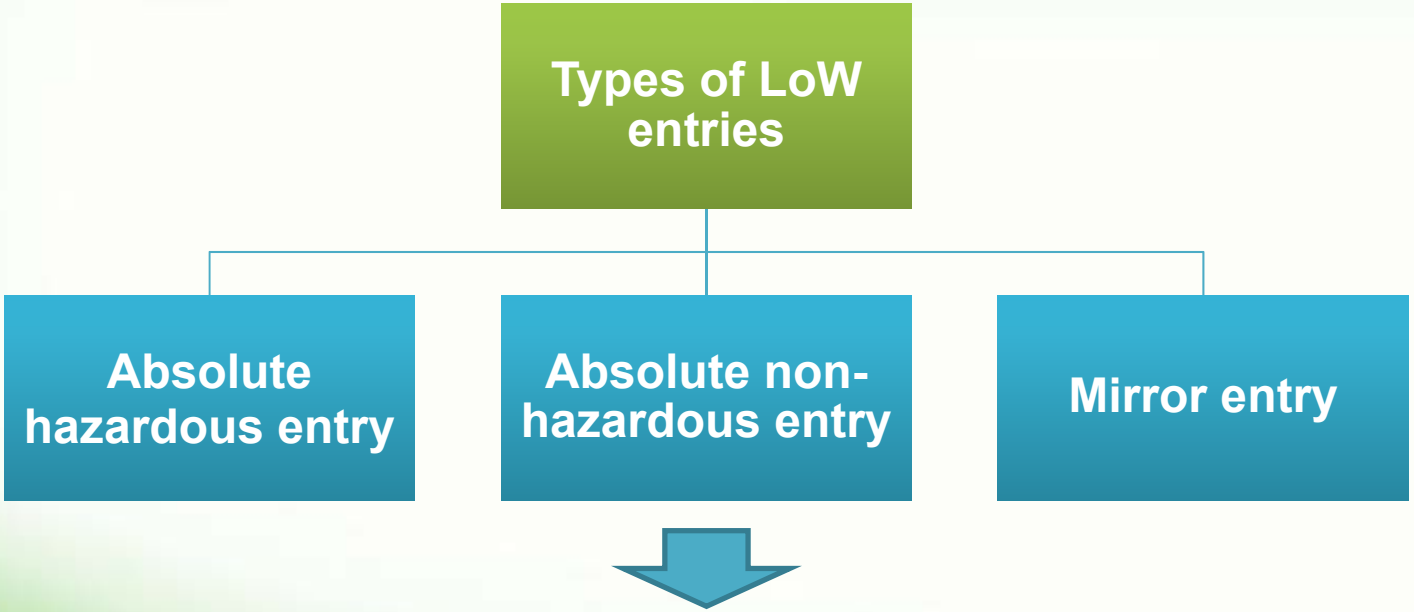



- The code is marked by an asterisk (*)
- It will still be necessary to proceed in the evaluation of the 15 hazardous properties of the Annex III to Regulation 1357/2014/EU

# The assessment & classification of waste

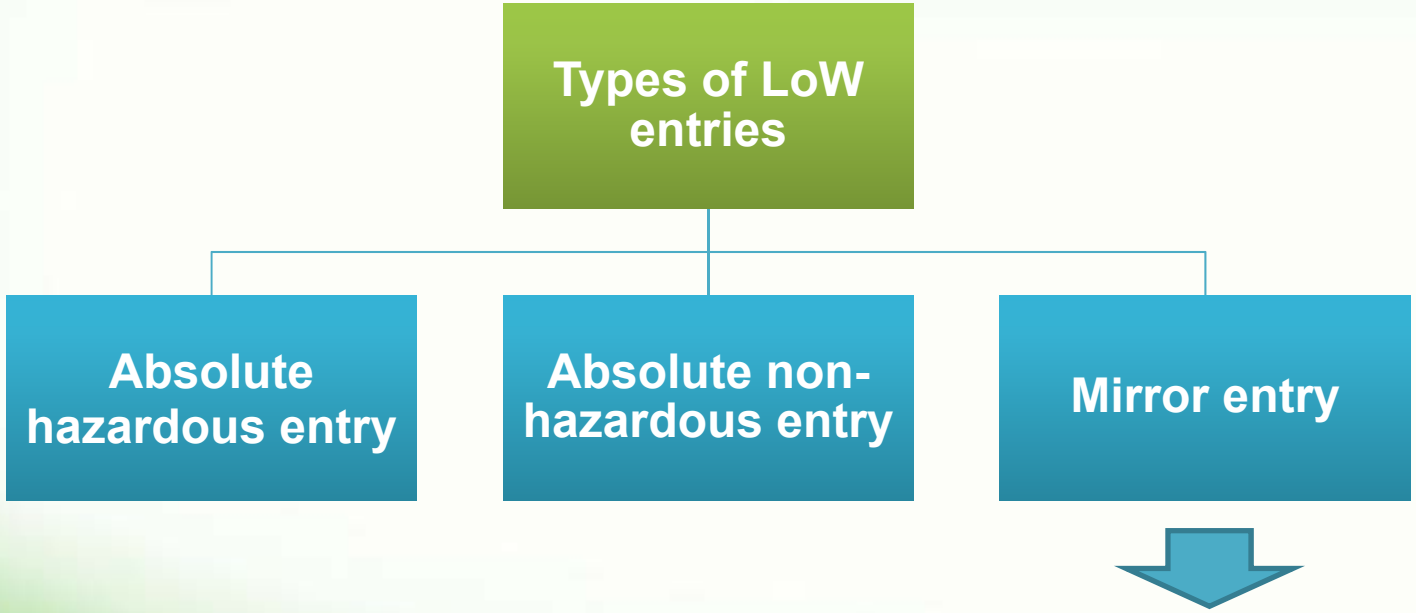
**STEP 1: Identification of the appropriate entry in the LoW**




- The waste stream is non-hazardous shall be classified as non-hazardous without any further assessment

# The assessment & classification of waste

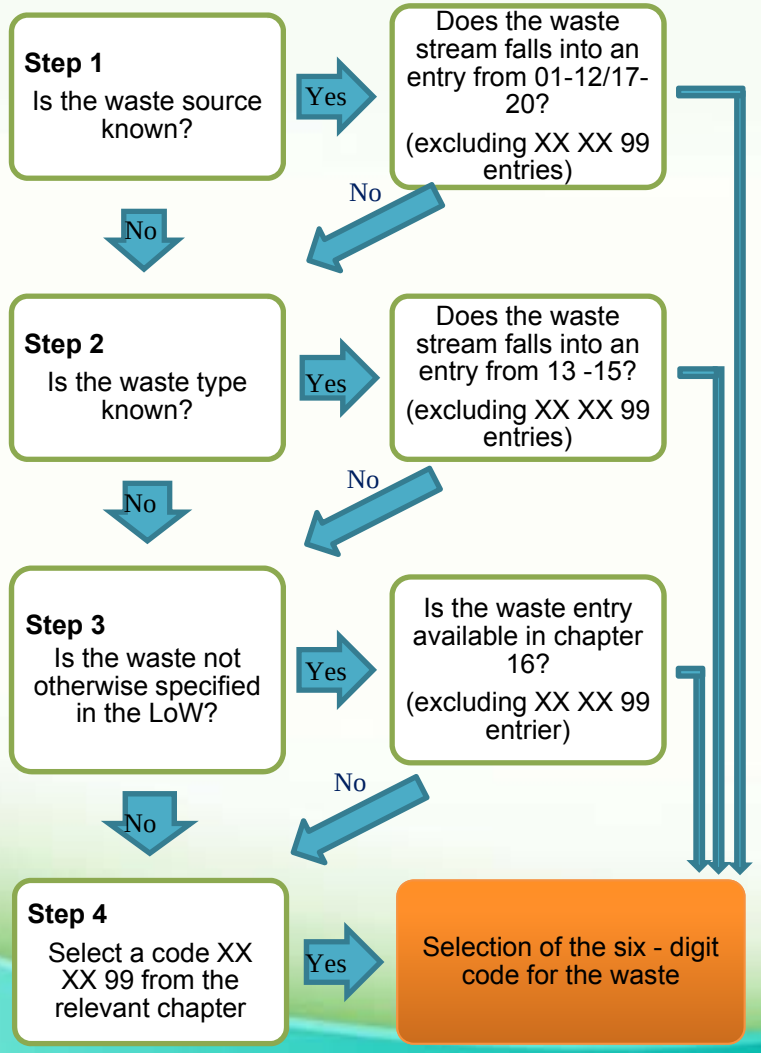
## STEP 1: Identification of the appropriate entry in the LoW




- Mirror entries are a group of at least two alternative entries.
- It is necessary to proceed in the evaluation of the 15 hazardous properties of the Annex III to Regulation 1357/2014/EU.

# The assessment & classification of waste

## STEP 1: Identification of the appropriate entry in the LoW



# The assessment & classification of waste

## STEP 2: Data sources

**Investigation and identification of hazardous ingredients**

- Chemical analysis, XRD analysis, assessment of the leachate etc.
- In any case the worst substance should be considered to be present

**Collection of the available data for the classification of each waste**

- Tables 3.1 and 3.2 of Annex VI to the CLP Regulation
- Technical dossier from registered substances according to REACH
- SDS provided by the suppliers

**Data sources for information on hazardous substances**

# The assessment & classification of waste

**STEP 3: Hazardous property assessment**

- The risk assessment is based on the Hazardous Property-criteria and related thresholds that are present in Regulation 1357/2014/EU
- The 15 hazardous properties (HP1 to HP15) should be examined separately for every waste stream
- The calculation method is based on the equation presented on every hazard property
- The hazardous substance content values in waste should be compared against the concentration limits listed in Regulation 1357/2014/EU

# The assessment & classification of waste

## STEP 3: Hazardous property assessment

- **HP1** – Explosive
- **HP2** – Oxidizing
- **HP3** - Flammable
- **HP4** - Irritant
  skin irritation & eye damage
- **HP5** - Specific Target Organ Toxicity
  Aspiration Toxicity
- **HP6** - Acute Toxicity
- **HP7** – Carcinogenic
- **HP8** - Corrosive
- **HP9** – Infectious
- **HP10** - Toxic for reproduction
- **HP11** - Mutagenic
- **HP12** - Release of an acute toxic gas
- **HP13** – Sensitizing
- **HP14** – Ecotoxic
- **HP15** - Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste

# The assessment & classification of waste

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- Annex VI to Council Directive 67/548/EEC
- Two levels of chronic ecotoxicity
- The calculation method includes M-factors

# The assessment & classification of waste

**STEP 4: Waste sampling & specific tests per HP**

- The testing method provide the realistic risk coming from a waste stream
- The testing methods should be in accordance with the Regulation (EC) 440/2008
- The Regulation (EC) 440/2008 presents test methods that are sometimes in contrast with Article 7 of CLP Regulation, that tests on animals shall be undertaken only where no other alternatives exist
- Toxicological and eco-toxicological testing may be rather:
  - costly
  - time consuming

# The assessment & classification of waste

## STEP 4: Waste sampling & specific tests per HP

***Example***

**Substance X:**
Composition:1%
Classification: H271: Ox. Sol. 1

**Substance Y:**
Composition:99%
Classification: not classified

*How do we classify the waste?*

# The assessment & classification of waste

**STEP 4: Waste sampling & specific tests per HP**

***Example***

**According to 1357/2014/EU and HP2: Oxidizing**

*"When a waste contains one or more substances classified by one of the hazard class and category codes and hazard statement codes shown in Table 2,* ***the waste shall be assessed for HP 2****, where appropriate and proportionate, according to test methods.* ***If the presence of a substance indicates that the waste is oxidizing, it shall be classified as hazardous by HP 2****"*

**Table 2 of 1357/2014/EU the Hazard Class and Category Code for HP2**

- H271: Ox. Gas 1
- H271: Ox. Liq. 1
- **H271: Ox. Sol. 1**
- H272: Ox. Liq. 2, Ox. Liq. 3
- H272: Ox. Sol. 2, Ox. Sol. 3

# The assessment & classification of waste

**STEP 4: Waste sampling & specific tests per HP**


**It is advisable to test the waste stream for the hazardous property in cases when the realistic risk coming from a waste is possibly lower than the predicted**

# Conclusions

- *Waste characterization is a key tool in the entire chain of waste management and the circular economy*
- *The waste classification affects waste producers, waste holders, and competent authorities*
- *Waste management is a sector with a considerable impact on health and the environment. For this reason the European Union (EU) has in place a comprehensive and strict legal regime*
- *The EU waste law has been aligned, to a large extent, with EU chemicals legislation (CLP)*

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# Thank You!

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