



歐盟EF資料庫 案例說明



歐盟EF資料庫-案例說明

影片內容概要

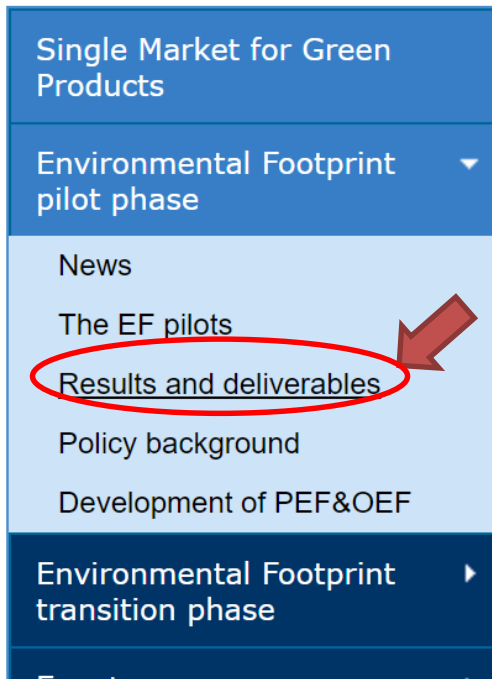
假設某歐洲裝飾塗料廠商正在進行盤查清單盤查階段，但在盤查階段中無法確認流程內的某項流程數據，故需透過資料庫搜尋數據資訊(數據品質、LCIA結果...等)，該如何運用資料庫找尋數據資訊之重要資訊？



第一步:尋找盤查範例資料

影片內容概要

由於該廠商為以裝飾塗料產品為主，須找到裝飾塗料的產品環境足跡類別規則 (PEFCR)。此時打開瀏覽器，點選資料庫所在位置(European Commission>Environment>Sustainable Development>Single Market For Green Products)



Results and deliverables of the Environmental Footprint pilot phase

Table of contents:

- [Final PEFCRs and OEFSRs](#)
- [Secondary data](#)
- [E-learning](#)
- [Reports on the Environmental Footprint pilot phase](#)
- [Other technical information](#)

影片內容概要

選擇“Final PEFCRs and OEFSRs”查詢與裝飾塗料符合的PEFCR，後方的附加檔案(Additional files)為盤查清單範例。

Product Environmental Footprint Category Rules (PEFCRs)

f

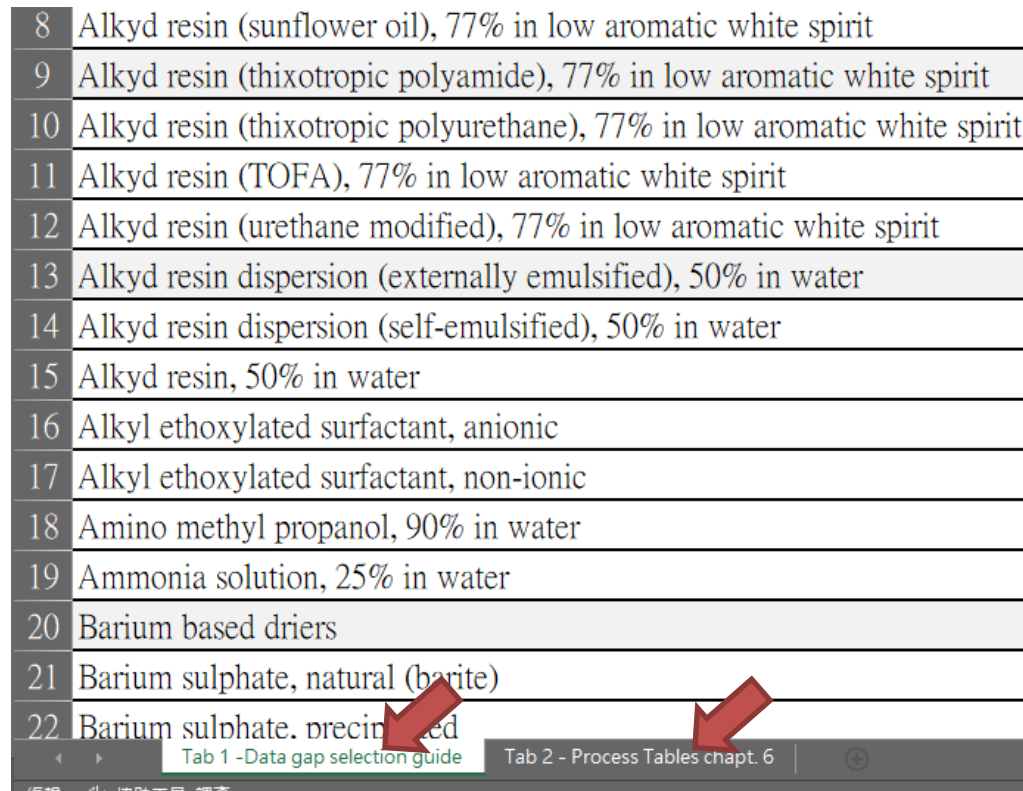
PEFCR	Valid until	Additional files
Beer	31/12/2020	Life cycle inventory
Dairy	31/12/2020	Life cycle inventory Critical review report Other guidance documents
Decorative paints 	31/12/2020	Life cycle inventory 
Household liquid laundry detergents	31/12/2020	

第二步:打開盤查清單範例

影片內容概要

確認裝飾塗料的PEFCR的相關規範後，此時可以下載後方附加檔案(Excel)之後，點開此檔案，會有兩個表單，分別為數據選擇指引(Tab1- Data gap selection guide)與流程列表(Tab2- Process Tables Chapt.6)，選擇Tab 1。

8	Alkyd resin (sunflower oil), 77% in low aromatic white spirit
9	Alkyd resin (thixotropic polyamide), 77% in low aromatic white spirit
10	Alkyd resin (thixotropic polyurethane), 77% in low aromatic white spirit
11	Alkyd resin (TOFA), 77% in low aromatic white spirit
12	Alkyd resin (urethane modified), 77% in low aromatic white spirit
13	Alkyd resin dispersion (externally emulsified), 50% in water
14	Alkyd resin dispersion (self-emulsified), 50% in water
15	Alkyd resin, 50% in water
16	Alkyl ethoxylated surfactant, anionic
17	Alkyl ethoxylated surfactant, non-ionic
18	Amino methyl propanol, 90% in water
19	Ammonia solution, 25% in water
20	Barium based driers
21	Barium sulphate, natural (barite)
22	Barium sulphate, precipitated



Tab 1 - Data gap selection guide Tab 2 - Process Tables chapt. 6

第三步:尋找相關資料庫

影片內容概要

此表單由左至由為：

當前原物料數據名稱(Current material dataset name)、CAS編碼(CAS-Number)、替代數據(Suggested proxy)、地理位置(Location)、UUID、數據品質與所屬網站(Node)

假設該廠商欲搜尋的特定資訊為“與塗裝顏料相關”的資料，則至所屬資料庫，

Current material dataset name	CAS-Num	Suggested proxy	Location	UUID	Type	Tech	Geog	Time	Preci	Over	Refer	Valid	Node
Acrylic dispersion (47% in water)	-		GLO	-b0c9-	LCI result	3	2.9	2.5	3	2.9	2016	2020	http://lcdn-cepe.org
Alkyd resin (coconut oil), 77% in low aromatic white spirit	-		EU-27	-a7cc-	LCI result	3	2.7	2.5	2.3	2.5	2012	2020	http://lcdn-cepe.org
Alkyd resin (short oil), 77% in low aromatic white spirit	-		EU-27	-368d-	LCI result	3	2.3	2.6	3	2.6	2012	2020	http://lcdn-cepe.org
Alkyd resin (soya oil), 100% liquid	-		EU-27	-5526-	LCI result	3	2.6	2.6	3	2.6	2012	2020	http://lcdn-cepe.org
Alkyd resin (sunflower oil), 77% in low aromatic white spirit	-		EU-27	-1d0e-	LCI result	3	2.7	2.6	3	2.6	2012	2020	http://lcdn-cepe.org
Alkyd resin (thixotropic polyamide), 77% in low aromatic white spirit	-		EU-27	-fe54-	LCI result	2.7	2.3	2.3	2.7	2.4	2012	2020	http://lcdn-cepe.org
Alkyd resin (thixotropic polyurethane), 77% in low aromatic white spirit	-		EU-27	-4649-	LCI result	2.9	2.5	2.5	2.9	2.6	2012	2020	http://lcdn-cepe.org
Alkyd resin (TOFA), 77% in low aromatic white spirit	-		EU-27	-640b-	LCI result	2.7	2.3	2.6	2.8	2.5	2012	2020	http://lcdn-cepe.org
Alkyd resin (urethane modified), 77% in low aromatic white spirit	-		EU-27	-9dcf-	LCI result	3	2.7	2.5	2.7	2.6	2012	2020	http://lcdn-cepe.org
Alkyd resin dispersion (externally emulsified), 50% in water	-		EU-27	-95d2-	LCI result	3	2.6	2.6	3	2.6	2012	2020	http://lcdn-cepe.org
Alkyd resin dispersion (self-emulsified), 50% in water	-		EU-27	-e8c0-	LCI result	3	2.6	2.6	3	2.6	2012	2020	http://lcdn-cepe.org
Alkyd resin, 50% in water	-		EU-27	-1dab-	LCI result	3	2.3	2.6	3	2.6	2012	2020	http://lcdn-cepe.org
Alkyl ethoxylated surfactant, anionic	61791-26-2	RER	-73b6-	LCI result	2	1	1	1	2	2	2017	2020	http://ecoinvent.lca-data.com/
Alkyl ethoxylated surfactant, non-ionic	61791-26-2	RER	-73b6-	LCI result	2	1	1	1	2	2	2017	2020	http://ecoinvent.lca-data.com/

影片內容概要

假設該廠商欲搜尋的特定資訊為“與塗裝顏料相關”的資料，則至所屬資料庫，及CEPE所建立的資料庫。

Secondary data

The secondary data to be used when implementing PEFCRs and OEFSRs are available on the following Life Cycle Data Network nodes:

- [Representative products and organisations](#) (Node of the JRC. Includes also a dataset on grapes)
- [Feed datasets](#) (Node of Blonk Consultants)
- [Chemicals](#) (Node of Ecoinvent)
- [Chemicals for paints](#) (Node of CEPE) 
- [Energy and transport, packaging, metals, end of life, incineration, plastics, electronics and data gaps](#) (Node of Thinkstep)
- [Additional datasets on glass](#) (FEVE)
- [Agrofood and other datasets](#) (Node of Quantis)
- [Textiles](#) (Node of Cycleco)

第四步:搜尋數據

影片內容概要

在盤查清單中搜尋的特定資料名稱為Alkyd resin (thixotropic polyamide)

Decorative Paints PEFCR_v1.0 - Life cycle inventory (1) - Excel

新細明體 11 A A 自動換行 通用格式 設定格式化的條件 表格

Normal 5 Percent 2 Standard 2 Standard 2.2 Standard 2.2.3 Standard 2.3 Standard 2.3.2 Standard 2.4 Standard 2.5

=IFERROR(VLOOKUP(\$E6,\$REF1,C\$1,FALSE),"")

A	B	C	D	E	F	G	H
		2	3		4	5	6
							PEF d
Current material dataset name	CAS-Num	Suggested proxy	Location	UUID	Type	Techr	Geogr
Acrylic dispersion (47% in water)	-		GLO	-b0c9-	LCI result	3	2.9
Alkyd resin (coconut oil), 77% in low aromatic white spirit	-		EU-27	-a7cc-	LCI result	3	2.7
Alkyd resin (short oil), 77% in low aromatic white spirit	-		EU-27	8-368d-	LCI result	3	2.3
Alkyd resin (soya oil), 100% liquid	-		EU-27	-5526-	LCI result	3	2.6
Alkyd resin (sunflower oil), 77% in low aromatic white spirit	-		EU-27	-1d0e-	LCI result	3	2.7
Alkyd resin (thixotropic polyamide), 77% in low aromatic white spirit	-		EU-27	-fe54-	LCI result	2.7	2.3
Alkyd resin (thixotropic polyurethane), 77% in low aromatic white spirit	-		EU-27	-4649-	LCI result	2.9	2.5
Alkyd resin (TOFA), 77% in low aromatic white spirit	-		EU-27	-640b-	LCI result	2.7	2.3
Alkyd resin (urethane modified), 77% in low aromatic white spirit	-		EU-27	-9dcf-	LCI result	3	2.7
Alkyd resin dispersion (externally emulsified), 50% in water	-		EU-27	-95d2-	LCI result	3	2.6
Alkyd resin dispersion (self-emulsified), 50% in water	-		EU-27	-c8c0-	LCI result	3	2.6
Alkyd resin, 50% in water	-		EU-27	-1dab-	LCI result	3	2.3
Alkyl ethoxylated surfactant, anionic	61791-26-2		RER	-73b6-	LCI result	2	1
Alkyl ethoxylated surfactant, non-ionic	61791-26-2		RER	-73b6-	LCI result	2	1

影片內容概要

此時點開資料庫(後方網址)，點開**流程(Processes)**，至上方的**名稱(Name)**將欲搜尋資料輸入框位中。

Home

Browse Data Sets

Processes

LCIA Methods

Elementary Flows

Product Flows

Flow Properties

Unit Groups

Sources

Contacts

Search Data Sets

Search Processes

Process data sets

Filter results

entries: 19 (110 total) (page 1 of 2) 1 2 10 entries per page

Name	Type	Locat	Classification	Referen year	Valid until	Compliance systems
Alkyd resin						
Alkyd resin (coconut oil); Technology mix; Production mix, at plant; 77% in low aromatic white spirit	LCI result	EU-27	Materials production / Organic chemicals	2012	2020	◦ Technical requirements of the service contract for provision of "Chemicals for paints" process based PEF-compliant LCI
Alkyd resin (coconut oil); Technology mix; Production mix, at plant; without spirit	LCI result	EU-27	Materials production / Organic chemicals	2012	2020	◦ Technical requirements of the service contract for provision of "Chemicals for paints" process based PEF-compliant LCI

第五步:確認數據資訊

影片內容概要

首先必須確認搜尋的資料是否與表單中相同，最迅速的檢查方式為檢查UUID
點開完整數據集(View complete dataset)，接著點開**行政資訊(Administrative information)**，即可比對UUID。

producer/operator	
Publication and ownership	
UUID	1f46be48-a7cc-4542-bc34-1b26f2a78297
Date of last revision	2017-04-18T10:06:27+01:00
Data set version	02.00.001
Workflow and publication status	Data set finalised: entirely published

資料庫數據的UUID

on	UUID	T
	d32821da-b0c9-481c-a4b6-27b0b735274d	L
	1f46be48-a7cc-4542-bc34-1b26f2a78297	L
	b3930178-368d-4f49-92a0-9f5bf4d973c9	L
	5238d7ca-5526-4bd3-8627-dea3faa3a468	L
	53b8b38e-1d0e-45fe-92e7-25be07ed3cfc	L
	aa887045-fe54-4235-a5db-f6c574c13f42	L
	fb5376e6-4649-4396-8165-b2d22e0bad2e	L

盤查清單中數據的UUID

第六步:確認數據品質

影片內容概要

數據品質可以在**模型建立與驗證(Modelling and validation)**的驗證表格中，查看數據品質指標。

Reviewer name and institution		Complete review report			
◦ Franziska Möller ◦ Dr. Andreas Ciroth		Review (I): Alkyd resin (coconut oil); Technology mix; Production mix, at plant; 77% in low aromatic white spirit			
Type of review	Scope / Method(s) of review			Data quality indicators	Review details
Independent internal review	Scope name	Method name		◦ Overall quality: Good - 2.5 ◦ Methodological appropriateness and consistency: Good - 2.0 ◦ Precision: Good - 2.3 ◦ Geographical representativeness: Fair - 2.7 ◦ Time representativeness: Good - 2.5 ◦ Technological representativeness: Fair - 3.0	Subsequent review comments
		Life cycle inventory methods	◦ Validation of data sources ◦ Expert judgement ◦ Mass balance ◦ Documenta		
		Documentation	◦ Expert judgement ◦ Documenta		

第七步:確認數據的LCIA結果

影片內容概要

點開**LCIA結果(LCIA results)**即可收集此數據資訊的環境衝擊指標。



LCIA Method Data set	Mean amount	Uncertainty distribution type	Relative StdDev in %	General comment
acidification	0.0163448	undefined	-1.0 %	
resource depletion, water	0.392676	undefined	-1.0 %	
cancer human health effects	1.14216E-7	undefined	-1.0 %	
photochemical ozone formation	0.00640219	undefined	-1.0 %	
land use	7.87215	undefined	-1.0 %	
ozone depletion	9.35201E-8	undefined	-1.0 %	
ecotoxicity freshwater	19.1148	undefined	-1.0 %	
climate change	1.12285	undefined	-1.0 %	
eutrophication terrestrial	0.045893	undefined	-1.0 %	
ionising radiation human health	0.102064	undefined	-1.0 %	
resource depletion, mineral, fossils, renewables	1.50743E-4	undefined	-1.0 %	
non-cancer human health effects	1.73809E-6	undefined	-1.0 %	
respiratory inorganics	0.00134258	undefined	-1.0 %	
eutrophication marine	0.0190724	undefined	-1.0 %	
eutrophication freshwater	3.17631E-4	undefined	-1.0 %	

影片內容概要

以上為搜尋資料庫的基本操作，歐盟提供資料庫的原因，係希望給予廠商便利的數據收集。環境足跡所涵蓋的資料較為繁瑣，且評估方法多元，在收集數據上**缺乏一致性及歸類**，而資料庫的建立，主要為了縮短收集與計算的時間，並使用統一的評估方法，建立一個**本土數據庫**，透過資料庫的建立，可以提高廠商申請環境足跡標籤與對產品進行**生命週期衝擊評估**的意願，並促進消費者購買產品時，能夠更加了解產品的**環境衝擊及資訊透明化**，並逐漸使“單一市場”邁向“綠色產品單一市場”模式。

環境足跡標籤



(資料來源:EF Final report)