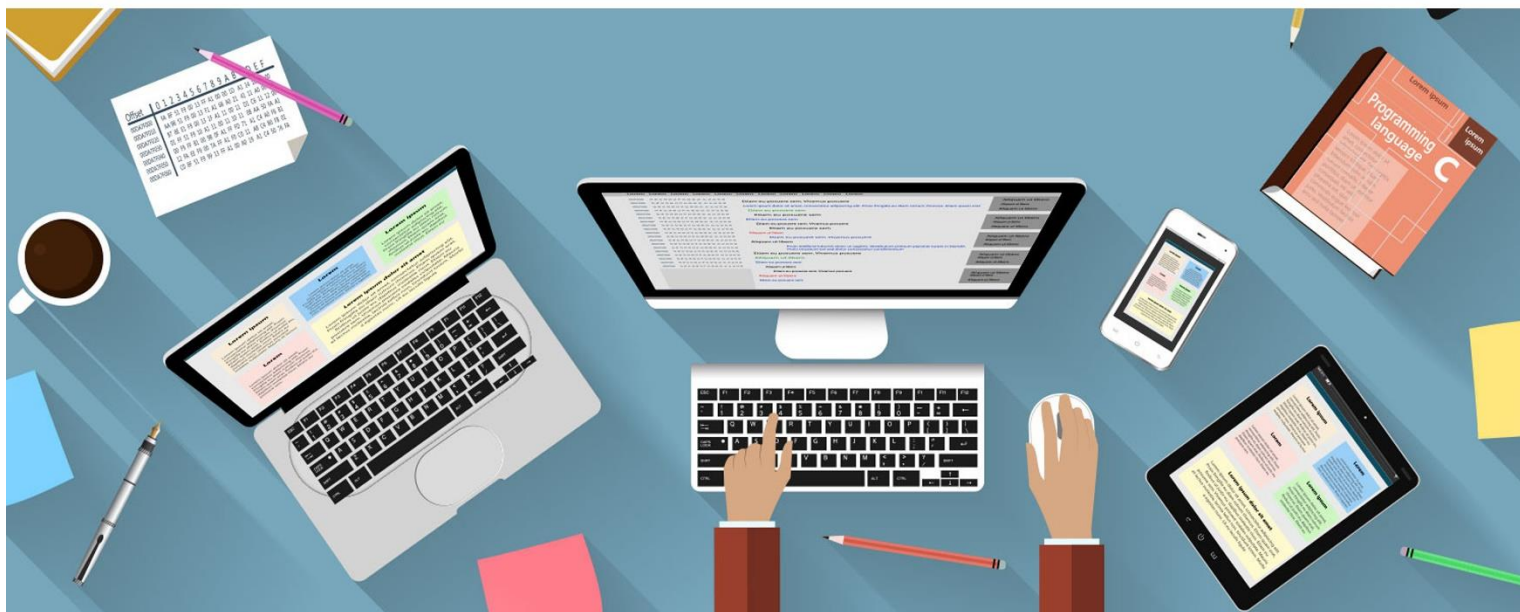# 歐盟EF資料庫 評估方法介紹

影片內容概要

資料庫-評估方法網址:

https://ecoinvent.lca-data.com/LCIAMethodList.xhtml?stock=EF2_0_Chemicals-data.com/LCIAMethodList.xhtml?stock=EF2_0_Chemicals

entries: 19 (19 total) (page 1 of 1)			
名稱	類型	參考年份	有效期限
EF-Acidification	Mid-point indicator	2017	time independent
EF-Climate change	Mid-point indicator	2017	time independent
EF-Climate change-Biogenic	Mid-point indicator	2017	time independent
EF-Climate change-Fossil	Mid-point indicator	2017	time independent
EF-Climate change-Land use and land use change	Mid-point indicator	2017	time independent
EF-Ecotoxicity, freshwater	Mid-point indicator	2017	time independent
EF-Eutrophication marine	Mid-point indicator	2017	time independent
EF-Eutrophication, freshwater	Mid-point indicator	2017	time independent
EF-Eutrophication, terrestrial	Mid-point indicator	2107	time independent
EF-Human toxicity, cancer	Mid-point indicator	2017	time independent
EF-Human toxicity, non-cancer	Mid-point indicator	2017	time independent
EF-Ionising radiation, human health	Mid-point indicator	2017	time independent
EF-Land use	Mid-point indicator	2017	time independent
EF-Ozone depletion	Mid-point indicator	2017	until 2040
EF-particulate Matter	Mid-point indicator	2017	time independent
EF-Photochemical ozone formation - human health	Mid-point indicator	2017	time independent
EF-Resource use, fossils	Mid-point indicator	2017	time independent
EF-Resource use, minerals and metals	Mid-point indicator	2017	time independent
EF-Water use	Mid-point indicator	2017	time independent
entries: 19 (19 total) (page 1 of 1)			

影片內容概要

Name ^	Type ^	Reference year ^	Duration ^
EF-Acidification	Mid-point indicator	2017	time independent
EF-Climate change	Mid-point indicator	2017	time independent
EF-Climate change-Biogenic	Mid-point indicator	2017	time independent
EF-Climate change-Fossil	Mid-point indicator	2017	time independent
EF-Climate change-Land use and land use change	Mid-point indicator	2017	time independent
EF-Ecotoxicity, freshwater	Mid-point indicator	2017	time independent
EF-Eutrophication marine	Mid-point indicator	2017	time independent
EF-Eutrophication, freshwater	Mid-point indicator	2017	time independent
EF-Eutrophication, terrestrial	Mid-point indicator	2107	time independent
EF-Human toxicity, cancer	Mid-point indicator	2017	time independent
EF-Human toxicity, non-cancer	Mid-point indicator	2017	time independent
EF-Ionising radiation, human health	Mid-point indicator	2017	time independent
EF-Land use	Mid-point indicator	2017	time independent
EF-Ozone depletion	Mid-point indicator	2017	until 2040
EF-particulate Matter	Mid-point indicator	2017	time independent
EF-Photochemical ozone formation - human health	Mid-point indicator	2017	time independent
EF-Resource use, fossils	Mid-point indicator	2017	time independent
EF-Resource use, minerals and metals	Mid-point indicator	2017	time independent
EF-Water use	Mid-point indicator	2017	time independent

以 【**EF-Acidification**】 EF-酸化指標為例

影片內容概要

在欄位中顯示其**名稱(Name)**為EF-酸化，**類型(Type)**為中點法
參考年份(Reference year)為2017年
衝擊評估模擬(Duration of modeled impact)與時間無關
衝擊類別(Impact category)為酸化
保護範圍(AoP)無相關紀錄，**衝擊指標(Impact indicator)**為累積超標法(AE)。

影片內容概要

方法學(Methodology)使用環境足跡方法
一般資訊(General comment)說明資料庫之方法適用於歐洲地區國家。

影片內容概要

點選**完整數據集(View complete dataset)**

影片內容概要

LCIA Method Data set: EF-Acidification (en) _en_   **Expand all sections** **Go back** **Close**

▸ **LCIA Method information**

▸ **Modelling and validation**

▸ **Administrative information**

▸ **Characterisation factors**

四個列表分別為：

1. LCIA評估方法資訊(LCIA information)
2. 建立模型與驗證相關資訊(Modelling and validation)
3. 行政相關資訊(Administrative information)
4. 特徵化因子(Characterization factors)

影片內容概要

LCIA Method information	
Key Data Set Information	
Name	EF-Acidification
Belongs to: Name of LCIA methodology/ies	Environmental Footprint
Impact category/ies	Acidification
Impact indicator	Accumulated Exceedance (AE)
General comment	European country-dependent.
External documentation / files source	○ Seppälä et al. (2006) ○ Posch et al. (2008)
Quantitative reference	
Reference quantity	mol H+ equivalents
Time representativeness	
Reference year	2017
Duration of modelled impact	time independent
Geographical representativeness	
Intervention location	RER
Impact location	RER
Geographical representativeness description	Valid for Europe (country-dependent).
Impact model	
LCIA characterisation model(s) name(s)	Accumulated Exceedance method (combination of models).
LCIA characterisation model description and included sub-models	The atmospheric transport and deposition model to land area and major lakes/rivers is determined using the EMEP model combined with a European critical load database.

在**關鍵資訊**(Key data set information)中，除前項所提到的名稱、類型、衝擊類別、衝擊指標、一般資訊外，也有提供**參考資料**(External documentation)。

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影片內容概要

LCIA Method information	
Key Data Set Information	
Name	EF-Acidification
Belongs to: Name of LCIA methodology/ies	Environmental Footprint
Impact category/ies	Acidification
Impact indicator	Accumulated Exceedance (AE)
General comment	European country-dependent.
External documentation / files source	○ Seppälä et al. (2006) ○ Posch et al. (2008)
Quantitative reference	
Reference quantity	mol H+ equivalents
Time representativeness	
Reference year	2017
Duration of modelled impact	time independent
Geographical representativeness	
Intervention location	RER
Impact location	RER
Geographical representativeness description	Valid for Europe (country-dependent).
Impact model	
LCIA characterisation model(s) name(s)	Accumulated Exceedance method (combination of models).
LCIA characterisation model description and included sub-models	The atmospheric transport and deposition model to land area and major lakes/rivers is determined using the EMEP model combined with a European critical load database.

參考單位(Reference quantity)使用**氫離子莫爾當量(mol H⁺)**作為量化單位。
時間代表性(Time representativeness):
參考年份(Reference pear):2017
有效時間(Duration of modelled impact): 與時間無關(Time independent)

影片內容概要

LCIA Method information	
Key Data Set Information	
Name	EF-Acidification
Belongs to: Name of LCIA methodology/ies	Environmental Footprint
Impact category/ies	Acidification
Impact indicator	Accumulated Exceedance (AE)
General comment	European country-dependent.
External documentation / files source	○ Seppälä et al. (2006) ○ Posch et al. (2008)
Quantitative reference	
Reference quantity	mol H+ equivalents
Time representativeness	
Reference year	2017
Duration of modelled impact	time independent
Geographical representativeness	
Intervention location	RER
Impact location	RER
Geographical representativeness description	Valid for Europe (country-dependent).
Impact model	
LCIA characterisation model(s) name(s)	Accumulated Exceedance method (combination of models).
LCIA characterisation model description and included sub-models	The atmospheric transport and deposition model to land area and major lakes/rivers is determined using the EMEP model combined with a European critical load database.

地理代表性(Geographical representativeness)

評估地區(Intervention location):歐洲地區(RER)
衝擊地區(Impact location):歐洲地區(RER)
地理代表性敘述(Geographical representativeness description):
適用於歐洲地區(Valid for Europe)

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影片內容概要

LCIA Method information	
Key Data Set Information	
Name	EF-Acidification
Belongs to: Name of LCIA methodology/ies	Environmental Footprint
Impact category/ies	Acidification
Impact indicator	Accumulated Exceedance (AE)
General comment	European country-dependent.
External documentation / files source	○ Seppälä et al. (2006) ○ Posch et al. (2008)
Quantitative reference	
Reference quantity	mol H+ equivalents
Time representativeness	
Reference year	2017
Duration of modelled impact	time independent
Geographical representativeness	
Intervention location	RER
Impact location	RER
Geographical representativeness description	Valid for Europe (country-dependent).
Impact model	
LCIA characterisation model(s) name(s)	Accumulated Exceedance method (combination of models).
LCIA characterisation model description and included sub-models	The atmospheric transport and deposition model to land area and major lakes/rivers is determined using the EMEP model combined with a European critical load database.

衝擊模擬(Impact model)

LCIA特徵化模擬名稱(LCIA characterization model name):
累積超標法(Accumulated Exceedance method)

影片內容概要

Impact model	
LCIA characterisation model(s) name(s)	Accumulated Exceedance method (combination of models).
LCIA characterisation model description and included sub-models	The atmospheric transport and deposition model to land area and major lakes/rivers is determined using the EMEP model combined with a European critical load database.
LCIA characterisation model source	○ Seppälä et al. (2006) ○ Posch et al. (2008) ○ Tarrason et al. (2006) ○ Hettelingh et al. (2007)
Considered environmental or other mechanisms along the impact chain	Inclusion of depositions onto different land cover categories in the EMEP Eulerian atmospheric dispersion model. Critical load database containing about 1.2 million different ecosystems (e.g. forrests, surface waters, semi-natural vegetation).
LCIA method(ology) flowchart	Acidif_figure

LCIA特徵化模擬敘述(LCIA characterization model description and included sub-models):

使用EMEP模型結合歐洲臨界負荷資料庫，可以確定陸地和主要湖泊/河流的大氣遷移和沈積之模擬過程。

影片內容概要

Impact model	
LCIA characterisation model(s) name(s)	Accumulated Exceedance method (combination of models).
LCIA characterisation model description and included sub-models	The atmospheric transport and deposition model to land area and major lakes/rivers is determined using the EMEP model combined with a European critical load database.
LCIA characterisation model source	○ Seppälä et al. (2006) ○ Posch et al. (2008) ○ Tarrason et al. (2006) ○ Hettelingh et al. (2007)
Considered environmental or other mechanisms along the impact chain	Inclusion of depositions onto different land cover categories in the EMEP Eulerian atmospheric dispersion model. Critical load database containing about 1.2 million different ecosystems (e.g. forrests, surface waters, semi-natural vegetation).
LCIA method(ology) flowchart	Acidif_figure

資料來源(LCIA characterization model resource):

參考以下資料，進行評估方法的建立與模擬
Seppälä et al. (2006)
Posch et al. (2008)
Tarrason et al. (2006)
Hettelingh et al. (2007)
  ○

影片內容概要

Impact model	
LCIA characterisation model(s) name(s)	Accumulated Exceedance method (combination of models).
LCIA characterisation model description and included sub-models	The atmospheric transport and deposition model to land area and major lakes/rivers is determined using the EMEP model combined with a European critical load database.
LCIA characterisation model source	○ Seppälä et al. (2006) ○ Posch et al. (2008) ○ Tarrason et al. (2006) ○ Hettelingh et al. (2007)
Considered environmental or other mechanisms along the impact chain	Inclusion of depositions onto different land cover categories in the EMEP Eulerian atmospheric dispersion model. Critical load database containing about 1.2 million different ecosystems (e.g. forrests, surface waters, semi-natural vegetation).
LCIA method(ology) flowchart	Acidif_figure

依循衝擊鏈考慮的環境或其他機制(Considered environmental or other mechanisms along the impact chain):
使用EMEP-Eulerian*a模擬大氣擴散，將沉積物包含在不同的土地覆蓋類別中。臨界負荷資料庫包含約120萬個不同的生態系統（例如森林、地表水、半自然植被）。

評估方法流程圖(LCIA methodology flowchart):

https://ecoinvent.lca-data.com/datasetdetail/source.xhtml?uuid=cb570533-1c0c-4eba-b40c-34a28d4cefd4&version=03.00.000

a. 歐拉路徑(Eulerian path): 是一種圖形演算法，此方法學利用該圖形演算法模擬大氣擴散。

Modelling and validation

Use advice for data set	Representative for Europe. Country-dependent data sets.

LCIA method, normalisation, weighting

Type of data set	Mid-point indicator
LCIA method principle(s)	other
Deviation from LCIA method principle(s)	Carrying capacity
Normalisation included?	No
Weighting included?	No

Data sources

Data sources	○ Seppälä et al. (2006) ○ Posch et al. (2008)

Completeness

Number of basic inventory items covered	6

Validation

Type of review	Scope / Method(s) of review	Review details	Reviewer name and institution	Subsequent review comments	Complete review report		
Independent review panel			SccMet nannan Mo for Tra and Fat	Crc che with oth LCI me	Methods and characterization factors are well documented and accessible. Models and input data not easily	Consortium for defining the recommended Life Cycle Impact Assessment framework, methods and factors		Review report on recommended LCIA methods

數據使用(Use advice for data set):歐洲地區國家等級的資料。
方法學類型(Type):中點法(midpoint)
LCIA評估方法原則(LCIA method principle): 其他
誤差值(Deviation from LCIA method principle): 負荷能力(Carrying capacity)
是否有標準化?(Normalization included): 無
是否有權重化?(Weighting included):無

影片內容概要

▼ Modelling and validation	
Use advice for data set	Representative for Europe. Country-dependent data sets.
LCIA method, normalisation, weighting	
Type of data set	Mid-point indicator
LCIA method principle(s)	other
Deviation from LCIA method principle(s)	Carrying capacity
Normalisation included?	No
Weighting included?	No
Data sources	
Data sources	○ Seppälä et al. (2006) ○ Posch et al. (2008)
Completeness	
Number of basic inventory items covered	6
Validation	

Type of review	Scope / Method(s) of review	Review details	Reviewer name and institution	Subsequent review comments	Complete review report				
Independent review panel			**SccMet nannan**		Methods and characterization factors are well documented and accessible. Models and input data not easily	Consortium for defining the recommended Life Cycle Impact Assessment framework, methods and factors			Review report on recommended LCIA methods
			Mo for Tra and Fat	Crc che with oth LCl me					

資料來源(Data sources):
Seppälä et al. (2006)
Posch et al. (2008)

完整性(Completeness):涵蓋六個子項目

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影片內容概要

驗證(Validation)

Type of review	Scope / Method(s) of review	Review details	Reviewer name and institution	Subsequent review comments	Complete review report

審查類型(Type of review): 無相關資訊
範疇/審查方法(Scope/ method of review): 獨立的審查團隊
審查細節(Review details): 無相關資訊
審查員姓名與機構(Reviewer name and institution)
相關審查資訊(Subsequent review comments):
在歐洲範圍內，整體數據品質良好，並且適用性強。 如果有全球模型(Global models)的補充，則可以適應於生成其他大陸的特徵化因子。
完整的審查報告(Complete review report): 無相關資訊

影片內容概要

專案與目標(Commissioner and goal)
LCIA方法最初由*Seppala et al 2006*和*Posch et al 2008*開發。
檔案為ILCD格式數據集、ILCD基本流以及其他數據品質的檢查
應用的預期目標(Intended applications):為歐洲的酸化指標提供適用於國家的特徵化因子。

影片內容概要

Administrative information	
Commissioner and goal	
Project	LCIA method original developed by Seppala et al 2006, and Posch et al 2008. Documentation as ILCD formatted data set, mapping to the ILCD elementary flows, and additional quality checks by the EC's JRC-IES and with contractual support projects, partly financed under several Administrative Arrangements on the European Platform on LCA - EPLCA' between JRC and DG ENV, (070402/2006/443456/G4, 070307/2007/474521/G4, 070307/2008/513489/G4).
Intended applications	Provide applicable country-dependent midpoint characterization factors for acidification in Europe.
Data generator	
Data set generator / modeller	○ Maximilian Posch ○ Jyri Seppälä ○ European Commission, JRC-IES
Data entry by	
Time stamp (last saved)	2016-12-20T15:25:20.071+01:00
Data set format(s)	ILCD format
Reference to origin of data set	Seppälä et al. (2006)
Data entry by	Alexis Laurent
Official recommendation	
Official recommendation of data set by governmental body	European Commission, JRC-IES
Recommendation level of LCIA method data set	Level II
Specific meaning of the recommendation level	Recommended, some improvements needed. For more information see: ILCD Handbook on recommended LCIA methods for Europe.
Publication and ownership	
UUID	b5c611c6-def3-11e6-bf01-fe55135034f3
Date of last revision	2016-12-20T00:00:00

數據模擬創建者名單(Data set generator / modeler)
數據建立資訊(Data entry by)
官方建議名單(Official recommendation)
版權與所有權(Publication and ownership)

影片內容概要

▼ Characterisation factors

基本流	類別	地理位置	基本流類型	平均值	最小值	最大值	不確定性分布類型	相關性	數據建立類型	數據誤差	數據參考
ammonia	not available	AL	Output	0.021				%	Calculated		
ammonia	not available	AL	Output	0.021				%	Calculated		
ammonia	not available	AL	Output	0.021				%	Calculated		
ammonia	not available	AT	Output	1.72				%	Calculated		
ammonia	not available	AT	Output	1.72				%	Calculated		
ammonia	not available	AT	Output	1.72				%	Calculated		
ammonia	not available	BA	Output	0.088				%	Calculated		
ammonia	not available	BA	Output	0.088				%	Calculated		
ammonia	not available	BA	Output	0.088				%	Calculated		
ammonia	not available	BE	Output	2.658				%	Calculated		
ammonia	not available	BE	Output	2.658				%	Calculated		
ammonia	not available	BE	Output	2.658				%	Calculated		
ammonia	not available	BG	Output	0.04				%	Calculated		
ammonia	not available	BG	Output	0.04				%	Calculated		
ammonia	not available	BG	Output	0.04				%	Calculated		
ammonia	not available	BY	Output	1.593				%	Calculated		
ammonia	not available	BY	Output	1.593				%	Calculated		
ammonia	not available	BY	Output	1.593				%	Calculated		
ammonia	not available	CH	Output	0.747				%	Calculated		
ammonia	not available	CH	Output	0.747				%	Calculated		
ammonia	not available	CH	Output	0.747				%	Calculated		
ammonia	not available	CS	Output	0.082				%	Calculated		
ammonia	not available	CS	Output	0.082				%	Calculated		
ammonia	not available	CS	Output	0.082				%	Calculated		