**Exercise: Concrete Block in MEXICANIUH**

Insert concrete block dataset in MEXICANIUH web platform using the following information for documentation.

*Activity description*

The product is a hollow concrete block made of cement, sand, gravel, and some additives. The dimensions of the block are: 40x20x15 cm and a piece has an average weight of 9.6 kg. This production process is an ordinary transforming activity type.

This dataset was created as a unit process using the results of an LCI developed for a LCA of social housing in Mexico.

The functional unit/reference flow used in this LCI was 1 piece (9.6 kg).

*Classification*

This activity could be classified according to EcoSpold format as 2395: Manufacture of articles of concrete, cement and plaster. While in ILCD format could be classified as Material production in the top category and in the subcategory as others. Also in SimaPro could be classified as material (A), construction (B), and concrete (C).

*Geography*

This dataset was generated with information collected in Puebla, Mexico. This state is in the center of the country (Latitude 19.1, Longitude -98.39).

*Technology*

The technology used in the production process is current, which consists in Mixing of materials, extrusion, outdoors drying, and storage. The technical purpose of concrete blocks is to use them to build walls in social interest housing mainly.

*Time*

The time period for which the dataset is intended to be valid is January 1st, 2008 December, 31th, 2007. Data represent production during 2007

*Scenario Macro-Economic*

The macro-economic scenario considered is business as usual.

*Representativeness*

Dataset modelling considers an average of current suppliers applying mass allocation procedure. Also, the LCI was developed with an attributional approach and none deviation to another type of modelling was reported.

Constants used in calculation are: sand density: 1581 kg/m3, gravel density: 1750 kg/m3. Deviation of these values may occur according site of extraction and composition.

To have Consistency of Data Sources data from companies and official sources was used.

It is important to advice to users that dataset represents the typical hollow concrete block used in central Mexico for social interest housing.

In terms of integrity it is possible to declare that all relevant flows were quantified.

*Review*

A dependent internal review was conducted on January, 9th, 2009.

*Data generator and publication*

Data has been published entirely in the following source:

Chargoy, A. J., Rosas, M. L. & Téllez, M. D. (2009). Generación de inventarios para el Análisis de Ciclo de Vida de cemento, block, bovedilla, vigueta y ladrillo en la zona centro de México. Universidad de las Américas Puebla, available at <http://catarina.udlap.mx/u_dl_a/tales/documentos/lamb/chargoy_a_jp/>

This dataset is intended to be free for all users of MEXICANIUH.

*Flows*

The following table shows the name flows, amount, amount and database used in each input of the LCI.

|  |  |  |  |
| --- | --- | --- | --- |
| Block, hollow, 40x20x15 cm, in plant, MX | **9.6** | **kg** | **1 piece** |
| **Name** | **Amount** | **Unit** | **Database** |
| tap water, at user | 0.3550 | kg | ECOINVENT |
| Sand, in extraction site, MX | 0.0027 | m3 | MEXICANIUH |
| Gravel, in extraction site, MX | 0.0026 | m3 | MEXICANIUH |
| Cement, production mix, in plant, MX | 0.8200 | kg | MEXICANIUH |
| hydrochloric acid, 30% in H2O, at plant | 0.0010 | kg | ECOINVENT |
| chemicals inorganic, at plant | 2.0E-4 | kg | ECOINVENT |
| transport, lorry 7.5-16t, EURO3 | 1.01 | tkm | ECOINVENT |
| Electricity, production mix, at grid, MX | 1.7E-4 | MWh | MEXICANIUH |
| diesel, burned in building machine | 0.1742 | MJ | ECOINVENT |