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ecoinvent data v2.1

the 2009 version of the most comprehensive and most popular public LCI database

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The mission of the ecoinvent Centre is to provide the most relevant, reliable, transparent and accessible LCI data for users all over the world. For this, the ecoinvent Centre provides the database ecoinvent in its version v2.1 with more than 4000 industrial LCI datasets to assist every-day work in areas like IPP, Design for Environment (DfE), Environmental Management Systems (EMS) or Product Stewardship.

Compared to the version v2.01, the following changes have been implemented in this new version v2.1 of ecoinvent:

1. NEW DATASETS:

antimony, at refinery	CN	kg
stibnite ore, 70% stibnite, at mine	CN	kg
disposal, uranium tailings, non-radioactive emissions	GLO	m3
fibreboard soft, latex bonded, at plant (u=7%)	CH	m3
fibreboard soft, without adhesives, at plant (u=7%)	CH	m3
treatment, soft fibreboard production effluent, to wastewater treatment, class 3	CH	m3
polystyrene, extruded (XPS), HFC-134a blown, at plant	RER	kg
polystyrene, extruded (XPS), HFC-152a blown, at plant	RER	kg
polystyrene, extruded (XPS) CO2 blown, at plant	RER	kg
fibre cement facing tile, large format, at plant	CH	kg
fibre cement facing tile, small format, at plant	CH	kg

2. NEW TAILINGS DATA

Tailings are “waste from ore beneficiation (milling)”. So far in ecoinvent these tailings datasets were only covering land-use and land transformation.

In the framework of ecoinvent data v2.1, data for sulfidic and uranium tailings have been expanded. In case of sulphidic tailings the new dataset is filled with emissions data from a specifically designed tailings model. The uranium tailings model is a first coarse estimate on typical magnitude of non-radioactive emissions; that is added to the already existing radioactive emissions.

3. NEW IMPACT ASSESSMENT METHODS:

Three new LCIA methods (EPS 2000 / Ecological Scarcity, ecofactors 2006 / Global Warming with the IPCC 2007 factors) have been included. More information about these methods can be found in ecoinvent report No.3, the implementation report of the LCIA methods.

4. CHANGES IN IMPACT ASSESSMENT METHODS

Due to the new constellation for mining activities (i.e. the new tailings datasets), the treatment of the long-term emissions to groundwater was reconsidered in close collaboration with the developers of the various LCIA methods. Results are that in ecoinvent version v2.1 long-term emissions to groundwater are only included in the implementation of the methods CML, Eco-indicator 99, and EDIP (versions 97 and 2003). The integration is done hereby in the following way:

- **CML Method:** the complete CML method has been included one time with and one time without factors for long-term emissions;
- **Eco-Indicator'99:** long-term emissions to groundwater are placed in 3 separate impact categories (stored ecotoxicity, stored carcinogenics resp. stored ionising radiationⁱ) in case of the Hierarchist and the Egalitarian perspective;
- **EDIP (version 97 and 2003):** New impact categories are introduced for long-term emissions to groundwater representing stored ecotoxicity, stored human toxicity and stored eutrophication.

In case of the “**Ecological scarcity (ecofactors 1997)**” method, extrapolations of eco-factors for heavy metal emissions from surface water to groundwater (be it short or long-term) have been deleted as a result of an expert discussion during the update of the method.

ⁱ This factor is not visible in the LCIA results section, as no such emissions reported in the current ecoinvent datasets

More information about all methods and their actual implementation can be found in report No.3 of ecoinvent, the implementation report of the LCIA methods.

5. FURTHER CHANGES

As usual all the errors discovered and identified since the publication of the last version of the database (i.e. data v2.01) have been corrected for this new version of the database. In addition, several datasets (in the area of fibre cement, insulation materials and metals) have been changed thanks to more comprehensive information sources.

And last but not least, thanks to our technical partner several inconsistencies within the nomenclature of the elementary flows as well as the dataset names have been identified and corrected for ecoinvent data v2.1.

An overview of all these corrections and changes can be found in report No.16, the report about the changes between v2.01 and v2.1.

6. SPREADSHEET TOOLS FOR WASTE CALCULATIONS

The waste management Excel-tools - for a calculation of own waste datasets - introduced with ecoinvent data v1.0 have been adapted to the 2nd version of ecoinvent now and are thus provided again on the CD-ROM, together with the reports. These tools can in addition also be downloaded from the “files” section of the database (only by members).