(3) sugar, from sugarcane, at sugar refinery

Reference function	information
Name	sugar, from sugarcane, at sugar refinery
Unit	kg
Category	food industry
Subcategory	processing
Amount	1
Included processes	This dataset includes the transport of sugarcane to the sugar refinery and the processing of sugarcane to sugar, ethanol (95% w/w), bagasse (79% dry matter, excess), excess electricity and vinasse from ethanol production. System boundary is at the sugar refinery. Treatment of waste effluents is not included (most wastewater is spread over the fields nearby). Packaging is not included.
General comment	Inventory refers to the production of 1 kg sugar, respectively 1 kg of ethanol (95% w/w dry basis, i.e. 1.05 kg hydrated ethanol 95% wet basis), 1 kg of excess bagasse (wet basis, 79% dry matter), 1 kWh of electricity and 1 kg of vinasse. The multioutput-process 'sugarcane, in sugar refinery' delivers the co-products 'sugar, from sugarcane, at sugar refinery' and 'ethanol, 95% in H2O, from sugarcane molasses, at sugar refinery', 'bagasse, from sugarcane, at sugar refinery', 'electricity, bagasse, sugarcane, at sugar refinery' and 'vinasse, from sugarcane molasses, at sugar refinery'. Economic allocation with allocation factor for common sugar production stages of 80-85% to sugar, 10-11% to ethanol. Allocation according to carbon balance for CO2.
Infrastructure included	Yes
Dataset relates to product	Yes
Geography	Data is from various sugar and ethanol producers in Brazil; some data is adapted from sugar producer in CH
Technology	Juice extraction is performed through milling (not diffusion). The juice is then purified and crystallized to sugar according to standard processes. Ethanol is produced by standard fermentation and distillation techniques. Energy supply is done by combustion of the bagasse resulting from the extraction stage. The two main products are sugar and ethanol.
Start year	1994
End year	2006