

## 1 LCIA method changelog from v2.1.3 to v2.2.1

Since the openLCA LCIA method package v.2.1.3, there have been some updates to the method package:

1. Some elementary flow names were changed to better naming according to the newest ecoinvent 3.9.1 release. The list is available in the Appendix of this document.
2. “Carbon dioxide, peat oxidation” characterisation factors were added, affecting mostly Climate Change / Global Warming Potential impact categories.
3. “Occupation, to dump site” and “transformation, to dump site” flows were revised and characterisation factors corrected for impact categories related to Land Use.
4. Restructure naming of methods for clarity, e.g. "EF Method (adapted)" to "EF 2.0 Method (adapted)".
5. In order to make the method package compatible with new database releases in the past year, new flows and characterisation factors were added.

The openLCA LCIA method package 2.2.1 is compatible with:

- ecoinvent v3.6, v3.7, v3.7.1, v3.8, v3.9.0, v3.9.1
- Eugeos 15804+A2
- Agribalyse v3.0, v3.01, v3.1
- Agrifootprint v5.0, v6.3
- OzLCI 201

## 2 Support

GreenDelta GmbH, developer of openLCA, offers openLCA users prioritized and guaranteed professional openLCA support via the GreenDelta helpdesk: [https://nexus.openlca.org/service/openLCA%20Support%20\(help%20desk\)](https://nexus.openlca.org/service/openLCA%20Support%20(help%20desk)) Public (User2User) support for openLCA is available via <https://ask.openlca.org/>.

In case you have other questions not addressed by this report, need further clarifications on any of the points commented, or have comments, please contact [us](#).

## 3 Appendix

ECOINVENT 3.8 NAME	ECOINVENT 3.9.1 NAME
2-Methyl pentane	2-Methylpentane
Acrylate, ion	Acrylate
Aluminium	Aluminium III
Aluminium, in ground	Aluminium
Amine oxide	Amine oxides
Ammonium, ion	Ammonium
Anhydrite, in ground	Anhydrite
Antimony	Antimony ion
Antimony, in ground	Antimony
AOX, Adsorbable Organic Halogen as Cl	AOX, Adsorbable Organic Halogen
Arsenic	Arsenic ion
Arsenic, in ground	Arsenic
Arsenic, ion	Arsenic ion
Barium	Barium II
Barium, in ground	Barium
Basalt, in ground	Basalt
Benzene, dichloro	1,2-Dichlorobenzene
Beryllium	Beryllium II
Beryllium, in ground	Beryllium
Bicarbonate, ion	Bicarbonate
Borax, in ground	Borax
Bromine, in water	Bromine
Cadmium	Cadmium II
Cadmium, in ground	Cadmium

Cadmium, ion	Cadmium II
Calcite, in ground	Calcite
Calcium, in ground	Calcium
Calcium, ion	Calcium II
Carfentrazone ethyl ester	Carfentrazone-ethyl
Cerium, in ground	Cerium
Cesium	Caesium
Cesium-134	Caesium-134
Cesium-136	Caesium-136
Cesium-137	Caesium-137
Chromium	Chromium III
Chromium, in ground	Chromium
Chromium, ion	Chromium III
Chrysotile, in ground	Chrysotile
Clay, bentonite, in ground	Clay, bentonite
Clay, unspecified, in ground	Clay, unspecified
Coal, brown, in ground	Coal, brown
Coal, hard, unspecified, in ground	Coal, hard, unspecified
Cobalt	Cobalt II
Cobalt, in ground	Cobalt
Colemanite, in ground	Colemanite
Copper	Copper ion
Copper, in ground	Copper
Copper, ion	Copper ion
Diatomite, in ground	Diatomite
Diphenylether-compound	Diphenylether compounds
Dolomite, in ground	Dolomite
Dysprosium, in ground	Dysprosium
Ethene	Ethylene
Ethene, chloro-	Chloroethylene
Ethene, tetrachloro-	Tetrachloroethylene
Europium, in ground	Europium
Feldspar, in ground	Feldspar
Fluazifop-p-butyl	Fluazifop-P-butyl
Fluorine, in ground	Fluorine
Fluorochloridone	Flurochloridone
Fluorspar, in ground	Fluorspar

Gadolinium, in ground	Gadolinium
Gallium, in ground	Gallium
Gangue, in ground	Gangue
Gas, natural, in ground	Gas, natural
Gold, in ground	Gold
Granite, in ground	Granite
Gravel, in ground	Gravel
Gypsum, in ground	Gypsum
Hafnium, in ground	Hafnium
Hydrogen carbonate	Bicarbonate
Hydrogen chloride	Hydrochloric acid
Iodine, in water	Iodine
Iprodion	Iprodione
Iron	Iron ion
Iron, in ground	Iron
Iron, ion	Iron ion
Kaolinite, in ground	Kaolinite
Kieserite, in ground	Kieserite
Krypton, in air	Krypton
Lanthanum, in ground	Lanthanum
Laterite, in ground	Laterite
Lead	Lead II
Lead, in ground	Lead
Lithium	Lithium I
Lithium, in ground	Lithium
Lithium, ion	Lithium I
Magnesite, in ground	Magnesite
Magnesium, in ground	Magnesium
Manganese	Manganese II
Manganese, in ground	Manganese
Mercury	Mercury II
Mercury, in ground	Mercury
Metamorphous rock, graphite containing, in ground	Graphite
Methyl amine	Methylamine
Methyl pentane	2-Methylpentane
Molybdenum	Molybdenum VI
Molybdenum, in ground	Molybdenum

Monobutyltin	Monobutyltin (III)
Naphtalene	Naphthalene
Neodymium, in ground	Neodymium
Nickel	Nickel II
Nickel, in ground	Nickel
Nickel, ion	Nickel II
Niobium, in ground	Niobium
NMVOC, non-methane volatile organic compounds, unspecified origin	NMVOC, non-methane volatile organic compounds
o-Dichlorobenzene	1,2-Dichlorobenzene
Oil, crude, in ground	Oil, crude
Olivine, in ground	Olivine
Palladium	Palladium II
Palladium, In ground	Palladium
Particulates, < 2.5 um	Particulate Matter, < 2.5 um
Particulates, > 10 um	Particulate Matter, > 10 um
Particulates, > 2.5 um, and < 10um	Particulate Matter, > 2.5 um and < 10um
Peat, in ground	Peat
Perchlorate. ion	Perchlorate
Perlite, in ground	Perlite
Phosphorus, in ground	Phosphorus
Platinum, in ground	Platinum
Potassium	Potassium I
Potassium, in ground	Potassium
Potassium, ion	Potassium I
Praseodymium, in ground	Praseodymium
Prothioconazol	Prothioconazole
Pumice, in ground	Pumice
Pyraclostrobin (prop)	Pyraclostrobin
Pyrite, in ground	Pyrite
Rhenium, in ground	Rhenium
Rhodium	Rhodium III
Rhodium, in ground	Rhodium
Samarium, in ground	Samarium
Sand, unspecified, in ground	Sand, unspecified
Scandium, in ground	Scandium
Selenium	Selenium IV

Selenium, in ground	Selenium
Shale, in ground	Shale
Silicon, in ground	Silicon
Silver	Silver I
Silver, in ground	Silver
Silver, ion	Silver I
Sodium chloride, in ground	Sodium chloride
Sodium nitrate, in ground	Sodium nitrate
Sodium sulphate, various forms, in ground	Sodium sulphate, various forms
Sodium, in ground	Sodium
Sodium, ion	Sodium I
Spodumene, in ground	Spodumene
Steatite, in ground	Steatite
Strontium, in ground	Strontium
Sulfur, in ground	Sulfur
Sylvite, in ground	Sylvite
Talc, in ground	Talc
Tantalum, in ground	Tantalum
Tebupirimphos	Tebupirimfos
Tellurium, in ground	Tellurium
Terbium, in ground	Terbium
Thallium	Thallium I
Thiocyanate, ion	Thiocyanate
Tin	Tin ion
Tin, in ground	Tin
Tin, ion	Tin ion
Titanium	Titanium ion
Titanium, in ground	Titanium
Titanium, ion	Titanium ion
Tungsten, in ground	Tungsten
Ulexite, in ground	Ulexite
Uranium, in ground	Uranium
Vanadium	Vanadium V
Vanadium, in ground	Vanadium
Vanadium, ion	Vanadium V
Vermiculite, in ground	Vermiculite
VOC, volatile organic compounds, unspecified origin	VOC, volatile organic compounds

Xenon, in air	Xenon
Yttrium, in ground	Yttrium
Zinc	Zinc II
Zinc, in ground	Zinc
Zinc, ion	Zinc II
Zirconium, in ground	Zirconium