

Anorganic fertilizers emissions

SimaPro 9.0.0.49

Project

Impact assessr Date: 15.11.2019 Time: 19:46

UZEI_pouze export

Calculation:	Compare
Results:	Impact assessment
Product 1:	1 kg Ammonium nitrate, as N {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 2:	1 kg Ammonium sulfate, as N {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 3:	1 kg Calcium nitrate {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 4:	1 kg Nitrogen fertiliser, as N {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 5:	1 kg Phosphate fertiliser, as P2O5 {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 6:	1 kg Potassium chloride, as K2O {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 7:	1 kg Potassium fertiliser, as K2O {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 8:	1 kg Potassium nitrate {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 9:	1 kg Potassium sulfate, as K2O {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 10:	1 kg Soil pH raising agent, as CaCO3 {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 11:	1 kg Stone meal {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Product 12:	1 kg Urea, as N {GLO} market for APOS, S (of project Ecoinvent 3 - allocation at point of substitution - system)
Method:	ReCiPe 2016 Endpoint (H) V1.03 / World (2010) H/A
Indicator:	Characterisation
Skip categories:	Never
Exclude infrastructure processes:	No
Exclude long-term emissions:	No
Sorted on item:	Impact category
Sort order:	Ascending

ENPPOINT

Impact category	Unit	Calcium			Phosphate			Stone			Urea, as N		
		Ammonium nitrate, as N {GLO} market for APOS, S	Ammonium sulfate, as N {GLO} market for APOS, S	nitrate {GLO} market for APOS, S	Nitrogen fertiliser, as N {GLO} market for APOS, S	Phosphate fertiliser, as P2O5 {GLO} market for APOS, S	Potassium chloride, as K2O {GLO} market for APOS, S	Potassium fertiliser, as K2O {GLO} market for APOS, S	Potassium nitrate {GLO} market for APOS, S	Potassium sulfate, as K2O {GLO} market for APOS, S	Soil pH raising agent, as CaCO3 {GLO} market for APOS, S	meal {GLO} market for APOS, S	{GLO} market for APOS, S
Global warming, Human health	DALY	8.03133E-06	1.8404E-06	3.12E-06	1.133E-05	1.9946E-06	4.355E-07	2.06E-06	2.349E-06	1.418E-06	9.6504E-08	6.24E-08	3.16E-06
Global warming, Terrestrial ecosystems	species.yr	2.42001E-08	5.554E-09	9.41E-09	3.416E-08	6.0189E-09	1.314E-09	6.213E-09	7.078E-09	4.2791E-09	2.91203E-10	1.88E-10	9.52E-09
Global warming, Freshwater ecosystems	species.yr	6.61396E-13	1.517E-13	2.57E-13	9.334E-13	1.644E-13	3.59E-14	1.697E-13	1.934E-13	1.1687E-13	7.95471E-15	5.14E-15	2.6E-13
Stratospheric ozone depletion	DALY	1.10463E-07	3.6991E-10	3.84E-08	1.258E-07	1.5673E-09	1.815E-10	9.114E-09	3.111E-08	4.9621E-10	2.73591E-11	2.09E-11	6.68E-10
Ionizing radiation	DALY	9.17043E-10	5.8537E-10	4.87E-10	4.721E-09	1.7401E-09	1.911E-10	2.445E-09	2.916E-10	5.6907E-10	1.37258E-10	7.34E-11	7.55E-10

Ozone formation, Human health	DALY	1.40115E-08	3.4878E-09	5.41E-09	2.096E-08	6.0181E-09	1.24E-09	4.295E-09	4.556E-09	4.3415E-09	7.88971E-10	1.77E-10	4.43E-09
Fine particulate matter formation	DALY	5.45063E-06	2.1851E-06	1.96E-06	9.062E-06	5.0734E-06	4.488E-07	2.593E-06	1.488E-06	2.9835E-06	2.51371E-07	1.34E-07	3.69E-06
Ozone formation, Terrestrial ecosystems	species.yr	2.00426E-09	5.1124E-10	7.73E-10	3.009E-09	8.6666E-10	1.796E-10	6.255E-10	6.524E-10	6.2561E-10	1.12924E-10	2.56E-11	6.49E-10
Terrestrial acidification	species.yr	6.45928E-09	1.9055E-09	2.36E-09	1.151E-08	4.0681E-09	3.661E-10	3.669E-09	1.815E-09	2.861E-09	2.33022E-10	1E-10	3.52E-09
Freshwater eutrophication	species.yr	6.53457E-10	5.3911E-10	3.89E-10	1.522E-09	1.4998E-09	1.674E-10	3.345E-10	2.553E-10	6.1268E-10	1.58522E-11	7.17E-11	4.03E-10
Marine eutrophication	species.yr	3.75191E-13	7.6415E-14	5.39E-14	4.359E-12	9.004E-13	2.569E-14	4.692E-12	3.558E-14	1.9699E-13	3.86794E-15	1.02E-14	2.08E-13
Terrestrial ecotoxicity	species.yr	2.65529E-10	1.23E-10	1.24E-10	4.467E-10	1.629E-10	4.213E-11	6.383E-11	7.956E-11	1.4014E-10	3.02998E-12	2.05E-11	2.04E-10
Freshwater ecotoxicity	species.yr	1.0108E-10	6.7602E-11	5.82E-11	2.11E-10	9.6159E-11	2.144E-11	3.447E-11	3.802E-11	7.4949E-11	9.86759E-13	1.13E-11	4.86E-11
Marine ecotoxicity	species.yr	2.28577E-11	1.4823E-11	1.29E-11	4.503E-11	2.0695E-11	4.699E-12	6.013E-12	8.405E-12	1.6462E-11	2.19536E-13	2.46E-12	1.14E-11
Human carcinogenic toxicity	DALY	3.52475E-07	2.6627E-07	2.09E-07	7.909E-07	3.8139E-07	9.406E-08	1.641E-07	1.411E-07	2.828E-07	9.87417E-09	4.05E-08	2.38E-07
Human non-carcinogenic toxicity	DALY	1.15904E-06	7.6285E-07	6.66E-07	2.351E-06	1.0914E-06	2.394E-07	3.071E-07	4.319E-07	8.8565E-07	9.51711E-09	1.29E-07	5.44E-07
Land use	species.yr	4.82889E-10	6.3921E-10	3.16E-10	1.452E-08	3.7936E-09	2.899E-10	1.529E-08	2.704E-10	1.0929E-09	9.24034E-11	6.12E-11	3.05E-10
Mineral resource scarcity	USD2013	0.008531944	0.00380635	0.00398	0.0137289	0.01440413	0.0010127	0.0015287	0.0028338	0.00305609	4.85073E-05	0.000524	0.002346
Fossil resource scarcity	USD2013	0.460097293	0.17783986	0.135968	0.5544571	0.20232684	0.0557122	0.0875407	0.1253749	0.14806487	0.010863411	0.003793	0.494432
Water consumption, Human health	DALY	1.64894E-07	1.0147E-08	5.47E-08	3.095E-07	1.3383E-07	1.611E-08	9.57E-08	3.296E-08	7.1506E-08	3.76674E-09	1.01E-09	4.06E-07
Water consumption, Terrestrial ecosystem	species.yr	1.00269E-09	6.0706E-11	3.33E-10	2.069E-09	8.5711E-10	1.004E-10	7.641E-10	2.014E-10	4.3874E-10	2.30204E-11	6.12E-12	2.47E-09
Water consumption, Aquatic ecosystems	species.yr	4.57747E-14	3.8074E-15	1.55E-14	4.093E-13	1.087E-13	4.621E-15	3.279E-13	9.325E-15	2.1334E-14	1.10868E-15	3.79E-16	1.12E-13

MIDPOINT

Impact category	Unit	Calcium			Phosphate				Stone			Urea, as N	
		Ammonium sulfate, as N {GLO} market for APOS, S	Ammonium nitrate {GLO} market for APOS, S	nitrate {GLO} market for APOS, S	Nitrogen fertiliser, as N {GLO} market for APOS, S	Phosphate fertiliser, as P2O5 {GLO} market for APOS, S	Potassium chloride, as K2O {GLO} market for APOS, S	Potassium fertiliser, as K2O {GLO} market for APOS, S	Potassium nitrate {GLO} market for APOS, S	Potassium sulfate, as K2O {GLO} market for APOS, S	Soil pH raising agent, as CaCO3 {GLO} market for APOS, S	meal {GLO} market for APOS, S	Urea, as N {GLO} market for APOS, S
Global warming	kg CO2 eq	8.645225329	1.98322299	3.360927	12.201005	2.14926907	0.4692958	2.2188683	2.5284393	1.52796485	0.103990863	0.067247	3.400314
Stratospheric ozone depletion	kg CFC11 eq	0.000208064	6.9688E-07	7.23E-05	0.0002369	2.9524E-06	3.421E-07	1.717E-05	5.86E-05	9.3488E-07	5.15608E-08	3.95E-08	1.26E-06
Ionizing radiation	kBq Co-60 eq	0.108068307	0.06899615	0.057369	0.5563386	0.20509019	0.0225219	0.2881958	0.0343718	0.06706944	0.016175972	0.008655	0.088919
Ozone formation, Human health	kg NOx eq	0.015396998	0.00383254	0.005941	0.0230343	0.00661313	0.0013629	0.0047198	0.0050064	0.00477081	0.000866986	0.000195	0.004872
Fine particulate matter formation	kg PM2.5 eq	0.008673188	0.00347879	0.003122	0.014419	0.00807496	0.0007143	0.0041237	0.0023682	0.00475071	0.000400122	0.000213	0.005878
Ozone formation, Terrestrial ecosystems	kg NOx eq	0.015536916	0.00396316	0.005994	0.0233225	0.00671833	0.0013926	0.0048493	0.0050574	0.00484976	0.000875384	0.000199	0.005027
Terrestrial acidification	kg SO2 eq	0.030455542	0.00898839	0.011115	0.054252	0.01918674	0.0017268	0.0172941	0.0085567	0.01349545	0.001099212	0.000472	0.016598
Freshwater eutrophication	kg P eq	0.00097575	0.00080501	0.00058	0.0022722	0.00223947	0.0002499	0.0004993	0.0003813	0.00091486	2.36702E-05	0.000107	0.000602
Marine eutrophication	kg N eq	0.000220292	4.4972E-05	3.17E-05	0.0025652	0.00052995	1.512E-05	0.0027615	2.094E-05	0.00011594	2.27623E-06	6.01E-06	0.000122
Terrestrial ecotoxicity	kg 1,4-DCB	23.27863438	10.7730027	10.90863	39.144161	14.2787891	3.6902657	5.5969613	6.9715764	12.2811188	0.265682063	1.796362	17.8588
Freshwater ecotoxicity	kg 1,4-DCB	0.146045121	0.09766909	0.084159	0.3048434	0.13891351	0.0309798	0.0497413	0.0549306	0.10828597	0.001425103	0.016319	0.070175
Marine ecotoxicity	kg 1,4-DCB	0.217603157	0.14111359	0.1227	0.4286734	0.19700409	0.0447323	0.057226	0.0800191	0.15671626	0.002089473	0.023449	0.108671
Human carcinogenic toxicity	kg 1,4-DCB	0.106155587	0.08019495	0.062896	0.2381936	0.11487016	0.0283298	0.0494304	0.04251	0.08517653	0.002973857	0.012208	0.071754
Human non-carcinogenic toxicity	kg 1,4-DCB	5.080652285	3.34388612	2.920658	10.305541	4.78464185	1.0495774	1.3462846	1.8931404	3.88226765	0.041718838	0.565256	2.383909

Land use	m2a crop eq	0.054439723	0.0720739	0.035582	1.635507	0.42739643	0.0326638	1.722558	0.0304771	0.12316831	0.010419799	0.006905	0.034331
Mineral resource scarcity	kg Cu eq	0.03695196	0.01674514	0.017228	0.0673844	0.08111901	0.0044197	0.0068088	0.0122825	0.0132951	0.000210261	0.00227	0.010196
Fossil resource scarcity	kg oil eq	1.224578009	0.59174489	0.390556	1.6202024	0.69920497	0.1614246	0.2889434	0.3497033	0.50128578	0.030720688	0.01625	1.326953
Water consumption	m3	0.076680647	0.0067555	0.02601	0.2425296	0.08690659	0.0098453	0.1371335	0.0164712	0.03703503	0.001869723	0.000673	0.18494