

---

This appendix refers to the EPD MD-24041-EN. Results in the appendix communicates LCA results in the format described in EN15804+A1:2013, in order to accommodate a need in the transition period between the two standard revisions. The appendix cannot stand alone, as the reference EPD describes the basis of the assessment.

RT497 DK-NF BS

ENVIRONMENTAL IMPACTS PER TONNES RT497 DK-NF BS										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP	[kg CO <sub>2</sub> eq.]	2,2E+02	5,3E+00	3,0E+00	0,0E+00	0,0E+00	7,3E+00	3,4E+00	5,4E-02	-5,7E+00
OPD	[kg CFC 11 eq.]	9,1E-06	9,5E-08	1,4E-08	0,0E+00	0,0E+00	1,3E-07	4,5E-08	1,5E-09	-1,0E-07
AP	[kg SO <sub>2</sub> eq.]	5,1E-01	1,6E-02	2,9E-03	0,0E+00	0,0E+00	2,1E-02	3,0E-02	3,2E-04	-3,4E-02
EP	[kg SO <sub>4</sub> <sup>3-</sup> eq.]	8,7E-02	3,5E-03	9,7E-04	0,0E+00	0,0E+00	4,7E-03	5,4E-03	6,2E-05	-1,2E-02
POCP	[kg ethene-eq.]	1,3E-02	8,3E-04	1,2E-04	0,0E+00	0,0E+00	1,2E-03	6,2E-04	1,4E-05	-2,4E-03
ADPE	[kg Sb-eq.]	6,3E-04	1,4E-05	1,6E-06	0,0E+00	0,0E+00	2,4E-05	1,2E-06	5,8E-08	-5,6E-05
ADPF	[MJ]	2,4E+03	7,6E+01	1,1E+01	0,0E+00	0,0E+00	1,0E+02	4,5E+01	1,4E+00	-6,2E+01
Caption	<p>GWP = Global warming potential; OPD = Ozone depletion potential; AP = Acidification potential of soil and water; EP = Eutrophication potential; POCP = Photochemical ozone creation potential; ADPE = Abiotic depletion potential for non fossil resources; ADPF = Abiotic depletion potential for fossil resources</p> <p>The numbers are declared in scientific notation, e.g. 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

RESOURCE USE PER TONNES										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
PERE	[MJ]	3E+02	1E+00	3E-01	0E+00	0E+00	2E+00	3E-01	3E-02	-4E+01
PERM	[MJ]	5E+01	0E+00	-5E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
PERT	[MJ]	3E+02	1E+00	-5E+01	0E+00	0E+00	2E+00	3E-01	3E-02	-4E+01
PENRE	[MJ]	6E+02	8E+01	1E+01	0E+00	0E+00	1E+02	5E+01	1E+00	-7E+01
PENRM	[MJ]	3E+01	0E+00	-3E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
PENRT	[MJ]	6E+02	8E+01	-2E+01	0E+00	0E+00	1E+02	5E+01	1E+00	-7E+01
SM	[kg]	1E+02	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
RSF	[MJ]	4E+02	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
NRSF	[MJ]	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
FW	[m <sup>3</sup> ]	9E-01	1E-02	8E-03	0E+00	0E+00	1E-02	4E-03	2E-03	-4E-01
Caption	<p>PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

WASTE CATEGORIES AND OUTPUT FLOWS PER TONNES										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
HWD	[kg]	1E-02	5E-04	6E-05	0E+00	0E+00	7E-04	3E-04	7E-06	-4E-04
NHWD	[kg]	2E+01	7E+00	3E+01	0E+00	0E+00	5E+00	6E-02	1E+01	-1E+00
RWD	[kg]	1E-03	2E-05	6E-06	0E+00	0E+00	3E-05	5E-06	3E-07	-2E-04

CRU	[kg]	1E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
MFR	[kg]	3E+01	0E+00	1E+00	0E+00	0E+00	0E+00	1E+03	0E+00	0E+00
MER	[kg]	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
EE	[MJ]	0E+00	0E+00	1E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Caption	<p>HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

RT495 DK-NF BS

ENVIRONMENTAL IMPACTS PER TONNES RT495 DK-NF BS										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP	[kg CO <sub>2</sub> eq.]	2,2E+02	5,3E+00	3,0E+00	0,0E+00	0,0E+00	7,3E+00	3,4E+00	5,4E-02	-5,7E+00
OPD	[kg CFC 11 eq.]	9,1E-06	9,5E-08	1,4E-08	0,0E+00	0,0E+00	1,3E-07	4,5E-08	1,5E-09	-1,0E-07
AP	[kg SO <sub>2</sub> eq.]	5,1E-01	1,6E-02	2,9E-03	0,0E+00	0,0E+00	2,1E-02	3,0E-02	3,2E-04	-3,4E-02
EP	[kg SO <sub>4</sub> <sup>3-</sup> eq.]	8,7E-02	3,5E-03	9,7E-04	0,0E+00	0,0E+00	4,7E-03	5,4E-03	6,2E-05	-1,2E-02
POCP	[kg ethene-eq.]	1,3E-02	8,3E-04	1,2E-04	0,0E+00	0,0E+00	1,2E-03	6,2E-04	1,4E-05	-2,4E-03
ADPE	[kg Sb-eq.]	6,3E-04	1,4E-05	1,6E-06	0,0E+00	0,0E+00	2,4E-05	1,2E-06	5,8E-08	-5,6E-05
ADPF	[MJ]	2,4E+03	7,6E+01	1,1E+01	0,0E+00	0,0E+00	1,0E+02	4,5E+01	1,4E+00	-6,2E+01
Caption	<p>GWP = Global warming potential; OPD = Ozone depletion potential; AP = Acidification potential of soil and water; EP = Eutrophication potential; POCP = Photochemical ozone creation potential; ADPE = Abiotic depletion potential for non fossil resources; ADPF = Abiotic depletion potential for fossil resources</p> <p>The numbers are declared in scientific notation, e.g. 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

RESOURCE USE PER TONNES										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
PERE	[MJ]	3E+02	1E+00	3E-01	0E+00	0E+00	2E+00	3E-01	3E-02	-4E+01
PERM	[MJ]	5E+01	0E+00	-5E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
PERT	[MJ]	3E+02	1E+00	-5E+01	0E+00	0E+00	2E+00	3E-01	3E-02	-4E+01
PENRE	[MJ]	6E+02	8E+01	1E+01	0E+00	0E+00	1E+02	5E+01	1E+00	-7E+01
PENRM	[MJ]	3E+01	0E+00	-3E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
PENRT	[MJ]	6E+02	8E+01	-2E+01	0E+00	0E+00	1E+02	5E+01	1E+00	-7E+01
SM	[kg]	1E+02	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
RSF	[MJ]	4E+02	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
NRSF	[MJ]	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
FW	[m <sup>3</sup> ]	9E-01	1E-02	8E-03	0E+00	0E+00	1E-02	4E-03	2E-03	-4E-01
Caption	<p>PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

WASTE CATEGORIES AND OUTPUT FLOWS PER TONNES										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
HWD	[kg]	1E-02	5E-04	6E-05	0E+00	0E+00	7E-04	3E-04	7E-06	-4E-04
NHWD	[kg]	2E+01	7E+00	3E+01	0E+00	0E+00	5E+00	6E-02	1E+01	-1E+00
RWD	[kg]	1E-03	2E-05	6E-06	0E+00	0E+00	3E-05	5E-06	3E-07	-2E-04

CRU	[kg]	1E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
MFR	[kg]	3E+01	0E+00	1E+00	0E+00	0E+00	0E+00	1E+03	0E+00	0E+00
MER	[kg]	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
EE	[MJ]	0E+00	0E+00	1E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Caption	<p>HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

RT209 DK-NF BS

ENVIRONMENTAL IMPACTS PER TONNES RT209 DK-NF BS										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP	[kg CO <sub>2</sub> eq.]	2,1E+02	5,3E+00	3,0E+00	0,0E+00	0,0E+00	7,3E+00	3,4E+00	5,4E-02	-5,6E+00
OPD	[kg CFC 11 eq.]	8,3E-06	9,5E-08	1,4E-08	0,0E+00	0,0E+00	1,3E-07	4,5E-08	1,5E-09	-1,0E-07
AP	[kg SO <sub>2</sub> eq.]	4,5E-01	1,6E-02	2,9E-03	0,0E+00	0,0E+00	2,1E-02	3,0E-02	3,2E-04	-3,4E-02
EP	[kg SO <sub>4</sub> <sup>3-</sup> eq.]	5,6E-02	3,5E-03	9,6E-04	0,0E+00	0,0E+00	4,7E-03	5,4E-03	6,2E-05	-1,2E-02
POCP	[kg ethene-eq.]	1,0E-02	8,3E-04	1,2E-04	0,0E+00	0,0E+00	1,2E-03	6,2E-04	1,4E-05	-2,4E-03
ADPE	[kg Sb-eq.]	4,7E-04	1,4E-05	1,6E-06	0,0E+00	0,0E+00	2,4E-05	1,2E-06	5,8E-08	-5,6E-05
ADPF	[MJ]	2,1E+03	7,6E+01	1,0E+01	0,0E+00	0,0E+00	1,0E+02	4,5E+01	1,4E+00	-6,2E+01
Caption	<p>GWP = Global warming potential; OPD = Ozone depletion potential; AP = Acidification potential of soil and water; EP = Eutrophication potential; POCP = Photochemical ozone creation potential; ADPE = Abiotic depletion potential for non fossil resources; ADPF = Abiotic depletion potential for fossil resources</p> <p>The numbers are declared in scientific notation, e.g. 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

RESOURCE USE PER TONNES										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
PERE	[MJ]	3E+02	1E+00	3E-01	0E+00	0E+00	2E+00	3E-01	3E-02	-4E+01
PERM	[MJ]	5E+01	0E+00	-5E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
PERT	[MJ]	3E+02	1E+00	-5E+01	0E+00	0E+00	2E+00	3E-01	3E-02	-4E+01
PENRE	[MJ]	3E+02	8E+01	1E+01	0E+00	0E+00	1E+02	5E+01	1E+00	-7E+01
PENRM	[MJ]	3E+01	0E+00	-3E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
PENRT	[MJ]	4E+02	8E+01	-2E+01	0E+00	0E+00	1E+02	5E+01	1E+00	-7E+01
SM	[kg]	1E+02	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
RSF	[MJ]	4E+02	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
NRSF	[MJ]	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
FW	[m <sup>3</sup> ]	5E-01	1E-02	8E-03	0E+00	0E+00	1E-02	4E-03	2E-03	-4E-01
Caption	<p>PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

WASTE CATEGORIES AND OUTPUT FLOWS PER TONNES										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
HWD	[kg]	1E-02	5E-04	6E-05	0E+00	0E+00	7E-04	3E-04	7E-06	-4E-04
NHWD	[kg]	1E+01	7E+00	3E+01	0E+00	0E+00	5E+00	6E-02	1E+01	-1E+00
RWD	[kg]	3E-04	2E-05	6E-06	0E+00	0E+00	3E-05	5E-06	3E-07	-2E-04

CRU	[kg]	1E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
MFR	[kg]	3E+01	0E+00	1E+00	0E+00	0E+00	0E+00	1E+03	0E+00	0E+00
MER	[kg]	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
EE	[MJ]	0E+00	0E+00	1E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Caption	<p>HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

RT103 DK-NF BS

ENVIRONMENTAL IMPACTS PER TONNES RT103 DK-NF BS										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
GWP	[kg CO <sub>2</sub> eq.]	2,1E+02	5,3E+00	3,0E+00	0,0E+00	0,0E+00	7,3E+00	3,4E+00	5,4E-02	-5,6E+00
OPD	[kg CFC 11 eq.]	8,5E-06	9,5E-08	1,4E-08	0,0E+00	0,0E+00	1,3E-07	4,5E-08	1,5E-09	-1,0E-07
AP	[kg SO <sub>2</sub> eq.]	4,5E-01	1,6E-02	2,9E-03	0,0E+00	0,0E+00	2,1E-02	3,0E-02	3,2E-04	-3,4E-02
EP	[kg SO <sub>4</sub> <sup>3-</sup> eq.]	5,9E-02	3,5E-03	9,6E-04	0,0E+00	0,0E+00	4,7E-03	5,4E-03	6,2E-05	-1,2E-02
POCP	[kg ethene-eq.]	1,1E-02	8,3E-04	1,2E-04	0,0E+00	0,0E+00	1,2E-03	6,2E-04	1,4E-05	-2,4E-03
ADPE	[kg Sb-eq.]	4,7E-04	1,4E-05	1,6E-06	0,0E+00	0,0E+00	2,4E-05	1,2E-06	5,8E-08	-5,6E-05
ADPF	[MJ]	2,1E+03	7,6E+01	1,0E+01	0,0E+00	0,0E+00	1,0E+02	4,5E+01	1,4E+00	-6,2E+01
Caption	<p>GWP = Global warming potential; OPD = Ozone depletion potential; AP = Acidification potential of soil and water; EP = Eutrophication potential; POCP = Photochemical ozone creation potential; ADPE = Abiotic depletion potential for non fossil resources; ADPF = Abiotic depletion potential for fossil resources</p> <p>The numbers are declared in scientific notation, e.g. 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

RESOURCE USE PER TONNES										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
PERE	[MJ]	3E+02	1E+00	3E-01	0E+00	0E+00	2E+00	3E-01	3E-02	-4E+01
PERM	[MJ]	5E+01	0E+00	-5E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
PERT	[MJ]	3E+02	1E+00	-5E+01	0E+00	0E+00	2E+00	3E-01	3E-02	-4E+01
PENRE	[MJ]	4E+02	8E+01	1E+01	0E+00	0E+00	1E+02	5E+01	1E+00	-7E+01
PENRM	[MJ]	3E+01	0E+00	-3E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
PENRT	[MJ]	4E+02	8E+01	-2E+01	0E+00	0E+00	1E+02	5E+01	1E+00	-7E+01
SM	[kg]	1E+02	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
RSF	[MJ]	4E+02	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
NRSF	[MJ]	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
FW	[m <sup>3</sup> ]	5E-01	1E-02	8E-03	0E+00	0E+00	1E-02	4E-03	2E-03	-4E-01
Caption	<p>PERE = Use of renewable primary energy excluding renewable primary energy resources used as raw materials; PERM = Use of renewable primary energy resources used as raw materials; PERT = Total use of renewable primary energy resources; PENRE = Use of non renewable primary energy excluding non renewable primary energy resources used as raw materials; PENRM = Use of non renewable primary energy resources used as raw materials; PENRT = Total use of non renewable primary energy resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non renewable secondary fuels; FW = Net use of fresh water</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

WASTE CATEGORIES AND OUTPUT FLOWS PER TONNES										
Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D
HWD	[kg]	1E-02	5E-04	6E-05	0E+00	0E+00	7E-04	3E-04	7E-06	-4E-04
NHWD	[kg]	1E+01	7E+00	3E+01	0E+00	0E+00	5E+00	6E-02	1E+01	-1E+00
RWD	[kg]	3E-04	2E-05	6E-06	0E+00	0E+00	3E-05	5E-06	3E-07	-2E-04

CRU	[kg]	1E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
MFR	[kg]	3E+01	0E+00	1E+00	0E+00	0E+00	0E+00	1E+03	0E+00	0E+00
MER	[kg]	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
EE	[MJ]	0E+00	0E+00	1E+01	0E+00	0E+00	0E+00	0E+00	0E+00	0E+00
Caption	<p>HWD = Hazardous waste disposed; NHWD = Non hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EET = Exported thermal energy</p> <p>The numbers are declared in scientific notation, fx 1,95E+02. This number can also be written as: 1,95*102 or 195, while 1,12E-11 is the same as 1,12*10-11 or 0,0000000000112.</p>									

Checked and approved by



---

Mirko Miseljic, FORCE Technology Denmark  
*Third party verifier of MD-24041-EN*

---

Martha Katrine Sørensen  
*EPD Danmark*