



**Environmental
Product
Declaration**

According to EN15804+A2 (+indicators A1)



This declaration is for:
B2B Standard Kitchen Set-up 780BK

Provided by:
DKG Groep



program operator
Stichting MRPI®
publisher
Stichting MRPI®
www.mrpi.nl

MRPI® registration
1.1.00634.2024
date of first issue
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17-6-2029



COMPANY INFORMATION



DKG Groep
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PRODUCT

B2B Standard Kitchen Set-up 780BK

DECLARED UNIT/FUNCTIONAL UNIT

1 piece

DESCRIPTION OF PRODUCT

The DKG Groep B2B Standard Kitchen Set-up 780BK is 180cm.

It includes:

- 2x Base cabinets
- 1x Sink cabinet
- 3x Wall cabinets
- 1x Plinth set

Designed for a 20-year lifespan.

MRPI® REGISTRATION

1.1.00634.2024

DATE OF ISSUE

17-6-2024

EXPIRY DATE

17-6-2029

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by Tim Mol, EcoReview NL B.V.. The LCA study has been done by Luc van Gestel, Ecochain Technologies B.V.. The certificate is based on an LCA-dossier according to EN15804+A2 (+indicators A1). It is verified according to the 'MRPI®-EPD verification protocol November 2020.v4.0'. EPD's of construction products may not be comparable if they do not comply with EN15804+A2. Declaration of SVHC that are listed on the 'Candidate list of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

VISUAL PRODUCT



MORE INFORMATION

<https://www.dkggroep.nl/duurzaamheid>

PROGRAM OPERATOR

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DEMONSTRATION OF VERIFICATION

CEN standard EN15804 serves as the core PCR(a)

Independent verification of the declaration an data according to

EN15804+A2 (+indicators A1)

internal:

external: x

Third party verifier: Tim Mol, EcoReview NL B.V.

[a] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION

The DKG Groep B2B Standard Kitchen Set-up 780BK has a length of 180cm. The main materials are chipboard and steel. The kitchen cabinets are designed for a lifespan of 20 years under normal usage conditions and require maintenance solely for hygienic purposes, which is based on today's standard replacement times of housing associations.

The B2B Standard Kitchen Set-up 780BK consist out of the following components:

- Base cabinet (2x)
- Sink cabinet (1x)
- Wall cabinet (3x)
- Plinth set (1x)

All cabinets consist of a front panel, back panel, side panel, top/bottom, shelf base, hinges, handles, and accessories. The base cabinet is equipped with a drawer and one shelf. The wall cabinet has two shelves. The plinth set contains a front, side and cut-out, legs and accessories.

Worktops and appliances are excluded from this LCA study as these products are externally supplied end-products on which DKG Groep has little influence as these are chosen by customers separately.

The Bill of Materials (BoM) for the B2B Standard Kitchen Set-up 780BK is shown in the table below. These values have been accurately measured, and the reported weights represent the true weight of the B2B Standard Kitchen Set-up 780BK. This weighing method is officially verified according to the criteria of the Dutch Milieukeur certification, the national eco-label for more sustainable non-food products and services. Reported weights are net weights. Additional material input due to cutting losses has been accounted for, but this information is classified.

Bill of Materials of the B2B Standard Kitchen Set-up 780BK	Net weight (kg)
Chipboard	138,44
Metal-Iron-Steel	10,76
Plastics, Polypropylene (PP)	2,67
Wood, Spruce	2,57
Glue, ethylene vinyl acetate	0,02
Paper	0,12
Plastics, Acrylonitrile Butadiene Styrene (ABS)	0,17

DKG Groep incorporates 17 distinct metal, iron, and steel components into the B2B Standard Kitchen Set-up 780BK, which collectively weigh 10.76 kg, and therefore contribute significantly to the overall impact of the B2B Standard Kitchen Set-up 780BK. As these components are not internally manufactured by DKG Groep, precise material specifications pose a challenge.

Adhering to the Dutch Norm NMD Bepalingsmethode v1.1, the following cut-off criteria are established:

- When encountering insufficient input data or data gaps for a unit process, the cut-off threshold for that specific unit process should not exceed 1% of the total mass input of the product.
- The cumulative disregarded input flows per module (e.g., module A1-A3, A4-A5, B1-B5, B6-B7, C1-C4, and module D) must not exceed 5% of energy usage and mass.

The following table gives an overview of the 17 distinct materials, their respective weights within the B2B Standard Kitchen Set-up 780BK, and the percentage of mass relative to the total weight of the B2B Standard Kitchen Set-up 780BK. How these materials are modelled can be found in the section "Calculation rules".

Breakdown of Metal-Iron-Steel components	Net weight (kg)	Total (%)
Carcass rail for drawer (rompgeleider voor lade)	3,24	2,09%
Drawer profile (lazi)	3,03	1,96%
D-handle stainless steel look (D-beugelgreep RVS look)	1,45	0,93%
Back panel for drawer (rugwand voor lade)	0,94	0,60%
Clip top concealed hinge (clip top scharnier gedempt)	0,83	0,54%
Suspension rail (ophangregel)	0,69	0,45%
Protective plate sink cabinet (bodemplaat gootsteenkast)	0,27	0,18%
Adjuster screw for base cabinets (snelsteller tbv onderkasten)	0,09	0,06%
Wall mounting screws (schroeven voor muurbevestiging)	0,04	0,03%
Torx connector screws (torx koppelschroeven)	0,04	0,02%
Logo plaques (logoplaatjes)	0,03	0,02%
Shelf support with locking peg (plankendrager met borgpen)	0,03	0,02%
Shelf support without locking peg (plankendrager zonder borgpen)	0,03	0,02%
Staples (nietjes)	0,02	0,02%
System screws for carcass rail (systeemschroeven rompgeleider)	0,02	0,01%
Bolt (boutje)	0,01	0,00%
Quick action nut (snelstellermoer)	0,00	0,00%

The packaging materials used for B2B Standard Kitchen Set-up 780BK are shown in the table below.

Packaging materials used for B2B Standard Kitchen Set-up 780BK	Net weight (kg)
Cardboard, paper	4,8
Plastics, Polypropylene (PP)	0,08
Plastics, Polyethylene (PE)	0,81

At the the DKG Groep production facility in Bergen op Zoom, the Netherlands, the chipboard panels are sawed to length, edged, and drilled. The furniture fittings are incorporated into the kitchen design. These fittings are pre-mounted and assembled. The completed furniture fittings, along with the cabinets and complete plinth set and installation kit are collected, packed in cardboard with plastic straps or foil, and prepared for transportation to the installation site.

The DKG Groep facility in Bergen op Zoom, the Netherlands, uses 21% of its electricity from its own solar panels. The remaining 79% is purchased wind electricity.

SCOPE AND TYPE

DKG Groep has commissioned Ecochain Technologies B.V. to perform a life cycle assessment (LCA) of the B2B Standard Kitchen Set-up 780BK. The objective of this study is to publish third-party verified data about the environmental performance of the B2B Standard Kitchen Set-up 780BK in an ECO-Platform EPD. This ensures the communication of reliable and accurate quantitative environmental data to its users.

This assessment covers the entire life cycle ('cradle-to-grave'). The functional unit has been defined as follows: "1 pc of DKG Groep B2B Standard Kitchen Set-up 780BK, cradle to grave, for a period of 20 years."

The following standards are followed: ISO 14040 [1], ISO 14044 [2], ISO 14025 [3], the EN-15804+A2 [4] and the Dutch Norm NMD Bepalingsmethode v1.1 (Environmental Performance Assessment Method for Construction Works or Assessment Method for short) [5].

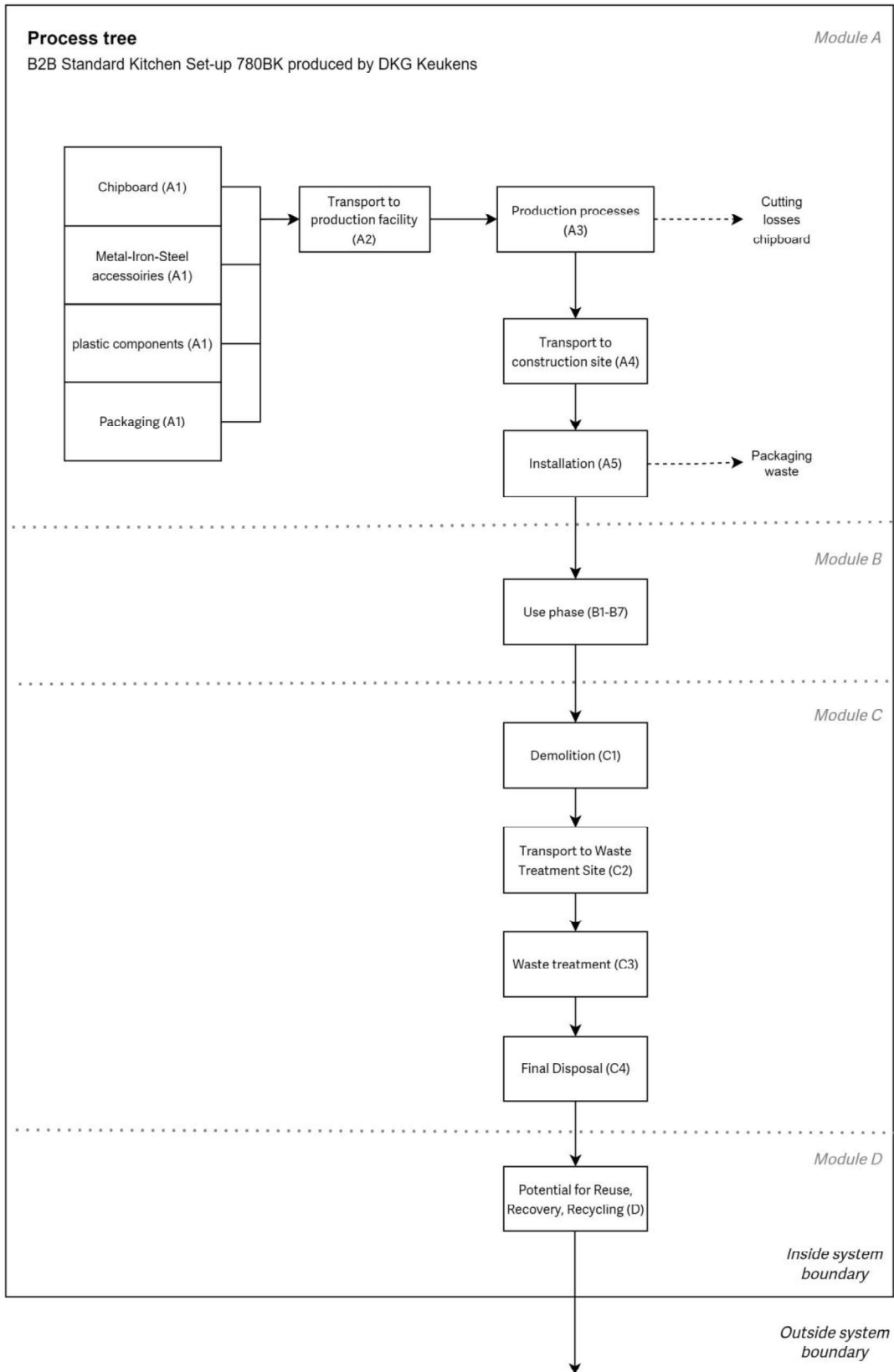
The geographical location is the Netherlands and the product is manufactured in Bergen op Zoom, the Netherlands.

Background database used for the calculations is Ecoinvent version 3.6 and Nationale Milieudatabase v3.5 in combination with Ecochain Mobius v1.1.161 as LCA software [7].

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USER STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport gate to site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse- Recovery – Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	X	X	X	X	X	ND	ND	X	X	X	X	X

X= Modules Assessed
ND= Not Declared

REPRESENTATIVENESS



ENVIRONMENT IMPACT per functional unit or declared unit (core indicators A1)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
ADPE	kg Sb eq.	4,27 E-02	3,13 E-04	3,46 E-04	4,34 E-02	9,36 E-06	7,79 E-06	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	5,66 E-08	4,89 E-05	2,41 E-05	1,63 E-06	-7,94 E-05
ADPF	MJ	2,62 E+03	1,89 E+02	4,12 E+01	2,85 E+03	5,30 E+00	6,10 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	2,17 E-01	2,86 E+01	1,91 E+01	3,65 E+00	-2,58 E+02
GWP	kg CO2 eq.	1,52 E+02	1,24 E+01	3,11 E+00	1,68 E+02	3,43 E-01	3,51 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,39 E-02	1,87 E+00	1,10 E+01	1,07 E+00	-1,76 E+01
ODP	Kg CFC11 eq.	1,43 E-05	2,29 E-06	2,67 E-07	1,68 E-05	6,43 E-08	1,06 E-07	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	6,84 E-10	3,48 E-07	1,84 E-07	3,79 E-08	-2,87 E-06
POCP	kg ethene eq.	2,05 E-01	6,96 E-03	2,89 E-03	2,15 E-01	1,89 E-04	6,01 E-04	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	2,06 E-06	1,12 E-03	5,49 E-03	3,36 E-04	-2,98 E-02
AP	kg SO2 eq.	9,38 E-01	4,01 E-02	2,10 E-02	9,99 E-01	8,53 E-04	2,51 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	2,59 E-05	8,07 E-03	3,05 E-02	1,00 E-03	-1,87 E-01
EP	kg (PO4) 3- eq.	1,36 E-01	7,33 E-03	2,91 E-03	1,46 E-01	1,33 E-04	6,68 E-04	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	5,34 E-06	1,61 E-03	7,71 E-03	4,08 E-04	-5,54 E-02

Toxicity indicators for Dutch market

HTP	kg DCB-Eq	1,66 E+02	5,31 E+00	4,70 E+00	1,76 E+02	1,47 E-01	3,58 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,56 E-03	8,02 E-01	3,93 E+00	9,34 E-02	-1,68 E+01
FAETP	kg DCB-Eq	3,53 E+00	1,45 E-01	7,69 E-02	3,75 E+00	4,03 E-03	2,64 E-02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	4,30 E-05	2,35 E-02	2,59 E-01	1,84 E-03	-5,45 E-02
MAETP	kg DCB-Eq	6,22 E+03	5,60 E+02	2,22 E+02	7,00 E+03	1,55 E+01	1,04 E+02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,81 E-01	8,39 E+01	2,63 E+02	6,64 E+00	-1,42 E+02
TETP	kg DCB-Eq	9,42 E-01	1,84 E-02	5,30 E-02	1,01 E+00	5,19 E-04	2,96 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	7,06 E-05	2,84 E-03	4,90 E-03	3,02 E-04	7,42 E-01
ECI	euro	2,89 E+01	1,42 E+00	7,26 E-01	3,10 E+01	3,75 E-02	5,27 E-01	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,03 E-03	2,26 E-01	1,14 E+00	7,13 E-02	-3,69 E+00
ADPF	kg Sb eq.	1,26 E+00	9,08 E-02	1,98 E-02	1,37 E+00	2,55 E-03	2,93 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,04 E-04	1,38 E-02	9,19 E-03	1,76 E-03	-1,24 E-01

- ADPE = Abiotic Depletion Potential for non-fossil resources
- ADPF = Abiotic Depletion Potential for fossil resources
- GWP = Global Warming Potential
- ODP = Depletion potential of the stratospheric ozone layer
- POCP = Formation potential of tropospheric ozone photochemical oxidants
- AP = Acidification Potential of land and water
- EP = Eutrophication Potential
- HTP = Human Toxicity Potential
- FAETP = Fresh water aquatic ecotoxicity potential
- MAETP = Marine aquatic ecotoxicity potential
- TETP = Terrestrial ecotoxicity potential
- ECI = Environmental Cost Indicator
- ADPF = Abiotic Depletion Potential for fossil resources expressed in [kg Sb-eq.]

ENVIRONMENT IMPACT per functional unit or declared unit (core indicators A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
GWP-total	kg CO2 eq.	-8,87 E+01	1,25 E+01	2,98 E+01	-4,63 E+01	3,46 E-01	8,56 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,40 E-02	1,89 E+00	1,99 E+02	2,52 E+01	-1,84 E+01
GWP-fossil	kg CO2 eq.	1,52 E+02	1,25 E+01	3,08 E+00	1,68 E+02	3,46 E-01	2,36 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,40 E-02	1,89 E+00	1,10 E+01	1,70 E-01	-1,84 E+01
GWP-biogenic	kg CO2 eq.	-2,41 E+02	0,00 E+00	2,67 E+01	-2,14 E+02	0,00 E+00	6,20 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,88 E+02	2,50 E+01	0,00 E+00
GWP-luluc	kg CO2 eq.	4,52 E-01	4,34 E-03	3,77 E-03	4,60 E-01	1,27 E-04	3,18 E-04	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	4,14 E-06	6,69 E-04	6,93 E-04	7,41 E-05	3,62 E-02
ODP	kg CFC11 eq.	1,64 E-05	2,87 E-06	2,82 E-07	1,95 E-05	8,05 E-08	1,15 E-07	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	6,80 E-10	4,35 E-07	2,05 E-07	4,74 E-08	-2,85 E-06
AP	mol H+ eq.	1,24 E+00	5,17 E-02	2,62 E-02	1,32 E+00	1,04 E-03	3,30 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,28 E-05	1,08 E-02	4,45 E-02	1,32 E-03	-2,90 E-01
EP-freshwater	kg PO4 eq.	7,36 E-03	1,02 E-04	1,88 E-04	7,65 E-03	2,93 E-06	1,20 E-05	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	8,00 E-07	1,55 E-05	4,37 E-05	3,15 E-06	-2,19 E-04
EP-marine	kg N eq.	1,97 E-01	1,53 E-02	5,82 E-03	2,18 E-01	2,13 E-04	1,38 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	7,04 E-06	3,85 E-03	1,98 E-02	8,45 E-04	-8,18 E-02
EP-terrestrial	mol N eq.	3,23 E+00	1,69 E-01	6,41 E-02	3,46 E+00	2,38 E-03	1,19 E-02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	8,62 E-05	4,24 E-02	2,27 E-01	4,90 E-03	-1,35 E+00
POCP	kg NMVOC eq.	8,14 E-01	5,31 E-02	1,93 E-02	8,87 E-01	9,23 E-04	3,71 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	2,13 E-05	1,21 E-02	5,95 E-02	1,74 E-03	-2,43 E-01
ADP-minerals & metals	kg Sb eq.	4,27 E-02	3,13 E-04	3,46 E-04	4,34 E-02	9,36 E-06	7,79 E-06	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	5,66 E-08	4,89 E-05	2,41 E-05	1,63 E-06	-7,94 E-05
ADP-fossil	MJ, net calorific value	2,41 E+03	1,91 E+02	3,63 E+01	2,64 E+03	5,37 E+00	5,77 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,84 E-01	2,90 E+01	1,77 E+01	3,61 E+00	-2,07 E+02
WDP	m3 world eq. Deprived	1,04 E+02	5,90 E-01	1,59 E+00	1,06 E+02	1,67 E-02	1,65 E-01	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,41 E-03	8,90 E-02	4,77 E-01	1,55 E-01	-2,70 E+00

- GWP-total = Global Warming Potential total
- GWP-fossil = Global Warming Potential fossil fuels
- GWP-biogenic = Global Warming Potential biogenic
- GWP-luluc = Global Warming Potential land use and land use change
- ODP = Depletion potential of the stratospheric ozone layer
- AP = Acidification Potential, Accumulated Exceedence
- EP-freshwater = Eutrophication Potential, fraction of nutrients reaching freshwater end compartment
- EP-marine = Eutrophication Potential, fraction of nutrients reaching marine end compartment
- EP-terrestrial = Eutrophication Potential, Accumulated Exceedence
- POCP = Formation potential of tropospheric ozone photochemical oxidants
- ADP-minerals&metals = Abiotic Depletion Potential for non-fossil resources [2]
- ADP-fossil = Abiotic Depletion for fossil resources potential [2]
- WDP = Water (user) deprivation potential, deprivation-weighted water consumption [2]

Disclaimer [2]
 - The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

ENVIRONMENT IMPACT per functional unit or declared unit (additional indicators A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PM	Disease incidence	2,08 E-05	9,66 E-07	2,33 E-07	2,20 E-05	2,44 E-08	9,00 E-08	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,08 E-10	1,71 E-07	3,73 E-07	2,51 E-08	-3,68 E-06
IRP	kBq U235 eq.	6,47 E+00	8,36 E-01	1,12 E-01	7,42 E+00	2,35 E-02	2,27 E-02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,80 E-04	1,27 E-01	5,37 E-02	1,42 E-02	4,15 E-02
ETP -fw	CTUe	4,73 E+03	1,55 E+02	1,42 E+02	5,03 E+03	4,39 E+00	3,52 E+01	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,87 E-01	2,36 E+01	5,31 E+01	3,59 E+00	-2,85 E+03
HTP -c	CTUh	8,08 E-07	4,25 E-09	6,88 E-08	8,81 E-07	1,21 E-10	1,52 E-09	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,21 E-12	8,38 E-10	4,93 E-07	9,96 E-11	2,68 E-08
HTP -nc	CTUh	4,43 E-06	1,71 E-07	1,80 E-07	4,78 E-06	4,65 E-09	2,16 E-08	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,05 E-10	2,81 E-08	1,53 E-07	3,82 E-09	2,47 E-06
SQP	----	9,46 E+03	1,68 E+02	2,20 E+01	9,65 E+03	4,59 E+00	3,62 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,79 E-02	2,48 E+01	1,40 E+01	9,10 E+00	-6,90 E+03

- PM = Potential incidence of disease due to PM emissions
- IRP = Potential Human exposure efficiency relative to U235 [1]
- ETP -fw = Potential Comparative Toxic Unit for ecosystems [2]
- HTP -c = Potential Comparative Toxic Unit for humans [2]
- HTP -nc = Potential Comparative Toxic Unit for humans, non-cancer [2]
- SQP = Potential soil quality index [2]

Disclaimer [1]

- This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste.

Disclaimer [2]

- The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit (A1 / A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
HWD	kg	1,02 E-02	4,87 E-04	8,29 E-04	1,15 E-02	1,38 E-05	1,22 E-05	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,42 E-07	7,42 E-05	9,81 E-05	5,56 E-06	-1,30 E-03
NHWD	kg	2,99 E+01	1,23 E+01	3,22 E+00	4,54 E+01	3,32 E-01	3,37 E-01	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	5,42 E-04	1,80 E+00	1,37 E+00	1,47 E+01	-3,74 E+00
RWD	kg	7,05 E-03	1,30 E-03	1,12 E-04	8,47 E-03	3,65 E-05	2,92 E-05	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,81 E-07	1,97 E-04	6,45 E-05	2,15 E-05	-3,28 E-04
CRU	kg	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
MFR	kg	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,79 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,01 E+01	0,00 E+00	0,00 E+00
MER	kg	0,00 E+00	0,00 E+00	1,57 E+01	1,57 E+01	0,00 E+00	1,82 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,30 E+00	0,00 E+00	0,00 E+00
EEE	MJ	0,00 E+00	0,00 E+00	4,02 E+01	4,02 E+01	0,00 E+00	6,96 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	3,35 E+02	0,00 E+00	0,00 E+00
ETE	MJ	0,00 E+00	0,00 E+00	6,92 E+01	6,92 E+01	0,00 E+00	1,20 E+01	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	5,77 E+02	0,00 E+00	0,00 E+00

- HWD = Hazardous Waste Disposed
- NHWD = Non Hazardous Waste Disposed
- RWD = Radioactive Waste Disposed
- CRU = Components for reuse
- MFR = Materials for recycling
- MER = Materials for energy recovery
- EEE = Exported Electrical Energy
- ETE = Exported Thermal Energy

RESOURCE USE per functional unit or declared unit (A1 / A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
PERE	MJ	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
PERM	MJ	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
PERT	MJ	4,64 E+03	2,72 E+00	2,84 E+02	4,93 E+03	7,87 E-02	3,03 E-01	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,98 E-02	4,16 E-01	1,16 E+00	6,28 E-02	-2,41 E+02
PENRE	MJ	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
PENRM	MJ	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
PENRT	MJ	2,58 E+03	2,03 E+02	3,87 E+01	2,82 E+03	5,70 E+00	6,14 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,97 E-01	3,08 E+01	1,90 E+01	3,84 E+00	-2,22 E+02
SM	kg	1,09 E+02	0,00 E+00	0,00 E+00	1,09 E+02	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
RSF	MJ	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
NRSF	MJ	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00
FW	m3	2,80 E+00	2,17 E-02	5,88 E-02	2,88 E+00	6,17 E-04	5,38 E-03	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	0,00 E+00	1,13 E-04	3,28 E-03	6,49 E-02	3,78 E-03	-3,42 E-02

- PERE = Use of renewable energy excluding renewable primary energy resources
- PERM = Use of renewable energy resources used as raw materials
- PERT = Total use of renewable primary energy resources
- PENRE = Use of non-renewable primary energy resources excluding non-renewable 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 materials
- RSF = Use of renewable secondary fuels
- NRSF = Use of non-renewable secondary fuels
- FW = Use of net fresh water

BIOGENIC CARBON CONTENT per functional unit or declared unit (A1 / A2)

	Unit	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
BCCpr	Kg C	6,41 E+01	0,00 E+00	0,00 E+00	6,41 E+01	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00
BCCpa	kg C	1,69 E+00	0,00 E+00	0,00 E+00	1,69 E+00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00	0E +00

- BCCpr = Biogenic carbon content in product
- BCCpa = Biogenic carbon content in packaging

CALCULATION RULES

Methodological decisions for metal-iron-steel components:

Materials >1% cut-off criteria

The following two materials surpass the 1% cut-off criteria for a specific unit process:

- Carcass rail for drawer (rompgeleider voor lade)
- Drawer profile (lazij)

The technical product information has been requested from the manufacturers and the components have been modeled based on the technical product information that was provided by the manufacturers.

Materials <1% cut-off criteria

The cumulative mass contribution of the distinct materials amounts to 2,90%, which falls below the 5% threshold for cumulative input flows. These 15 materials contribute 4,49 kg out of a total of 10,76 kg. From this 4,49 kg, technical product information was requested for a minimum of 80% by mass to determine an average steel type for the Metal-Iron-Steel components. Based on this average it shows that the main steel type is unalloyed steel. This is worst-case modeled being galvanized unalloyed steel.

Note: According to the Dutch Norm NMD Bepalingsmethode v1.1, the variation due to averaging when establishing a group average should be examined in a sensitivity analysis to verify the robustness of the LCA results. A sensitivity analysis must be performed for the key choices and assumptions made in the LCA, using the highest and lowest values in the sensitivity analysis. Outliers may be removed from the data set if necessary; the variation should be less than 20%. A sensitivity analysis was performed and shows a deviation of 13%, which falls within the accepted range of the Dutch Norm NMD Bepalingsmethode v1.1.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

A1. Raw materials supply

This module considers the extraction and processing of all raw materials and energy which occur upstream to the DKG Groep manufacturing process.

A2. Transport of raw materials to manufacturer

This includes the transport distance of the raw materials to the manufacturing facility via road, boat and/or train.

A3. Manufacturing

This module covers the manufacturing process of DKG Groep and includes all processes linked to production such as sawing, cutting, packing, as well as waste processing of production waste up to the end-of-waste state. Use of electricity and fuels production are considered. Packaging-related flows in the production process are included in the manufacturing module. The manufacturing process takes place at one production site.

A4. Transport to customers/ building site

An external transportation company is responsible for the transportation logistics. All trucks adhere to the Euro 6 standard. The choice of truck size depends on the transport location, with commonly used options being city trailers, box trucks, and extended transports via hubs (LEV). The average transportation distance was calculated based on data that is collected by DKG Groep.

A5. Construction and installation process

This module includes installation and the transport and processing of packaging waste up to the end-of-waste state. The installation requires only (electric) hand tools. The total energy consumption of the electric hand tools was approximated.

B1-5. Use phase

The use phase is declared 0 as there are no relevant impacts expected related to use, maintenance and repair.

C1. De-construction demolition

After its functional life, the B2B Standard Kitchen Set-up 780B is de-installed. The de-installation requires only (electric) hand tools. The total energy consumption of the electric hand tools was approximated.

C2. Transport to waste treatment

This module includes transport to the recycling facility. Considering the product is applied in buildings throughout the country, average transport distances of 50, 100 and 150 km are used for recycling, incineration and landfill respectively.

C3. Waste processing

In the end-of-life phase the product can be recycled, incinerated or send to landfill. The forfeiture End-of-Life scenario's of the NMD [5] were applied. The impacts related to material recovery are declared in module C3.

C4. Waste Disposal

In the end-of-life phase the product can be recycled, incinerated or send to landfill. The forfeiture End-of-Life scenario's of the NMD [5] were applied. The impacts related to waste disposal are declared in module C4.

D. Benefits and loads beyond the system boundaries

Avoided production of material due to recycling as well as avoided electricity and heat production from incineration are included in this module. For the material that is incinerated the average efficiency of waste incineration plants in the Netherlands is used i.e. 18% electricity and 31% heat. For the avoided energy consumption energy form biomass and fossil resources are distinguished.



DECLARATION OF SVHC

None of the substances contained in the product are listed in the "Candidate List of Substances of Very High Concern for authorisation", or they do not exceed the threshold with the European Chemicals Agency.



REFERENCES

- [1] ISO 14040: Environmental management - Life cycle assessment – Principles and Framework', International Organization for Standardization, ISO14040:2006.
- [2] ISO 14044: Environmental management - Life cycle assessment - Requirements and guidelines', International Organization for Standardization, ISO14044:2006.
- [3] ISO 14025: Environmental labels and declarations -- Type III environmental declarations -- Principles and procedures', International Organization for Standardization, ISO14025:2006.
- [4] NEN-EN 15804: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products', NEN-EN 15804:2012+A2:2019.
- [5] SBK Bepalingsmethode Milieuprestatie Gebouwen en GWW werken', Stichting Bouwkwiteit, versie 1.1, maart 2022.
- [6] PRN-systeem, feiten en cijfers. Hoe hoog was het Europese recyclingspercentage?, 2022, retrieved from: <https://prn.nl/prn-en-het-prn-systeem/feiten-en-cijfers/>
- [7] Ecochain, 2024, web: <https://mobius.ecochain.com/>.
- [8] Phyllis database: <http://phyllis.nl/phyllis.nl>



REMARKS

None.