ENVIRONMENTAL PRODUCT DECLARATION

as per *ISO 14025* and *EN 15804+A2*

Owner of the Declaration	Evonik Operations GmbH - Smart Effects
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-EVO-20250500-IBA1-EN
Issue date	14.10.2025
Valid to	13.10.2030

Protectosil® CIT

Evonik Operations GmbH

Institut Bauen und Umwelt e.V.

ECO PLATFORM EPD VERIFIED

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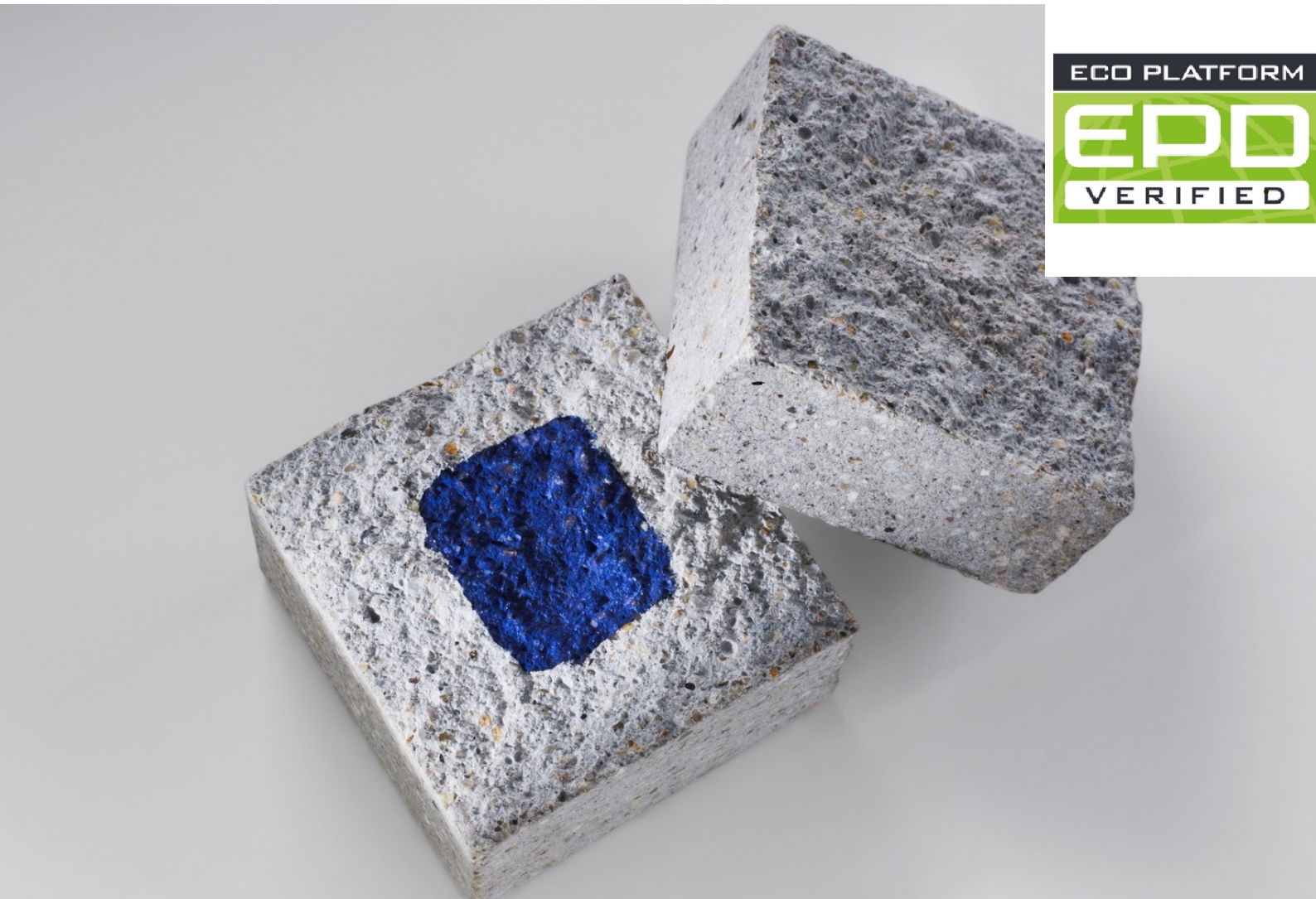

1. General Information

Evonik Operations GmbH

Programme holder

IBU – Institut Bauen und Umwelt e.V.
Hegelplatz 1
10117 Berlin
Germany

Declaration number

EPD-EVO-20250500-IBA1-EN

This declaration is based on the product category rules:

Coatings with organic binders, 01.08.2021
(PCR checked and approved by the SVR)

Issue date

14.10.2025

Valid to

13.10.2030

Dipl.-Ing. Hans Peters
(Chairman of Institut Bauen und Umwelt e.V.)

Florian Pronold
(Managing Director Institut Bauen und Umwelt e.V.)

Protectosil® CIT

Owner of the declaration

Evonik Operations GmbH - Smart Effects
Rodenbacher Chaussee 4
63457 Hanau
Germany

Declared product / declared unit

Protectosil® CIT, 1 kg, packaged, at plant gate

Scope:

This EPD covers 100 % of the manufacture of Protectosil® CIT, produced at the Evonik plant in Rheinfelden, Germany. The life cycle assessment is based on production data from 2024.
The owner of the declaration shall be liable for the underlying information and evidence; the IBU shall not be liable with respect to manufacturer information, life cycle assessment data and evidences.

The EPD was created according to the specifications of EN 15804+A2. In the following, the standard will be simplified as *EN 15804*.

Verification

The standard EN 15804 serves as the core PCR
Independent verification of the declaration and data according to ISO 14025:2011
☐ internally ☒ externally

Mr Stephen Forson ,
(Independent verifier)

2. Product

2.1 Product description/Product definition

Protectosil® CIT is a liquid corrosion inhibitor for steel reinforced concrete based on an organofunctional silane formulation which reduces water uptake and chloride induced corrosion. It also prevents the ingress of chlorides.

Protectosil® CIT equalizes the differences in electrochemical potential between polymer concrete and existing concrete when applied to concrete structures repaired with polymer concrete.

For the placing on the market of the product in the European Union/European Free Trade Association (EU/EFTA) (with the exception of Switzerland) *Regulation (EU) No. 305/2011 (CPR)* applies. The product needs a declaration of performance taking into consideration *EN 1504-2:2004, Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete* and the CE-marking.

For the application and use the respective national provisions apply.

2.2 Application

Protectosil® CIT can be applied for every type of steel reinforced concrete in

- old construction, maintenance, and renovation
- chloride-contaminated or carbonated concrete,
- marine environments with high relative humidity and areas where deicing salts are used such as jetties, piers, parking decks, walkways, bridge decks, beams, columns.

Protectosil® CIT is mainly applied in exterior surface application by airless spray coating and should be applied in several consecutive coats.

2.3 Technical Data

Protectosil® CIT is a low viscous, colorless to slightly amber liquid. Its technical data, relevant for application, is given in the following table

Constructional data of Protectosil® CIT

Name	Value	Unit
Density	0.882	kg/m^3
Active content	100	%
pH value	5	$-\log_{10}(a_{H+})$
Boiling Point	186	°C
Dynamic viscosity (@20°C) acc. to DIN 53019	0.95	mPa.s
Refractive Index acc. to DIN 51423	1.40	-

Performance data of the product in accordance with the declaration of performance with respect to its essential characteristics according to *EN 1504-2:2004, Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems*

2.4 Delivery status

Protectosil® CIT is a liquid supplied in 28 L, 205 L as well as 1.000 L containers.

2.5 Base materials/Ancillary materials

Protectosil® CIT consists of > 20 % silicon compound, < 3 % 2-diethylaminoethanol, and minor amounts of additives (< 1 % in total).

This product contains substances listed in the *ECHA* candidate list (date: 25.06.2025) exceeding 0.1 percentage by mass: no.

The safety datasheet (*SDS2025*) of the product, as well as other technical information, is available under https://www.world-of-protectosil.com/

This product contains other Carcinogenic, mutagenic, reprotoxic (CMR) substances in categories 1A or 1B, which are not on the *ECHA* candidate list, exceeding 0.1 percentage by mass: no

Biocide products were added to this construction product, or it has been treated with biocide products (this then concerns a treated product as defined by the *(EU) Ordinance on Biocide Products No. 528/2012*): no

2.6 Manufacture

The manufacturing process of Protectosil® CIT is a multi-step synthesis starting from silicon metal followed by mixing with the additional ingredients. The silicon metal as well as the additional ingredients are purchased externally.

2.7 Environment and health during manufacturing

Operations at the Evonik plant Rheinfelden are subject to the *German regulations on health and safety at work (BetrSichV)* and meet the requirements of the *Federal Immission Control Act (BImschG)*. The Evonik plant in Rheinfelden is certified acc. to *ISO 9001, ISO 14001, and ISO 50001.*

The unreacted product may have harmful effects on water organisms. Therefore, direct contact with natural water bodies should be avoided.

2.8 Product processing/Installation

Protectosil® CIT is applied via low-pressure spraying, *e.g.*, with a pressure sprayer which may also be used for gardening applications (*Glo2025*). During application, personal protective equipment is recommended, *e.g.*, safety glasses, gloves, and respiratory protection. Further details can be found in the safety datasheet. (*SDS2024*)

2.9 Packaging

Protectosil® CIT is supplied in polyethylene containers (cans, IBC) or steel drums. The container considered exemplarily in this EPD is an IBC container made from polyethylene.

2.10 Condition of use

Protectosil® CIT bonds chemically to the concrete surface and is not expected to change its composition or degrade while exposed to ambient air.

2.11 Environment and health during use

Protectosil® CIT is intended for outdoor use only. Therefore, no VOC emission test is legally required. However, an exemplary VOC emission test of the main component showed no detectable VOC emissions.

2.12 Reference service life

No reference service life according to *ISO 15686:1, -2, -7 and -8* was determined. However, the Protectosil® CIT is coated onto

a concrete surface used in exterior applications. The *BBSR* table *"Service lifes of components for life cycle assessment according to BNB"* (www.nachhaltigesbauen.de/baustoff-und-gebaeudedaten/nutzungsdauern-von-bauteilen.html) suggests a service life of exterior concrete structures of ≥ 50 years. Protectosil® CIT is applied to extend the standard service life of concrete structures. There are no influences on the ageing of the product when applied in accordance with the rules of technology.

2.13 Extraordinary effects

Fire

Protectosil® CIT is classified as a product type EN 1504-2: ZA.1a (surface protection products – hydrophobic impregnation, intended uses: ingress protection, moisture control, increasing resistivity). (*DoP*) This product type does not require a declaration of its reaction to fire performance.

Water

Protectosil® CIT is specifically designed as durable coating to protect concrete structures against the ingress of water. The applied product reacts with water to protect its substrate.

Mechanical destruction

Treatment with Protectosil® CIT needs to be refreshed if concrete surfaces are ablated.

2.14 Re-use phase

Re-use

As Protectosil® CIT is non-separable from its concrete substrate, re-use of this product is impossible.

Recycling

Due to its inseparable application on concrete structures, Protectosil® CIT is only recyclable with the concrete substructure, *e.g.*, as filling material. However, Protectosil® CIT itself is not recyclable.

Energy recovery

Product residues of Protectosil® CIT, *e.g.*, from application, may be used for energy recovery if collected separately (segregated from non-combustible waste types).

2.15 Disposal

Disposal needs to follow local regulations, e.g. disposal in suitable waste incineration plants. No waste key number as per the *European Waste Types List* can be assigned to this product, since such classification is based on the (as yet undetermined) use to which the product is put by the consumer. The waste key number must be determined as per the *European Waste Types List (decision on EU Waste Types List 2000/532/EC)* in cooperation with the disposal firm / producing firm / official authority.

2.16 Further information

Further information, *e.g.*, safety data sheet, technical data sheet, can be found on our website https://www.world-of-protectosil.com/

3. LCA: Calculation rules

3.1 Declared Unit

The declared unit is 1 kg of Protectosil® CIT, packaged, at plant gate (packaging not included in 1 kg).

Declared unit and mass reference

Name	Value	Unit
Gross density (mean value)	0.882	kg/m^3
Declared unit	1	kg

3.2 System boundary

Type of the EPD: cradle to gate - with options, modules C1–C4, and module D (A1–A3 + C + D, additional modules: A4, A5)

This EPD includes the following life cycle stages:
- provision of raw materials and transport to the plant Rheinfelden, production of coating (A1-A3), including steam generation, energy consumption, provision of product packaging
- transport to construction site (A4)
- application at construction site (A5), including electricity consumption of application equipment, incineration of product packaging and cleaning material,
- disassembly (C1), including fuel consumption of the excavation equipment
- transport to landfill (C2)
- landfilling (C4)
- benefits from incineration processes in A5 in module D

3.3 Estimates and assumptions

Electricity: In A1-A3 a site-specific electricity mix is modelled; electricity consumption beyond the plant gate (A5, C1) is modelled using the electricity grid mix for Europe.

Application: Application is recommended with low-pressure spraying or even flooding, pressure build-up is assumed with electricity consumption (can also be done manually), assumed product loss as residue in pumping equipment: 1/100th of the pump's filling capacity, cleaning of pumping equipment with ethanol.

End of life: disassembly of concrete structure with excavators, landfilling of coating

3.4 Cut-off criteria

Cut-off rules as required by EN 15804+A2 are respected. The details are given in the background report. The environmental impacts imposed by these cut-offs are considered negligable. In total, the cut off materials and processes are less than 5 % of the mass and energy flows in the modules (A1-A3).

3.5 Background data

The LCA is modelled with Sphera's LCA for Experts (version 10.9.1.17) (*SPH2025-a*) using mainly background data from the corresponding background database MLC content version 2025.1 (*SPH2025-b*). For processes and materials, where no direct match is available, data from literature or expert judgements are applied. Only some minor materials were matched with background data from Ecoinvent version 3.11 (*ECO2025*).

3.6 Data quality

All datasets used from the background databases have been updated in the last 10 years (> 95 % of datasets no older than 5 years). With respect to technological, geographic and time representativeness, the overall data quality is evaluated to be 'satisfactory'.

Foreground data are related to production data from plant Rheinfelden for the reference year 2024.

3.7 Period under review

Production data related to raw material were collected for production year 2024.

3.8 Geographic Representativeness

Land or region, in which the declared product system is manufactured, used or handled at the end of the product´s lifespan: Global

3.9 Allocation

Water and energy consumption, as well as waste and wastewater generation, are monitored on an annual basis and allocated to the specific products based on annual product amounts. Co-product allocation is avoided by using bills of materials for product-specific mass flows. Process waste is landfilled or incinerated in A3. For incineration of production waste outside the plant gates or external utilization of the recovered energy from production waste, no credits are considered. Therefore, benefits and loads in module D result exclusively from incineration processes in module A5.

3.10 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to *EN 15804* and the building context, respectively the product-specific characteristics of performance, are taken into account. Used background databases: Sphera MLC version 2025.1, Ecoinvent v3.11

4. LCA: Scenarios and additional technical information

Characteristic product properties of biogenic carbon

Information on describing the biogenic carbon content at factory gate

Name	Value	Unit
Biogenic carbon content in product	0.16	kg C
Biogenic carbon content in accompanying packaging	-	kg C

Note: 1 kg of biogenic carbon is equivalent to 44/12 kg of CO_2.

Transport to the construction site (A4)

Transportation over 500 km by truck was assumed for the transportation of the products to the building site. This is no actual transport distances since transport distance can only be considered at the building level.

Name	Value	Unit
Litres of fuel	0.003	l/100km
Transport distance	500	km
Capacity utilisation (including empty runs)	0.61	%
Gross density of products transported	0.882	kg/m^3
Capacity utilisation volume factor	-	-

Installation into the building or the civil engineering works (A5)

Application via low-pressure pumping, assuming electricity consumption, consideration of product loss as well as cleaning of pump with ethanol. Product packaging, cleaning agent and product loss (residual fill) is assumed to be incinerated. Energy recovery is declared in module D.

Name	Value	Unit
Water consumption	-	m^3
Other resources	0.2	kg
Electricity consumption	0.027	kWh
Material loss	0.01	kg
Product packaging for waste treatment	0.063	kg

Use phase (B1-B7): Excluded since no environmental impacts/benefits are expected.

Reference service life: Life Span (according to *BBSR*) ≥ 50 years (concrete structures coated with product)

End of life (C1-C4)

Name	Value	Unit
Collected as mixed construction waste	1	kg
Landfilling	1	kg

Reuse, recovery and/or recycling potentials (D), relevant scenario information: Energy recovered from incineration processes in A5.

5. LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE OR INDICATOR NOT DECLARED; MNR = MODULE NOT RELEVANT)

Product stage			Construction process stage		Use stage							End of life stage				Benefits and loads beyond the system boundaries
Raw material supply	Transport	Manufacturing	Transport from the gate to the 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	MND	MND	MNR	MNR	MNR	MND	MND	X	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT according to EN 15804+A2: 1 kg Protectosil® CIT incl. packaging at plant gate Evonik

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO_2 eq	3.79E+00	4.8E-02	1.18E+00	1.24E-02	9.02E-03	0	1.67E+00	-2.55E-01
GWP-fossil	kg CO_2 eq	4.31E+00	4.74E-02	1.18E+00	1.22E-02	8.91E-03	0	1.22E-01	-2.54E-01
GWP-biogenic	kg CO_2 eq	-5.29E-01	8.96E-05	2.23E-03	7.91E-05	1.69E-05	0	5.95E-01	0
GWP-luluc	kg CO_2 eq	8.11E-03	4.95E-04	9.26E-05	1.28E-04	9.32E-05	0	7.62E-05	-3.06E-04
ODP	kg CFC11 eq	2.78E-11	9.34E-15	7.09E-13	2.06E-15	1.76E-15	0	1.09E-13	-2.09E-12
AP	mol H^+ eq	1.72E-02	8.15E-05	8.73E-04	1.37E-05	1.53E-05	0	2.92E-04	-2.77E-04
EP-freshwater	kg P eq	3.11E-05	1.3E-07	7.7E-07	3.35E-08	2.45E-08	0	2.24E-05	-2.04E-07
EP-marine	kg N eq	4.39E-03	3.35E-05	3.09E-04	4.87E-06	6.31E-06	0	2.69E-04	-8.25E-05
EP-terrestrial	mol N eq	4.74E-02	3.53E-04	3.58E-03	4.91E-05	6.63E-05	0	1.1E-03	-9.21E-04
POCP	kg NMVOC eq	1.18E-02	7.22E-05	1.02E-03	1.19E-05	1.36E-05	0	6.44E-04	-2.27E-04
ADPE	kg Sb eq	1.33E-05	3.22E-09	3.2E-08	8.26E-10	6.05E-10	0	2.31E-09	-2.27E-08
ADPF	MJ	7.96E+01	6.23E-01	1.29E+01	1.59E-01	1.17E-01	0	7.63E-01	-4.43E+00
WDP	m^3 world eq deprived	9.51E-02	2.41E-04	6.88E-02	5.68E-05	4.54E-05	0	4.42E-03	-2.31E-02

GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources; WDP = Water (user) deprivation potential)

RESULTS OF THE LCA - INDICATORS TO DESCRIBE RESOURCE USE according to EN 15804+A2: 1 kg Protectosil® CIT incl. packaging at plant gate Evonik

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	2.3E+01	4.71E-02	3.58E-01	1.2E-02	8.87E-03	0	8.63E-02	-1.28E+00
PERM	MJ	8.38E+00	0	0	0	0	0	0	0
PERT	MJ	3.14E+01	4.71E-02	3.58E-01	1.2E-02	8.87E-03	0	8.63E-02	-1.28E+00
PENRE	MJ	5.61E+01	6.23E-01	1.54E+01	1.59E-01	1.17E-01	0	7.63E-01	-4.43E+00
PENRM	MJ	2.36E+01	0	-2.53E+00	0	0	0	0	0
PENRT	MJ	7.96E+01	6.23E-01	1.29E+01	1.59E-01	1.17E-01	0	7.63E-01	-4.43E+00
SM	kg	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FW	m^3	3.32E-02	2.42E-05	2.72E-03	5.93E-06	4.55E-06	0	1.27E-04	-9.96E-04

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 = Use of net fresh water

RESULTS OF THE LCA – WASTE CATEGORIES AND OUTPUT FLOWS according to EN 15804+A2: 1 kg Protectosil® CIT incl. packaging at plant gate Evonik

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	1.9E-08	2.63E-11	1.04E-09	6.39E-12	4.95E-12	0	1.26E-10	-2.48E-09
NHWD	kg	4.31E-01	8.84E-05	6.87E-03	2.22E-05	1.66E-05	0	7.71E-01	-2.08E-03
RWD	kg	9.45E-04	1.22E-06	5.32E-05	3E-07	2.3E-07	0	9.79E-06	-2.95E-04
CRU	kg	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0
EEE	MJ	2.15E-03	0	1.04E+00	0	0	0	0	0
EET	MJ	5.1E-03	0	2.32E+00	0	0	0	0	0

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

RESULTS OF THE LCA – additional impact categories according to EN 15804+A2-optional: 1 kg Protectosil® CIT incl. packaging at plant gate Evonik

Parameter	Unit	A1-A3	A4	A5	C1	C2	C3	C4	D
PM	Disease incidence	1.49E-07	8.21E-10	5.44E-09	1.46E-10	1.55E-10	0	2.93E-09	-2.25E-09
IR	kBq U235 eq	1.05E-01	1.73E-04	7.07E-03	4.31E-05	3.26E-05	0	1.45E-03	-4.86E-02
ETP-fw	CTUe	5.09E+01	8.04E-01	5.87E+00	2.07E-01	1.51E-01	0	1.12E+00	-3.53E-01
HTP-c	CTUh	1.36E-09	1.09E-11	1.05E-10	2.79E-12	2.04E-12	0	1.86E-11	-4.27E-11
HTP-nc	CTUh	7.45E-08	6.08E-10	2.11E-09	1.56E-10	1.14E-10	0	1.54E-09	-6.71E-10
SQP	SQP	1.09E+02	2.73E-01	2.41E-01	7.04E-02	5.14E-02	0	7.63E-02	-7.5E-01

PM = Potential incidence of disease due to PM emissions; IR = Potential Human exposure efficiency relative to U235; ETP-fw = Potential comparative Toxic Unit for ecosystems; HTP-c = Potential comparative Toxic Unit for humans (cancerogenic); HTP-nc = Potential comparative Toxic Unit for humans (not cancerogenic); SQP = Potential soil quality index

Disclaimer 1 – for the indicator “Potential Human exposure efficiency relative to U235”. 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 or radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, radon and from some construction materials is also not measured by this indicator.

Disclaimer 2 – for the indicators “abiotic depletion potential for non-fossil resources”, “abiotic depletion potential for fossil resources”, “water (user) deprivation potential, deprivation-weighted water consumption”, “potential comparative toxic unit for ecosystems”, “potential comparative toxic unit for humans – cancerogenic”, “Potential comparative toxic unit for humans - not cancerogenic”, “potential soil quality index”. The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high as there is limited experience with the indicator.

6. LCA: Interpretation

The highest environmental impacts result from the product stage. Modules A1-A3 contribute 57 % at minimum to the overall environmental of Protectosil® CIT with the only exception of non-hazardous waste disposed (NHWD) due to landfilling in C4 (32 % in A1-A3, 64 % in C4).

Within the product stage, the main contribution to the environmental impacts result from the main component which is produced in a multi-step process in the Evonik plant Rheinfelden (> 90 %, except PENRM 86 %, RWD 88 %, IR 84 %). The second highest contributor is the IBC packaging with contributions of 4 to 15 % in GWP-total, GWP-fossil, ADPF, WDP, PENRE, PENRT, RWD, IR, ETP-fw, HTP-c. 2-diethanolamine contributes at most 2,5 % in impact category PENRM to the environmental impacts of the product stage A1-A3.

7. Requisite evidence

7.1 VOC emissions

Protectosil® CIT is exclusively used in outdoor applications. Therefore, no VOC emission testing is required.

7.2 Leaching

Protectosil® CIT undergoes a chemical reaction when applied on concrete surfaces. Therefore, no leaching is expected.

7.3 Fire gas toxicity

The concentration of residual chloride in Protectosil® CIT is < 20 ppm. However, standard procedures for chemical fires are recommended (*SDS2025*).

8. References

Standards

DIN 51423
DIN 51423-1:2010-02 Testing of mineral oils - Part 1: Measurement of the relative refractive index with the precision refractometer

DIN 53019
DIN 53019-1:2008-09 Viscometry - Measurement of viscosities and flow curves by means of rotational viscometers - Part 1: Principles and measuring geometry

EN 1504-2
EN 1504-2:2004 Products and systems for the protection and repair of concrete structures - Definitions, requirements, quality control and evaluation of conformity - Part 2: Surface protection systems for concrete

EN 15804+A2
EN 15804:2012+A2:2019 + AC:2021 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products

ISO 9001
ISO 9001:2015-09 Quality management systems - Requirements

ISO 14001
ISO 14001:2015-09 Environmental management systems - Requirements with guidance for use

ISO 15686
ISO 15686-1:2011-05 Buildings and constructed assets - Service life planning - Part 1: General principles and framework

ISO 50001
ISO 50001:2018-08 Energy management systems - Requirements with guidance for use

Regulations

BetrSichV
Verordnung über Sicherheit und Gesundheitsschutz bei der Verwendung von Arbeitsmitteln (Betriebssicherheitsverordnung - BetrSichV) (engl. Ordinance on Industrial Safety and Health)

BImschG
Gesetz zum Schutz vor schädlichen Umwelteinwirkungen durch Luftverunreinigungen, Geräusche, Erschütterungen und ähnliche Vorgänge (Bundes-Immissionsschutzgesetz - BImSchG) (engl. Federal Immission Control Act)

CPR
Regulation (EU) No. 305/2011 of the European Parliament and of the Council of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC Text with EEA relevance

EU Waste Types List 2000/532/EC
COMMISSION DECISION of 3 May 2000 replacing Decision 94/3/EC establishing a list of wastes pursuant to Article 1(a) of Council Directive 75/442/EEC on waste and Council Decision 94/904/EC establishing a list of hazardous waste pursuant to Article 1(4) of Council Directive 91/689/EEC on hazardous waste

Ordinance on Biocide Products No. 528/2012
REGULATION (EU) No 528/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2012 concerning the making available on the market and use of biocidal products

Further References

BBSR
table "Service lives of components for life cycle assessment according to BNB"
http://www.nachhaltigesbauen.de/baustoffund-gebaeudedaten/nutzungsdauern-von-bauteilen.html, published 2017, last accessed 2025-06-30

ECHA
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