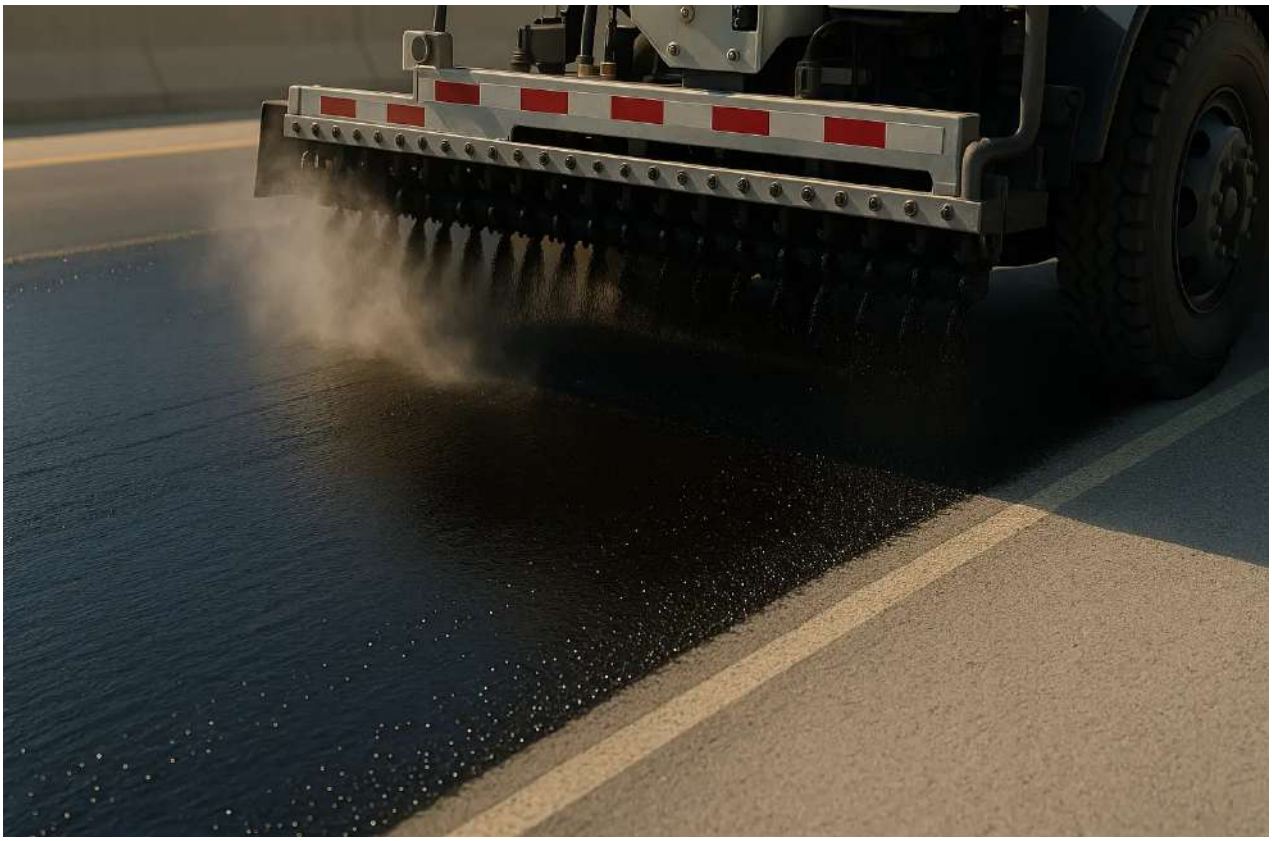
ENVIRONMENTAL PRODUCT DECLARATION

IN ACCORDANCE WITH EN 15804+A2 & ISO 14025



Product name:
Cationic bituminous emulsions

Producer:

Olan Południe Sp. z o.o.

Issued on 23 May 2025
Valid until 23 May 2030

GENERAL INFORMATION

EPD OWNER

Manufacturer / EPD Holder	Olan Południe Sp. z o.o.
Address	ul. Szkolna 6, 33-200 Dąbrowa Tarnowska Poland
Contact details	Sławomir Słowik slawomir.slowik@olanpoludnie.pl
Website	https://www.olanpoludnie.pl/

PRODUCT IDENTIFICATION

Product name	Cationic bituminous emulsions
Place(s) of production	Wola Baranowska, Głogów, Łapy, and Ogorzelice , Poland

EPD INFORMATION

EPD Poland program operator	Multicert Sp. z o.o. Ul. Mydlarska 47, 04-690 Warszawa, Poland www.epd.org.pl, epd@epd.org.pl
EPD standards	This EPD is in accordance with EN 15804+A2 and ISO 14025 standards.
Product category rules	The CEN standard EN 15804+A2 serves as the core PCR.
EPD verification	Independent verification of this EPD and data, according to ISO 14025: ☐ Internal certification ☒ External verification
EPD verifier	Izabela Sztamberek Sochan, Ph.D.
EPD number	EPD-P 02.05.2025
Registration:	EPD Polska www.epd.org.pl
Publishing date	23 May 2025
EPD valid until	23 May 2030
Reasons for performing LCA	B2B
Accountability	The EPD Holder is responsible for the information provided and evidence. Multicert Sp. z o.o. does not hold responsibility for the manufacturer information, life cycle assessment data nor supporting evidence.

EPDs of construction products may not be comparable if they do not comply with EN 15804 and if they are not compared in a building context.

COMPANY INFORMATION

HOLDER OF THE EPD

Olan Południe Sp. z o.o.
ul. Szkolna 6, 33-200
Dąbrowa Tarnowska, Poland

COMPANY PROFILE

OLAN Południe Sp. z o.o. is a Polish company specializing in the production and sale of cationic bituminous emulsions for use primarily in road construction. With four modern Emulsion Production Plants located in Wola Baranowska (Podkarpackie), Głogów (Dolnośląskie), Łapy (Podlaskie), and Ogorzelice/Stare Proboszczewice (Mazowieckie), the company offers a wide range of emulsions meeting the requirements of the PN-EN 13808 standard.

OLAN stands out in the Polish market thanks to its consistent product quality, ensured through an experienced engineering and technical team, in-house laboratory control at each production site, and a certified Factory Production Control (FPC) system. The company also provides tack coat spraying services using its own fleet of professional distributors.

OLAN's products are developed to meet the technological needs of modern road construction, offering solutions for interlayer bonding, surface dressing, patch repair, cold mix applications, and recycling. Thanks to its comprehensive offer and technical expertise, OLAN is a trusted partner for road construction and maintenance projects of varying scales and complexities.

PRODUCT INFORMATION

PRODUCT DESCRIPTION

Cationic bituminous emulsions are water-based dispersions of bitumen stabilized with emulsifiers that impart a positive electrical charge to the bitumen droplets. These products are widely used as binders in road construction and maintenance, thanks to their versatility and effective adhesion to mineral surfaces. The emulsions differ primarily in their bitumen content and the presence or absence of polymer modification, which allows them to be tailored to specific functional and performance requirements.

OLAN's emulsions are manufactured under strict quality control procedures and comply with all technical and safety standards set by PN-EN 13808. The company also provides its customers with technical expertise and practical support in product application.

This Environmental Product Declaration (EPD) covers cationic emulsions produced by OLAN with bitumen contents of minimum 40%, avrage 60%, maximum 69%, each intended for different road engineering uses. Emulsions with lower binder content are commonly used as tack coats for bonding asphalt layers, while higher content formulations are suitable e.g. for surface dressing, chip sealing, and cold-applied mixtures.

PRODUCT APPLICATION

Emulsions with low binder content (e.g. 40%) are primarily used for preventive maintenance treatments such as dust control, surface enrichment, and light surface sealing on low-traffic roads, shoulders, or unpaved surfaces. Due to their lower asphalt concentration, these emulsions penetrate porous surfaces more effectively, binding fine particles and improving surface cohesion. They are also suitable for priming granular bases prior to paving, promoting better adhesion of subsequent asphalt layers.

Emulsions with e.g. 60% binder content are used for tack coats (interlayer bonding), cold mix production, in-place recycling, and slurry seals. Modified types (e.g., with SBR polymers) offer improved elasticity and adhesion, making them suitable for roads with higher traffic loads.

Emulsions with high binder content (e.g. 65%, 69%) are applied in surface dressing and structural reinforcement of asphalt pavements. Their elevated binder concentration ensures enhanced resistance to water and weathering, providing effective sealing and long-term durability, even under heavy traffic conditions. Modified types (e.g., with SBR polymers) offer improved elasticity and adhesion, making them suitable for roads with higher traffic loads.

PRODUCT STANDARDS

The product complies with:

PN-EN 13808 – "Bitumen and bituminous binders – Framework for specifying cationic bituminous emulsions"

ADDITIONAL TECHNICAL INFORMATION

Further information can be found at https://www.olanpoludnie.pl/

PRODUCT RAW MATERIAL COMPOSITION

The product consists of petroleum-based bitumen dispersed in water using surfactants (emulsifiers). Depending on application requirements, the bitumen content is adjusted min. 40%, avr.60%, max. 69% by weight. The remaining portion includes water as the dispersion medium, along with functional additives—mainly emulsifiers, stabilizers, and pH adjusters—whose total combined content does not exceed 1% of the product mass.

SUBSTANCES, REACH - VERY HIGH CONCERN

The product does not contain any REACH SVHC substances in amounts greater than 0.1% (1000 ppm).

PRODUCT LIFE-CYCLE

RAW MATERIALS ACQUISITION TRANSPORT (A1, A2)

Modules A1 and A2 cover the supply and transportation of raw materials used in the production of bitumen emulsions. This includes the extraction, refining, and processing of petroleum-based bitumen and water used as the dispersion medium. Bitumen is sourced from European suppliers. Transport to the production site is carried out by road (truck), and average Polish and European data on fuel consumption and emissions are used for modelling transport impacts.

MANUFACTURING (A3)

Module A3 covers the production of cationic bitumen emulsions at the manufacturing facility. The process begins with the heating of bitumen to achieve the required viscosity, followed by its controlled mixing with water and emulsifiers in a high-shear colloid mill to create a stable dispersion. Depending on the formulation, additional additives such as pH regulators (e.g. hydrochloric acid), stabilizers (e.g. calcium chloride), and modifiers (e.g. SBR latex) are introduced in precise quantities.

All components are dosed and blended under controlled temperature and pressure conditions to ensure emulsion stability and compliance with technical specifications. The production process is continuous and includes in-line quality control to monitor key parameters such as viscosity, pH, breaking behavior, and binder content.

Once the product meets the required standards, the emulsion is stored in dedicated tanks or filled directly into transport containers. The finished product is then prepared for delivery, typically in bulk tankers or IBC containers, with proper labeling and documentation to ensure traceability and safe transport.

USE and END-OF-LIFE (B, C and D)

This Environmental Product Declaration (EPD) includes only modules A1–A3 (cradle-to-gate) in accordance with the product's intended purpose, technical nature, and applicable standards. Bitumen emulsions are intermediate construction products that are typically applied on-site as part of road paving or maintenance works, and they do not have an independent use phase or end-of-life scenario that can be assessed separately from the asphalt pavement in which they are incorporated. Accordingly, modules B (Use stage), C (End-of-life), and D (Benefits and loads beyond the system boundary) are not declared.

LIFE-CYCLE ASSESSMENT

LIFE-CYCLE ASSESSMENT INFORMATION

Period for data	2024 year

DECLARED AND FUNCTIONAL UNIT

Declared unit	1 tone
Mass per declared unit	1 tone

BIOGENIC CARBON CONTENT

Product's biogenic carbon content at the factory gate

Biogenic carbon content in product, kg C	-
Biogenic carbon content in packaging, kg C	-

SYSTEM BOUNDARY

The scope of the EPD is "cradle to gate". The modules A1 (Raw material supply), A2 (Transport) and A3 (Manufacturing) are included in the study.

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	MND	MND	MNR											
Raw materials`	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstr./demol.	Transport	Waste processing	Disposal	Reuse / Recycling

Modules not declared = MND. Modules not relevant = MNR.

CUT-OFF CRITERIA

The study does not exclude any modules or processes which are stated mandatory in the *EN 15804:2012+A2:2019*. The study does not exclude any hazardous materials or substances.

The study includes all major raw material and energy consumption. All inputs and outputs of the unit processes which data are available for are included in the calculation. There is no neglected unit process more than 1% of total mass and energy flows. The total neglected input and output flows do also not exceed 5% of energy usage or mass. The life cycle analysis includes all industrial processes from raw material acquisition to production, and distribution.

The production of capital equipment, construction activities, and infrastructure, maintenance and operation of capital equipment, personnel-related activities, energy, and water use related to company management and sales activities are excluded.

ESTIMATES AND ASSUMPTIONS

This LCA study is conducted in accordance with all methodological considerations, such as performance, system boundaries, data quality, allocation procedures, and decision rules to evaluate inputs and outputs. All estimations and assumptions are given below:

- Module (A1): 100% Mass Balance is considered for all the raw material information provided by Olan and relevant ecoinvent datasets are used.
- Module (A2): The average transport distances were calculated based on locations of all suppliers and allocated as per the declared unit.
- Module (A3): Energy and water resources were considered and taken into account as disclosed. Furthermore, the management of on-site waste related to used packaging was handled.

SCENARIO DOCUMENTATION

Manufacturing energy scenario documentation

Scenario parameter	Value
Electricity data source and quality	Emission Factors for Electricity in Poland reported in December 2024 by KOBiZE - the National Centre for Emissions Management in Poland.
Electricity CO2e / kWh	0,701 kg CO_2e / kWh

Transport scenario documentation

Scenario parameter	Value
A2 specific transport CO2e emissions, kg CO2e / tkm	0,188
A2 average transport distance, km	320,72
Transport capacity utilization, %	100%
Bulk density of transported products, ton/unit	0.99201
Volume capacity utilisation factor for nested packaged products	1

ALLOCATION

The allocation is carried out in accordance with the provisions of EN 15804. The information provided for the year 2024 includes all cationic bituminous emulsions produced at Olan's facilities during that year. Due to the similarity in production resources and processing stages, an average based on product weight was applied for allocating common inputs (e.g. used energy) to respective emulsion types. Input and output data from production are inventoried and allocated on a mass basis to the declared functional unit of 1 tone.

DATA QUALITY

For foreground data, the LCA study relies on high-quality primary data gathered by Olan for the year 2024, including average transport distances for material supplies. The data regarding environmental impacts of bitumen used for modeling the A1 stage were taken from the Eurobitume LCA Report 4.0 issued in March 2025. Other relevant background data sets have been sourced from the OpenLCA software's database: ecoinvent 3.9.1, which includes consistent and well-documented data sets accessible in the ecoinvent online database or through the ecoinvent database documentation.

GEOGRAPHIC REPRESENTATIVENESS

The specified land or region where the product system is manufactured and managed is Poland, Europe.

ENVIRONMENTAL IMPACT DATA

1) EMULSIONS WITH MINIMUM (40%) BINDER CONTENT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3
Acidification	mol H+e	4,26E-01	5,47E-02	1,81E-01	6,62E-01
Climate change – total	kg CO2e	2,29E+02	1,68E+01	1,46E+01	2,60E+02
Climate change – fossil	kg CO2e	2,26E+02	1,68E+01	1,46E+01	2,57E+02
Climate change – biogenic	kg CO2e	3,47E+00	1,52E-02	1,57E-02	3,50E+00
Climate change – LULUC	kg CO2e	6,77E-03	8,14E-03	1,52E-03	1,64E-02
Abiotic depletion of fossil resources	MJ	3,34E+02	2,39E+02	1,80E+02	7,53E+02
Eutrophication, aquatic freshwater	kg PO4e	3,01E-03	1,17E-03	2,91E-03	7,09E-03
Eutrophication, aquatic marine	kg Ne	1,06E-02	1,88E-02	1,12E-02	4,06E-02
Eutrophication, terrestrial	mol Ne	1,53E-01	1,99E-01	1,12E-01	4,64E-01
Abiotic depletion, minerals & metals	kg Sbe	6,15E-05	3,83E-05	7,61E-06	1,07E-04
Ozone depletion	kg CFC11e	3,45E-06	3,65E-07	2,66E-07	4,08E-06
Photochemical ozone formation	kg NMVOCe	3,98E-01	8,17E-02	5,51E-02	5,35E-01
Water use	m3e depr.	1,09E+01	1,17E+00	8,19E-01	1,29E+01

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3
Eco-toxicity (freshwater)	CTUe	2,28E+02	1,17E+02	7,59E+01	4,21E+02
Human toxicity, cancer effects	CTUh	3,90E-08	7,48E-09	3,09E-09	4,96E-08
Human toxicity, non-cancer effects	CTUh	3,39E-06	1,46E-07	1,17E-07	3,65E-06
Ionizing radiation, human health	kBq U235-Eq	4,38E+00	3,18E-01	1,41E-01	4,84E+00
Particulate matter	disease incidence	1,07E-05	1,09E-06	2,13E-06	1,39E-05
Potential soil quality index	dimensionless	2,60E+01	1,41E+02	1,33E+01	1,80E+02

EN 15804+A2 disclaimer for Ionizing radiation, human health. 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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3
Total use of non-renewable PER	MJ	3,34E+02	2,39E+02	1,80E+02	7,53E+02
Total use of renewable PER	MJ	1,36E+01	3,69E+00	9,36E+00	2,67E+01
Use of net fresh water	m_3	1,08E+00	3,88E-02	7,87E-02	1,20E+00
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3
Hazardous waste	kg	3,73E-04	1,52E-03	8,00E-04	2,69E-03
Radioactive waste disposed	kg	3,53E-04	7,72E-05	3,32E-05	4,63E-04
Non-hazardous waste	kg	4,48E-02	6,66E-03	2,16E-03	5,36E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00

PER abbreviation stands for primary energy resources

2) EMULSIONS WITH AVERAGE (60%) BINDER CONTENT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3
Acidification	mol H+e	6,02E-01	7,94E-02	1,80E-01	8,61E-01
Climate change – total	kg CO2e	3,32E+02	2,44E+01	1,45E+01	3,71E+02
Climate change – fossil	kg CO2e	3,27E+02	2,44E+01	1,45E+01	3,66E+02
Climate change – biogenic	kg CO2e	5,05E+00	2,20E-02	1,56E-02	5,09E+00
Climate change – LULUC	kg CO2e	8,16E-03	1,18E-02	1,51E-03	2,15E-02
Abiotic depletion of fossil resources	MJ	3,80E+02	3,48E+02	1,79E+02	9,07E+02
Eutrophication, aquatic freshwater	kg PO4e	3,58E-03	1,70E-03	2,90E-03	8,18E-03
Eutrophication, aquatic marine	kg Ne	1,20E-02	2,73E-02	1,11E-02	5,04E-02
Eutrophication, terrestrial	mol Ne	1,78E-01	2,89E-01	1,12E-01	5,79E-01
Abiotic depletion, minerals & metals	kg Sbe	7,35E-05	5,56E-05	7,57E-06	1,37E-04
Ozone depletion	kg CFC11e	4,30E-06	5,30E-07	2,65E-07	5,10E-06
Photochemical ozone formation	kg NMVOCe	5,70E-01	1,19E-01	5,48E-02	7,44E-01
Water use	m3e depr.	1,20E+01	1,71E+00	8,15E-01	1,45E+01

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3
Eco-toxicity (freshwater)	CTUe	2,98E+02	1,70E+02	7,55E+01	5,44E+02
Human toxicity, cancer effects	CTUh	4,94E-06	2,12E-07	1,16E-07	5,27E-06
Human toxicity, non-cancer effects	CTUh	5,43E-08	1,09E-08	3,07E-09	6,83E-08
Ionizing radiation, human health	kBq U235-Eq	6,06E+00	4,62E-01	1,40E-01	6,66E+00
Particulate matter	disease incidence	1,54E-05	1,58E-06	2,12E-06	1,91E-05
Potential soil quality index	dimensionless	3,00E+01	2,06E+02	1,32E+01	2,49E+02

EN 15804+A2 disclaimer for Ionizing radiation, human health. 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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3
Total use of non-renewable PER	MJ	3,80E+02	3,48E+02	1,79E+02	9,07E+02
Total use of renewable PER	MJ	1,57E+01	5,36E+00	9,32E+00	3,04E+01
Use of net fresh water	m_3	9,76E-01	5,64E-02	7,83E-02	1,11E+00
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3
Hazardous waste	kg	4,55E-04	2,20E-03	7,96E-04	3,45E-03
Radioactive waste disposed	kg	4,23E-04	1,12E-04	3,31E-05	5,68E-04
Non-hazardous waste	kg	5,63E-02	9,67E-03	2,15E-03	6,81E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00

PER abbreviation stands for primary energy resources

3) EMULSIONS WITH MAXIMUM (69%) BINDER CONTENT

CORE ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2

Impact category	Unit	A1	A2	A3	A1-A3
Acidification	mol H+e	6,96E-01	9,70E-02	1,75E-01	9,68E-01
Climate change – total	kg CO2e	3,92E+02	2,98E+01	1,41E+01	4,36E+02
Climate change – fossil	kg CO2e	3,86E+02	2,98E+01	1,41E+01	4,30E+02
Climate change – biogenic	kg CO2e	5,99E+00	2,69E-02	1,51E-02	6,03E+00
Climate change – LULUC	kg CO2e	6,78E-03	1,44E-02	1,47E-03	2,27E-02
Abiotic depletion of fossil resources	MJ	3,34E+02	4,25E+02	1,73E+02	9,32E+02
Eutrophication, aquatic freshwater	kg PO4e	3,01E-03	2,08E-03	2,81E-03	7,90E-03
Eutrophication, aquatic marine	kg Ne	1,07E-02	3,34E-02	1,08E-02	5,49E-02
Eutrophication, terrestrial	mol Ne	1,66E-01	3,52E-01	1,08E-01	6,26E-01
Abiotic depletion, minerals & metals	kg Sbe	6,44E-05	6,79E-05	7,33E-06	1,40E-04
Ozone depletion	kg CFC11e	3,46E-06	6,47E-07	2,57E-07	4,36E-06
Photochemical ozone formation	kg NMVOCe	6,66E-01	1,45E-01	5,31E-02	8,64E-01
Water use	m3e depr,	1,09E+01	2,08E+00	7,89E-01	1,38E+01

ADDITIONAL ENVIRONMENTAL IMPACT INDICATORS – EN 15804+A2, PEF

Impact category	Unit	A1	A2	A3	A1-A3
Eco-toxicity (freshwater)	CTUe	3,28E+02	2,08E+02	7,31E+01	6,09E+02
Human toxicity, cancer effects	CTUh	6,12E-08	1,33E-08	2,98E-09	7,75E-08
Human toxicity, non-cancer effects	CTUh	5,85E-06	2,59E-07	1,13E-07	6,22E-06
Ionizing radiation, human health	kBq U235-Eq	6,64E+00	5,64E-01	1,36E-01	7,34E+00
Particulate matter	disease incidence	1,82E-05	1,93E-06	2,06E-06	2,22E-05
Potential soil quality index	dimensionless	2,59E+01	2,51E+02	1,28E+01	2,90E+02

EN 15804+A2 disclaimer for Ionizing radiation, human health. 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 disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

USE OF NATURAL RESOURCES

Impact category	Unit	A1	A2	A3	A1-A3
Total use of non-renewable PER	MJ	3,34E+02	4,25E+02	1,73E+02	9,32E+02
Total use of renewable PER	MJ	1,32E+01	6,54E+00	9,02E+00	2,88E+01
Use of net fresh water	m_3	7,72E-01	6,89E-02	7,59E-02	9,17E-01
Use of renewable secondary fuels	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of secondary materials	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00

END OF LIFE – WASTE

Impact category	Unit	A1	A2	A3	A1-A3
Hazardous waste	kg	3,73E-04	2,69E-03	7,70E-04	3,83E-03
Radioactive waste disposed	kg	3,48E-04	1,37E-04	3,20E-05	5,17E-04
Non-hazardous waste	kg	4,49E-02	1,18E-02	2,08E-03	5,88E-02

END OF LIFE – OUTPUT FLOWS

Impact category	Unit	A1	A2	A3	A1-A3
Components for reuse	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported thermal energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported electrical energy	MJ	0,00E+00	0,00E+00	0,00E+00	0,00E+00

PER abbreviation stands for primary energy resources

BIBLIOGRAPHY

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ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks.

ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines.

EN 15804:2012+A2:2019 Sustainability in construction works - Environmental product declarations - Core rules for the product category of construction products.

The Eurobitume Life Cycle Assessment 4.0 for bitumen (March 2025)

Ecoinvent database v3.9.1.

Bitumen (EN 12591) – RER dataset provided by Eurobitume

KOBiZE Wskaźniki emisyjności CO2, SO2, NOx, CO i pyłu całkowitego dla energii elektrycznej. December 2024

EPD VERIFICATION:

The verification procedure for this Environmental Product Declaration (EPD) has been carried out in accordance with the requirements of ISO 14025 standards. Once the verification process is complete, the EPD remains valid for a period of 5 years. There is no need to recalculate the parameters contained in the EPD after this period, provided that the data underlying the declaration have not changed substantially.

EPD CONTRIBUTORS

Manufacturer representative	Sławomir Słowik
EPD verifier	Izabela Sztamberek Sochan, Ph.D.

Note: The sole ownership, liability, and liability of this declaration are with the owner. Construction product declarations may not be comparable if they do not comply with EN 15804. For detailed information on comparability, please refer to EN 15804 and ISO 14025.

EPD Poland Certificate

Program EPDPoland Operator: MULTICERT Sp. z o.o.

Reg. No. EPD-P 02.05.2025

CERTIFICATE

EPD TYPE III DECLARATION

(ENVIRONMENTAL PRODUCT DECLARATION)

This document confirms that the Environmental Product Declaration developed by
Olan Południe Sp. z o.o. (Limited Liability Company) for Cationic bituminous emulsions,
manufactured in accordance with
EN 13808,
meets the requirements of standards
EN 15804 + A2 and ISO 14025,
and that the data contained therein has been prepared correctly.

EPD Environmental Product Declaration
EPD VERIFIED
EPD POLAND

Verification carried out by:
Izabela Sztamberek Sochan, Ph.D

MULTICERT JEDNOSTKA CERTYFIKUJĄCA

Program Manager
Grzegorz Suwara

This document is valid until May 23, 2030, or until EPD is deregistered and its publication on the website www.epd.org.pl is discontinued.

EPD Polska Registration Office,
Warsaw, May 23, 2025

www.epd.com.pl