3M PSD Sostenibilitá

EXTERNAL SLIDE

Asserzioni ambientali

ISO 14024

Tipo I

Etichettatura ambientale

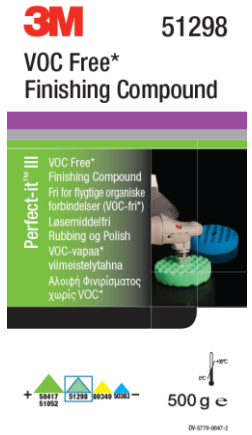
Verificato da terze parti

ISO 14021

Tipo II

Asserzioni ambientali autodichiarate

Chiaro e preciso (~~verde, ecologico~~)
Motivato (nessun utilizzo di dati sensibili)
Potenziale problema di credibilità



ISO 14025

Tipo III

Asserzioni ambientali

Relazione tecnica, basata sull'analisi LCA
Pressione specifica del mercato (edilizia)

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LCA, PCR, EPD

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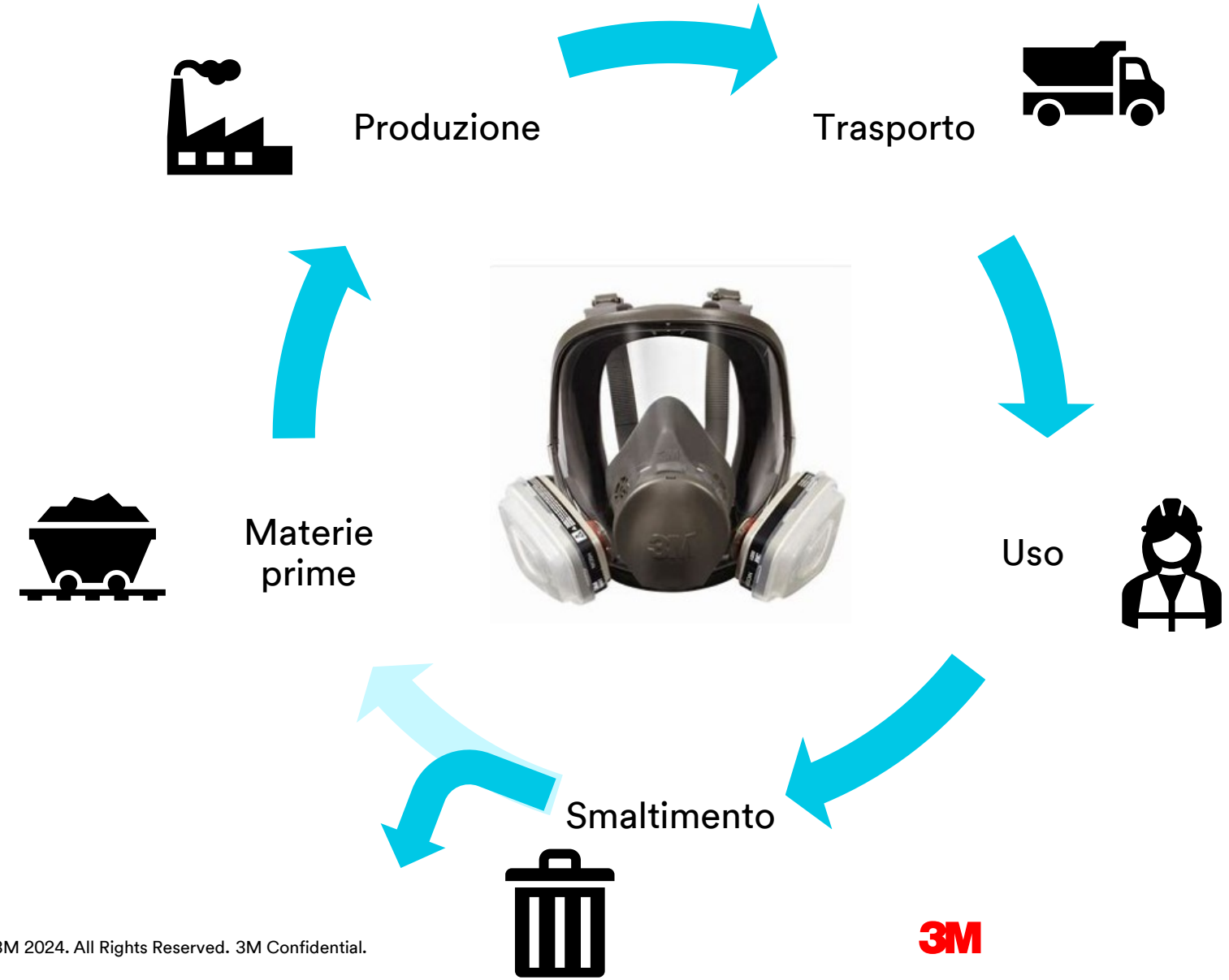
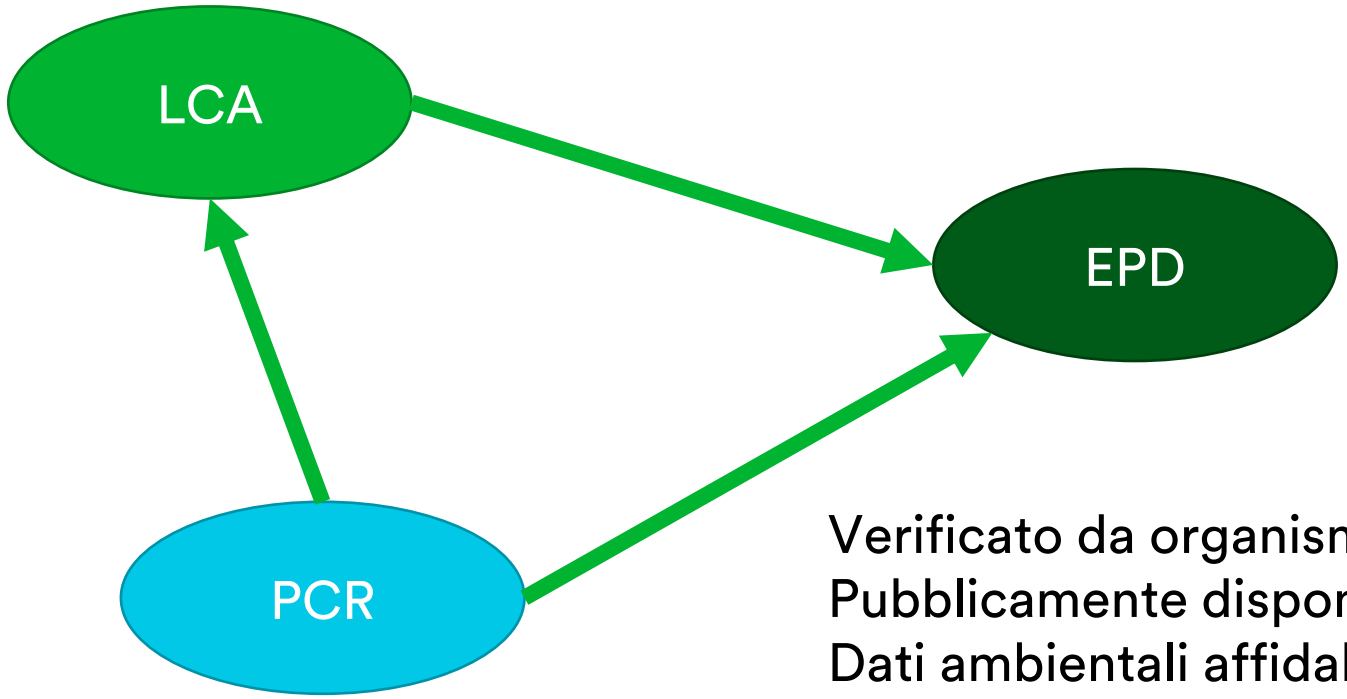
LCA: Life Cycle Assessment



Impatto ambientale completo del prodotto

- Emissioni di carbonio
- Consumo di energia
- Utilizzo di acqua
- Produzione rifiuti
- Potenziale di riciclo
- Acidificazione
- Uso delle risorse
- Riduzione dell'ozono
- ...

EPD: Environmental Product Declaration



EPD®

Verificato da organismi indipendenti
Pubblicamente disponibile
Dati ambientali affidabili

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Una grande famiglia

Declared Unit (Unitá dichiarata)

Prodotto
Imballaggio
Durata d‘uso

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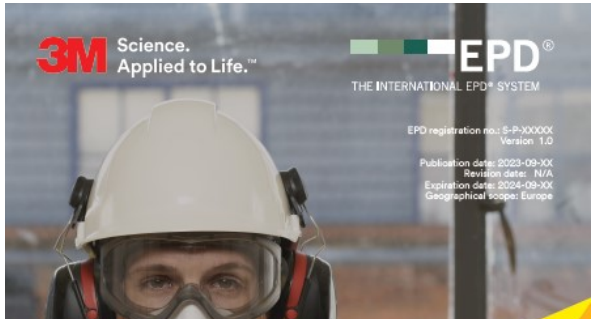
Gli EPD per Aura

Use this QR code to link directly to this page

3M™ 9322+



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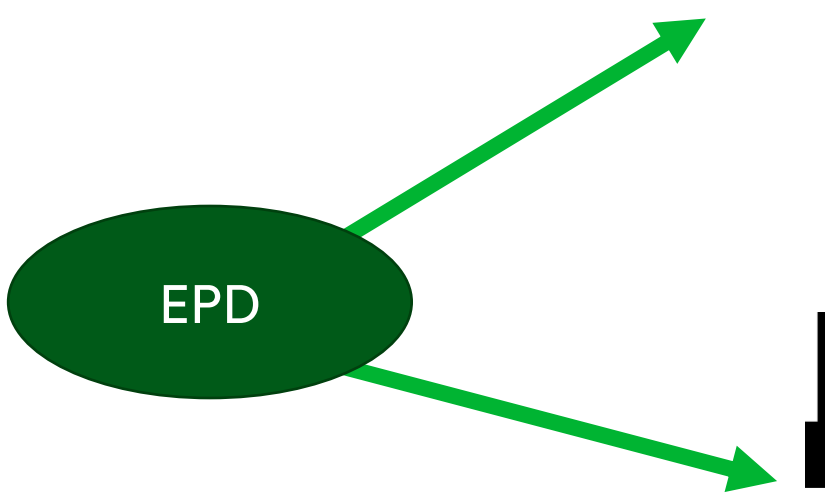
3M™ 9332+

Use this QR code to link directly to this page

3M™ 9332+ GEN 3

L’utilitá degli EPD



Cliente

Disporre di dati sull'impronta per le emissioni Scopo 3
Discussione aperta con il produttore sulle attività a valle

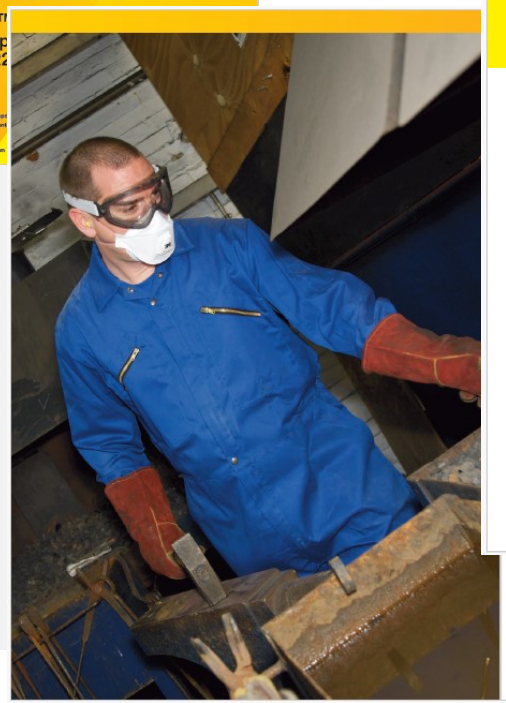
Fabbricante

Comprendere a fondo l'impatto ambientale del proprio prodotto
Ottenere la direzione per lo sviluppo di nuovi prodotti e per la strategia di prodotto

Come leggere un EPD

Come si legge un EPD?

Contents



1 Programme Information

EPD operator	EPD International AB (info@environdec.com) Box 210 60, SE-100 31 Stockholm, Sweden
Product Category Rules (PCRs)	International norms, standard and PCR: ISO 14025:2006, Environmental labels and declarations – Type III Environmental declarations – Principles and procedures. General Programme Instructions for the International EPD® System (GPI) 4.0. The current EPD methodology is based on the forthcoming/draft product category rules (PCR) that will be published by the International EPD® System (IES) after public consultation and review: PCR 2023:XX v1.0 – Respiratory Protective Devices (RPDs) (CPC 27190 - Filtering facepieces FFP (according
PCR review cond	

2 Company Information

Over the last century 3M has grown into a global powerhouse, developing products that improve lives around the world. It began life as a small-scale mining

Over the following decades scientific, technical and marketing innovations produced success upon success, eventually making 3M a constant name on the Fortune

55,000 3M products are

, schools, hospitals and other

almost 92,000 employees in
products sold in nearly 200
technology company with
34 billion. 3M's commitment
by the 10,000 scientists and
d the world. The company
patents in its name, with an
nts added every year.

patents

4

pal sales

At 3M, we innovate with purpose. We empower individuals to address issues they want to impact, and collaborate with our customers and communities to take on shared global challenges – bringing value to both our business and society as a whole. We call this purpose-driven business. It's an exciting path forward because we know that with creativity, collaboration and a shared sense of purpose, no problem is unsolvable. Working together, we can improve every life.

We look at sustainability in terms of shared global needs and the future of our business. As the population grows, particularly in emerging economies, challenges like energy availability and security, raw material scarcity, human health and safety, education, and development must be addressed to ensure people across the world can live healthy, fulfilling lives. Every day, 3M innovations aim to tackle some of the world's most pressing areas of concern: raw materials, water, energy and climate, health and safety, education and development.

Setting goals to drive sustainability progress is nothing new at 3M. We have been setting global environmental goals since 1990. A strong part of our company history, these goals have helped dramatically reduce our own environmental footprint and established us as a leader in environmental stewardship.

3M's Iconic Pollution Prevention Pays (3P) programme has been running since 1975. The programme has prevented more than 2.86 million short tons of pollutants and saved over $2.37 billion based on aggregated data from the first year of each 3P project.

Since 2021, we achieved a 54.2 million pound reduction in the use of virgin fossil-based plastic in our packaging and products toward our goal of 125 million pounds by 2025.

We've incorporated recycled and bio-based materials and reduced plastic use in products and packaging such as tapes and dispensers, sponges, packaging, workspace solutions, insulation, optical films, floor pads, sorbents, and more.

Over the last two decades, while 3M's revenues have doubled, we have reduced our greenhouse gas emissions by 79.8 %, and moved 44.9 % of our manufacturing sites to zero landfill waste. At the same time, we've intensified our focus on creating a range of innovative solutions that help our customers be more sustainable — from glass bubbles that enable lower vehicle weight and improved fuel economy, to films that make homes, businesses, and electronics more energy efficient. In 2021 alone, 3M Science helped our customers avoid 20.6 million metric tons of emissions, which is the equivalent of taking more than three million cars off the road.

Another initiative led by 3M is the Sustainability Value Commitment, which ensures that every new product made by 3M from 2019 onwards is manufactured with sustainability in mind. It commits our product developers to focus on reusability, recyclability, energy, waste, water savings, responsible sourcing, and/or renewable materials appropriate to the specific product, from the beginning to the end of each product's lifecycle.

Since February 2014, 3M has become a signatory of the United Nations Global Compact. While 3M has always acted in accordance with the core values represented by the Compact, we are proud to formalise our commitment to its 10 principles in the areas of human rights, labour, environmental and anti-corruption and to grow our partnership with the organisation.

4.3 Data collection and quality

Specific data was gathered by 3M for the core processes and are based on 2021 production volumes and extrapolations of measurements on specific machines.

Generic data for upstream and downstream processes are used as available in the LCA for Experts™ software from sphera™ and databases and are representative of the years 2018-2021.

Both specific and generic data are modelled to be specific to the technologies or technology mixes under analysis. Where technology-specific data are unavailable, proxy data are used.

The technological representativeness is considered to be good. All data are collected specific to the countries or regions under analysis. Where country or region specific data are unavailable, proxy data are used. The geographical representativeness is considered to be good.

Data quality analysis is performed based on the EU Product Environmental Footprint (PEF) Guidance. The overall data quality score is at least 'very good' meaning that the data meet the criterion to a high degree, with a little significant need for improvement. Consequently, the results for each Impact Indicator can be used appropriately in this EPD.

4.4 Calculation procedure

The LCA model was created using the LCA for Experts™ software (LFE) (version 10.6.1.35, DB 8.7, 2022.1) system for life cycle engineering. The modelling process used both primary data collected from the actual manufacturing process, and secondary data available in the LFE databases including industry-average data, data available from literature studies and data available from published databases.

All relevant process steps for each scenario are considered and modelled to represent each specific situation. The process chain is considered sufficiently complete with regard to the goal and scope of this study. Cross-checks concerning the plausibility of mass and energy flows are carried out on the data received. Similar checks are made on the software model developed during the study. To ensure consistency, all primary data are collected with the same level of detail, while all background data are selected from the LFE databases.

4.4.1 Key assumptions

Key assumptions made in this study relate to energy input (selection of renewable technology mixes), product waste data for certain manufacturing process steps (based on main material components in waste, and the % waste water evaporation in certain processes).

Next to key assumptions, some general assumptions are included on different levels in the model:

- When no specific data for the raw material is available it is modelled based on the material content information in combination with generic production data.
- When specific raw material packaging data is not provided, a default packaging is assumed based on professional judgement and the type of raw material.
- Packaging waste of raw materials is assumed to be landfilled. When the type of process waste disposal is unknown, it is assumed to be landfilled.
- Distances between raw material suppliers and 3M sites on the same continent are assumed to be 2500 km (or 1553 miles) whilst a distance of 1000 km (or 621 miles) is taken when located in the same country. 100 km (or 62.1 miles) transportation distance is assumed for the disposal of materials.
- Eurostat data was used to model product and packaging disposal in the downstream processes.

4.4.2 Cut-off criteria

All available data from the product production processes are considered, i.e. all pre-products/raw materials used, packaging material and relevant energy flows using best available LCI datasets (including data contributing <1% to mass or energy). Transport processes for raw material packaging as well as internal transport in the facilities is excluded. Production and/or energy consumption of machines, facilities and infrastructure/ capital goods required during manufacture are excluded. In addition, the use of energy and water of any non-strictly manufacturing processes is excluded from the study. Energy credits generated during waste disposal are excluded and a worst-case approach is applied. For recycling processes, a cut-off is applied before the recycling facility gate (i.e., Polluter Pays).

4.4.3 Allocation rules

For energy consumption during manufacturing, allocation by mass and runtime per workcenter is applied depending on the manufacturing process considered. Process water consumption is mass-allocated based on respirator production volumes. No co-products are created in the production processes.

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5 Environmental Performance

The environmental parameters are declared for upstream, core and downstream processes. The overall impact of the product is divided into potential environmental impacts, use of resources and other indicators. All environmental impacts are reported per declared unit.

5.1 Potential environmental impact

The reported environmental impacts, based on draft PCR 2023:XX v1.0 result from characterisation models applied to the life cycle stages considered in the study.

Total pollutant emissions from the operations included in the system boundaries are reported as potential environmental impacts, using the version 2.0 core environmental impact indicators of EN15804:2012+A2:2019 based on EF 3.0 (Nov. 2019 EC-JRC characterisation factors). Data refer to the declared unit as mentioned in section 4.1.

Next to the mandatory indicators some optional indicators are reported (SM, RSF, NRSF, FW, and the waste and output flows indicators) to gain more insights in the waste characteristics, secondary material use and water consumption during the life cycle.

	Default list environmental performance indicators IES						
	Up	Core		Downstream			
	Product stage			Distribution stage		Use stage	End-of-Life stage
	A1	A2	A3	A4	A5	B1	C1
GWP-total [kg CO2 eq.]	5.30E-02	1.42E-02	1.88E-02	7.35E-03	1.53E-02	1.70E-02	8.49E-03
GWP-fossil [kg CO2 eq.]	8.41E-02	1.41E-02	7.61E-03	7.28E-03	1.69E-04	6.97E-04	8.49E-03
GWP-biogenic[3] [kg CO2 eq.]	-3.11E-02	3.26E-05	8.96E-03	2.54E-05	1.51E-02	1.63E-02	7.83E-07
GWP-luluc [kg CO2 eq.]	5.30E-05	6.09E-05	4.75E-05	4.87E-05	3.91E-07	6.03E-07	7.20E-07
ODP [kg CFC-11 eq.]	2.91E-12	1.30E-15	5.48E-11	7.14E-16	3.24E-16	1.41E-16	4.36E-16
AP [Mole of H+ eq.]	2.02E-04	1.12E-04	5.45E-05	1.78E-05	7.14E-07	3.15E-07	1.19E-06
EP-freshwater [kg P eq.]	5.58E-07	4.76E-08	2.22E-07	2.58E-08	4.17E-10	1.24E-09	1.00E-08
EP-marine [kg N eq.]	6.25E-05	3.74E-05	1.38E-05	6.89E-06	2.54E-07	1.15E-07	2.94E-07
EP-terrestrial [Mole of N eq.]	6.49E-04	4.14E-04	1.27E-04	7.82E-05	3.38E-06	1.45E-06	5.24E-06
POCP [kg NMVOC eq.]	1.39E-04	8.87E-05	3.95E-05	1.53E-05	6.49E-07	2.77E-07	8.10E-07
ADP-min&met[5] [kg Sb eq.]	1.90E-07	2.40E-09	4.26E-08	7.31E-10	1.35E-11	1.23E-11	2.25E-11
ADP-fossils[5] [MJ]	2.22E+00	1.82E-01	4.86E-02	9.57E-02	1.63E-03	1.50E-03	3.04E-03
WDP[5] [m³ world equiv.]	1.86E-02	2.96E-04	6.24E-03	8.10E-05	4.29E-04	7.89E-05	7.70E-04

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Paper	1.03E-02	Consumer packaging: user instructions, paper board box, labels	100% (85% post-consumer, 35% pre-consumer) (paper board box)
Polypropylene	1.20E-03	Consumer packaging	0%
Pallet	4.17E-03	Distribution packaging	0%
Total	1.69E-02	N/A	N/A

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(1) LC = load capacity (kg or dm³)
(2) FCFC = full capacity fuel consumption (l/100 km)
(3) CU = capacity utilization, including empty returns (%)

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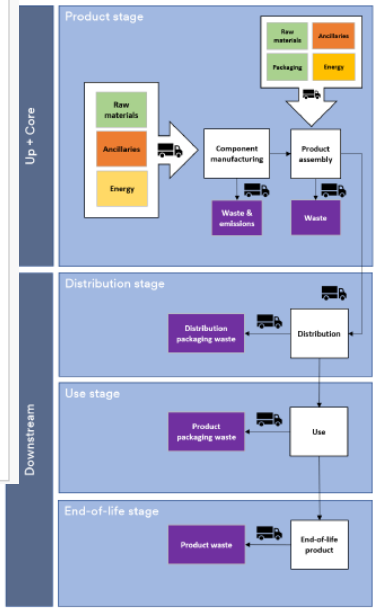

Come si legge un EPD?

Limiti del sistema

Descrizione & composizione del prodotto

Impatto ambientale

Come si legge un EPD: Ricapitolazione 3M

Respiratore monouso FFP2/FFP3 senza contenuto riciclato

- ✓ Certificato di parti terze
- ✓ Iniziatori dello sviluppo di regole per la categoria dei prodotti per le vie respiratorie
- ✓ Basato sull'LCA
- ✓ Dichiarazione ambientale di prodotto
- ✓ Riportati tutti i dati ambientali (come il consumo di acqua, l'energia, i rifiuti...), non solo la CO_2!

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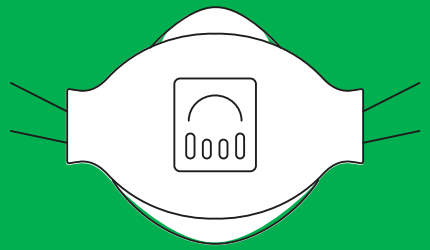
3M™ Aura™ Particulate Respirators 9312+, 9322+ and 9332+ contain at least



25%

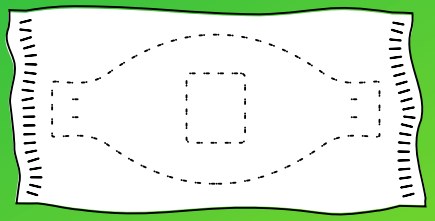
recycled content*

*Pre-consumer. Percentage recycled content varies by model. Figure stated is the lowest percentage of recycled content for the three protection levels. Percentage recycled content calculated in accordance with EN ISO 14021:2016+A1:2021. (Applies to product produced since 01/04/2024).

At least

30%

recycled content in individual wrap*



*Applies to product produced since 01/04/2024. Aura™ 9310+, 9312+, 9320+, 9322+, 9330+, 9332+, 1872V+ and 1873V+ only.

76%

recycled content in shipper case

100%

recycled content in primary carton

United Kingdom

manufacturing location

With over **20** Years of **ISO 14001**

a set of standards to reduce environmental footprint

And **100%** of electricity used is renewable (RE100)

3M

N.B. Data is correct at time of publication

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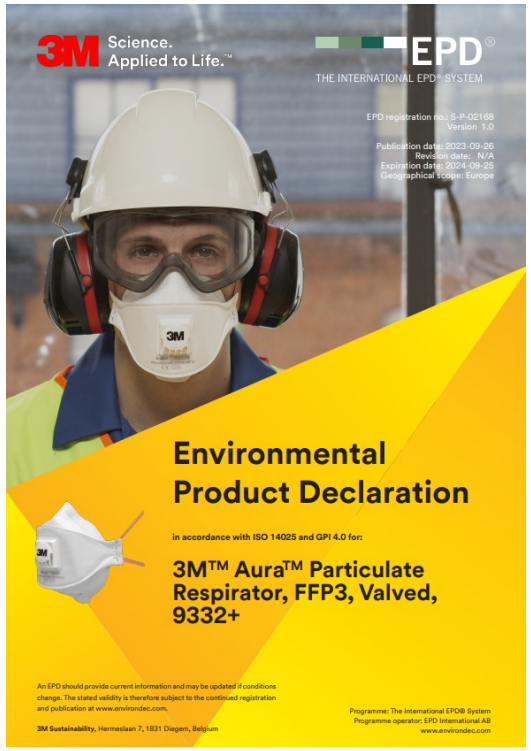
Environmental Product Declarations



3M™ Aura™ 9332+

https://www.environdec.com/library/epd2168

3M™ Aura™ 9322+

https://www.environdec.com/library/epd2167

For Environmental Product Declaration, please see EPD international website. For environmental information, please refer to the 3rd party verified Environmental Product Declarations. (9332+ and 9322+ only as of 11th December 2023). The EPD is in the process of being updated to included recycled media added to the products and to the individual wrap.

An EPD is also available for Aura™ 9332+ Gen3. Scan here to download.

Environmental Product Declarations (EPDs) are available for 3M™ Aura™ Particulate Respirators 9322+ and 9332+. **These EPDs provide data on the products prior to inclusion of recycled content.** New EPDs will be published once we have gathered the data on the upgraded versions. This is expected to be in H2 2024.

Why publish EPDs?

1) Provide transparency about the impact our products have on the environment via third-party verified data
2) Provide a baseline for future development. By carefully analysing the data, 3M Scientists can make the changes that really matter. By comparing old & new EPDs customers can analyse the benefits for themselves.

In arrivo

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Il prossimo PCR - Dispositivi di protezione dell'udito

EPD®

THE INTERNATIONAL EPD® SYSTEM

PCR Library | EPD International (environdec.com)

	Initiation	Preparation	Consultation	Review	Approval & Publication
Tempi	**Fatto**	**Gen-Giu**	**Lug - Ago**	**Ago - Ott**	**Ott - Dic**
Responsabilità	PCR Committee	PCR Committee	PCR Committee	PCR Committee	IEC Technical Committee

Domande?