## **Product Environmental Report**

#### ViewFinity S80D

05/29/2024



At Samsung, we work to integrate eco-conscious technology and innovation in our products. By considering sustainability at every step of the product life cycle, we aim to empower our customers to join us in our journey to build a better tomorrow together.

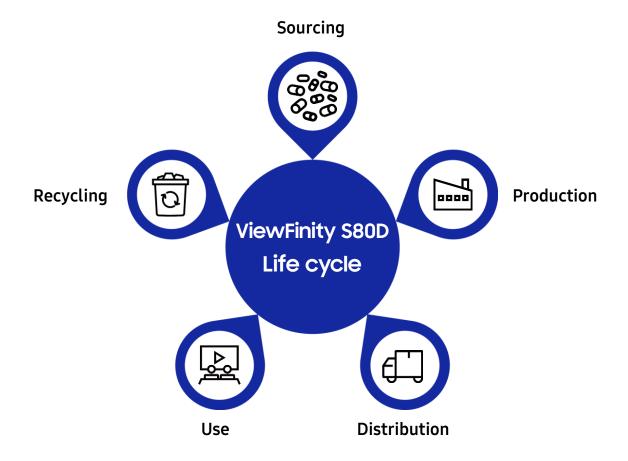


\* Certification acquisition model<sup>[1][2][3][4]</sup> : \*\*27D80\*E\*\*\*\*\* / \*\*32D80\*E\*\*\*\*\*

# **Product Carbon Footprint**

At Samsung Electronics, we assess a product's entire life cycle, including the sourcing, production, distribution, product use, and recycling phases, to understand the environmental impacts of our products.

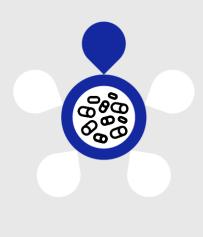
At the production stage, we are aiming to expand the development and application of recycled materials with a lower carbon footprint. At the distribution stage, we are working to minimize packaging volume and weight to reduce carbon emissions. Through improving product energy efficiency, we are trying to improve the environmental impact at the use stage.



#### ViewFinity S32D80\*E Life Cycle carbon emissions: 328 kg CO2eq. [5]

Production 49.1%				<sup>Use</sup> 49.5%	Disposal 0.7%
10%	20%	40%	80%	80%	100 <mark>%</mark>
* based on LS32	2D800EAUXEN	configuration <sup>[6]</sup>	Distribution		

\* The figure above calculates the environmental impact of one product over the entire life cycle as CO<sub>2</sub> emissions.<sup>[6]</sup>



# Sourcing

Samsung Electronics is committed to improving resource circulation throughout the life cycle of electronic products, from raw materials to disposal and recycling.

To build toward a circular system, we are endeavoring to use recycled materials and collecting e-waste to extract materials for reuse. By 2030, we aim for 50% of the plastic used in our DX products to incorporate recycled resin. By 2050, we will see this figure increase to 100%.

Samsung Electronics uses the recycled materials for parts in the ViewFinity S80D products. In addition, we are trying to manage its supply chain so that minerals used in its products are mined in accordance with OECD due diligence guidelines.



#### Plastic

S80D's rear cover contains a minimum of 10% recycled content, consisting of 5% post consumer recycled polycarbonate (PC) and 5% ocean-bound polyethylene terephthalate(PET).

Stand contains a minimum of 35% ABS post consumer recycled material.<sup>[7]</sup>



#### Responsible minerals

For internationally disputed minerals such as tantalum, tin, tungsten, and gold, we elect to only use minerals supplied by smelters that have obtained global third-party certifications. Minerals that raise human rights violations or environmental destruction issues during mining are included in the management<sup>[8]</sup> list and are avoided in our management of the mineral supply chain.



To prevent hazardous substances from entering our products, we rigorously inspect manufactured parts and raw materials through our chemical management system.

Chemical Mgmt.

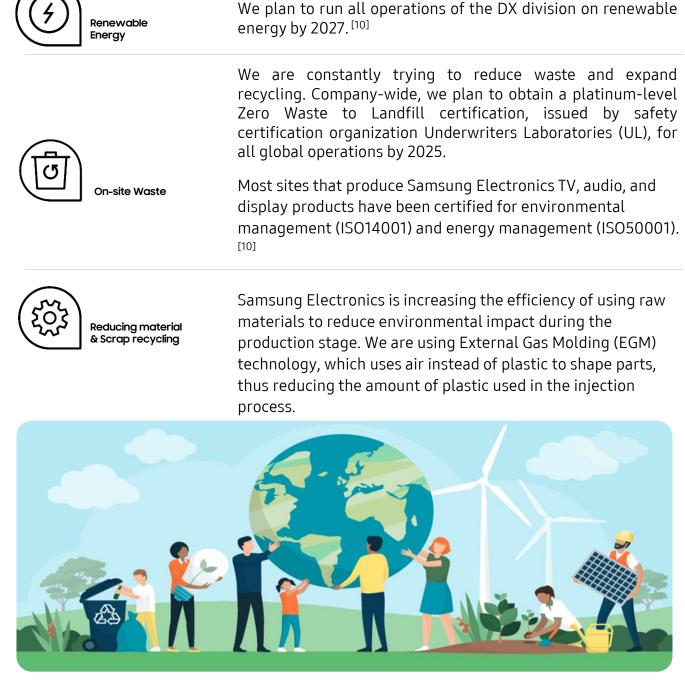
Our standards for the "Standards for Control of Substances Used in Products" <sup>[9]</sup>are based on global regulations and standards. We voluntarily established reduction plans for the use of potentially hazardous substances as well as legally regulated substances.



# Production

We are expanding the use of renewable energy at our business most sites around the world.

Energy infrastructure and regulations vary widely by jurisdiction and require region-specific transition plans.

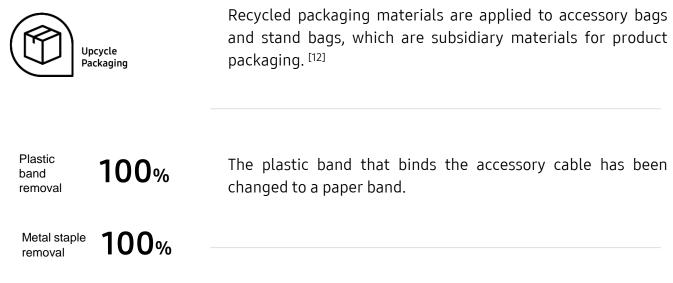




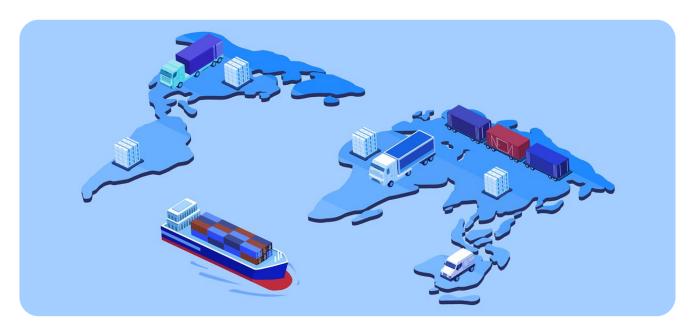
# Distribution

To reduce the environmental impact of our product packaging, we are replacing plastic packaging and vinyl wraps with paper and recycled materials.

We are also reducing the volume and weight of packaging to mitigate greenhouse gas emissions in the transportation and shipping process.



The recycling of the paper box was enhanced by removing the metal staples used in the side joints of the box. <sup>[13]</sup>





## Use

Environmental experts support product development at Samsung Electronics so we can empower our customers to use our products more sustainably. During the product development phase, our stress tests help ensure the longevity and consistent performance of our products.



To reduce greenhouse gas emissions during the use of our key products, we set our plan to reduce power consumption by an avg. of 30% by 2030, compared to products with the same specifications in 2019. <sup>[14]</sup>

\* Power consumption of S32D80\*E<sup>[15]</sup>



For the parts of TV and display products that have been replaced by modules, we are changing the design so that they can be separately repaired.<sup>[16]</sup>





# Recycling

To promote the circular economy and a low-carbon society, we are expanding responsible recycling in more than 50 countries around the world.

Samsung's local recycling programs provide collection services tailored to each region for customers disposing ewaste, and we take back electrical and electronic waste regardless of product brand.



Upcycle Packaging We are trying to reuse parts to reduce waste even in the repair process of TV and display products. In 2022, about 550,000 parts were recovered from 36 countries, and 230,000 of them have been reused after quality verification.

Upcycle packaging is designed to allow consumers to upcycle the box that is usually discarded after transporting the product. By removing promotional stickers that were attached to the box surface and reducing ink usage, packaging recyclability was increased, and we are striving to reduce the impact on the environment.

Customers can make their own props such as magazine stands and pet products using dot patterns printed on the surface of the packaging box. We are diversifying props designed through campaigns and contests and releasing drawings of props. <sup>[17]</sup>



#### Endnotes

#### Disclaimer

1. Germany's TUV Rheinland has certified that Samsung Electronics has correctly measured carbon footprints by applying the "ISO 14067:2018" standard. In particular, 'Product Carbon Reduction' certification can be obtained when carbon generation is reduced compared to existing equivalent models.

Certification acquisition model: \*\*27D80\*E\*\*\*\*\* / \*\*32D80\*E\*\*\*\*\* \* In model name notation, ' \* ' consists of numbers (0 to 9) or alphabets (A to Z).

2. Energy star is a program in which the Environmental Protection Agency (EPA) of the United States certifies that it is an energy-efficient product among various electrical and electronic products. Certification acquisition model: \*\*27D80\*E\*\*\*\*\* / \*\*32D80\*E\*\*\*\*\*

\* In model name notation, '\*' consists of numbers (0 to 9) or alphabets (A to Z).

**3.** EPEAT (Electronic Product Environmental Assessment Tool) is an eco-friendly certification system for electronic products in the United States and is certified in three grades: Gold, Silver, and Bronze by evaluating various items such as prohibition of the use of harmful substances, energy efficiency of products, ease of decomposition and recycling of products and packaging materials, and corporate social responsibility. Certification acquisition grade: EPEAT (Silver)

Certification acquisition model: \*\*27D80\*E\*\*\*\*\* / \*\*32D80\*E\*\*\*\*\*

\* In model name notation, ' \* ' consists of numbers (0 to 9) or alphabets (A to Z).

**4.** TCO (TCO Certified) is the certification for products with less environmental impact given by TCO, the Swedish confederation of professional employees.

Certification acquisition model: \*\*27D80\*E\*\*\*\*\* / \*\*32D80\*E\*\*\*\*\*

\* In model name notation, ' \* ' consists of numbers (0 to 9) or alphabets (A to Z).

5. Guidelines and conditions applied to the calculation of carbon emissions

- PAS 2050:2011 Specification for the assessment of the life cycle greenhouse gas emissions of goods and services
- Product Carbon Footprints : Requirements for Certification v2
- Database : Ecolnvent 3.8, Korea LCI DB
- 6. Life Cycle Assessment System Boundary

- Production: Pre-manufacturing (parts and materials that make up the product) and assembling the product at Samsung Electronics

- Distribution: Distribution from Vietnam to the Netherlands
- Use: Used for 7 years
- Disposal: Waste disposal of parts and materials

7. Measured based on weight, Environmental Claim Validation (ECV) verification was obtained from UL for recycled materials.

- Verification method: ECV Procedure for Recycled content, UL ECVP 2809-2, Second Edition
- Rear cover : Contains a minimum of 10% recycled content (based on by weight) (PCM 5%, ocean-bound PET 5%)
- Stand : Contains a minimum of 35% ABS post consumer recycled material (based on by weight)
- \* PCM : Post-Consumer Material, Substances recycled from waste products used by consumers
- % PET : Poly Ethylene Terephthalate

% PC : PolyCarbonate

- \* UL : Underwriters Laboratories, Global Environmental Safety Certification Authority
- \* ECV : Environmental Claim Validation

### Endnotes

8. Samsung Electronics operates a mineral management process based on OECD due diligence guidelines for responsible minerals.

https://www.samsung.com/global/sustainability/people/supply chain/#anchor 4

9. Product Environment Management Substances Operation Rules

https://www.samsung.com/global/sustainability/digital-library/policy-document/

10. Details of the conversion of renewable energy

Samsung Electronics joined RE100, a global initiative, to reduce indirect carbon emissions (Scope 2) caused by power use and decided to push for the conversion of renewable energy to used power by 2050. First, Samsung Electronics is pushing to achieve its renewable energy target at all overseas operations by 2027. For our sites in the US, China, and Europe that have already reached this goal, we plan to expand direct power purchase agreements (PPAs) centering on the regions equipped with active renewable energy policies and systems. The DX division is pushing to achieve its renewable energy target by 2027, both at home and abroad. https://www.samsung.com/global/sustainability/planet/climate-action/#anchor2

11. Samsung Electronics adopts global standards such as environmental management (ISO14001) and energy management system (ISO50001), mandates all workplaces to obtain the certification, and recommends partner companies to obtain related international certifications to spread environmental safety management, which is reflected in the comprehensive evaluation of partner companies.

Except for one small production subsidiary in South Africa (SSAP), all of Samsung Electronics' workplaces have obtained the certification as of 2021, and 86% of partners that are subject to comprehensive evaluation.

12. The recycled materials applied to the product packaging materials are as follows.

- Subsidiary Materials Containing 50% Recycled Plastics: Accessories Bag
- Subsidiary Materials Containing 30% Recycled Plastics: Stand Bag

13. Recyclability of paper boxes was increased by removing metal staples and replacing them with glue. The reduction of box assembly process time also reduced energy consumption in the manufacturing process.

14. We plan to reduce power consumption by an avg. of 30% in 2030 compared to the same performance model in 2019 by applying low power technology to representative models of seven major electronic products such as TVs, monitors, smartphones, refrigerators, washing machines, air conditioners, and PCs. We are conducting twice/yearly implementation checks on the annual improvement goals of the representative models for each product line, and we are trying to spread the energy efficiency technology applied to the representative models horizontally to other models.

15. Average power consumption of S32D80\*U is 33.0 W.

Measurement criteria model: LS32D800EAUXEN

Power consumption measurement criteria: Regulation (EU) No 2019/2021 (as amended) and EN 50564:2011 Power consumption is calculated based on the power measured in our laboratory based on the initial shipment status product.

Different countries have different regulatory conditions or measurement standards, and measurement methods may be updated to change measurements when each country's regulatory conditions change. The model name/model code of the product may vary by region or country where Samsung Electronics sells the product.

16. By applying about 370,000 single-product repairs in 107 countries of about 51 subsidiaries in 2023, we are trying to reduce the burden of repair costs on consumers by reducing about \$61 compared to the previous average repair costs, as well as reducing environmental impact by extending the life of products. (availability may vary by country)

#### Endnotes

17. Providing drawings for upcycle packaging <u>www.samsung-upcyclepackaging.com</u>

#### Recycling

Samsung established waste collection systems in each region as we work tirelessly to enhance the collection and recycling of waste products. We also offer product take-back and recycling services for Samsung products in countries with local take-back legislation. We are always looking to expand to additional locations. https://www.samsung.com/global/sustainability/digital-library/policy-document/

#### **Environmental Strategy**

Samsung Electronics announced the New Environmental Strategy in September 2022 with the aim of addressing global environmental issues through our innovative technologies. This paradigm shift is essential for our sustainable growth and will create meaningful momentum to reinforce our competitiveness.

The New Environmental Strategy was developed based on our commitment to achieve net zero by 2050, joining the world's effort to combat climate change, maximize resource circularity to advance towards a circular economy, and continuously address environmental challenges with technological innovation. This effort is expected to bring positive change to the broader ecosystem of the ICT industry as we engage in the manufacturing and supply of an extensive range of products and services.

#### **Corporate Sustainability Management**

Samsung is constantly striving to deliver innovative products and services across the value chain. This is rooted in our core values in economy, society and environment. Therefore, we monitor the financial and non-financial impacts that we exert on society in order to maximize our positive impacts while minimizing any negative ones.

https://www.samsung.com/global/sustainability/main/

#### Appendix [A] Carbon Reduction Certificate (1/3)



#### Appendix [A] Carbon Reduction Certificate (2/3)

Seite Page 2/3

## Zertifikat Certificate

Zertifikatsnummer Certificate No.:

Q 50627040 0001

Produkt Product:

Display Unit (UHD Monitor)

Modell Type:

Bezeichnung Designation:
1) UHD Monitor Viewfinity S80A 27 inch
2) UHD Monitor Viewfinity S80A 32 inch
3) UHD Monitor Viewfinity S80D 27 inch
4) UHD Monitor Viewfinity S80D 32 inch

Berichtsnummer Report No .:

CN247I30 001



TUV, TUEV and TUV



www.tuv.com

#### Appendix [A] Carbon Reduction Certificate (3/3)

Seite Page 3/3 Zertifikat Certificate Zertifikatsnummer Certificate No.: Berichtsnummer Report No .: Q 50627040 0001 CN247I30 001 Produkt Product: Display Unit (UHD Monitor) Fertigungsstätten Factories: 1 SAMSUNG MEXICANA, S.A. DE C.V. BLVD. LOS OLIVOS #11110, PARQUE INDUSTRIAL EL FLORIDO, 2DA. SECCION, 22244 TIJUANA, Baja California, Mexico 2 SAMSUNG ELECTRONICS HCMC CE COMPLEX CO., LTD Lot I-11, D2 Road, Saigon Hi-tech Park, Tang Nhon Phu B Ward, Thu Duc City, Ho Chi Minh City 70000, Vietnam 3 SAMSUNG ELECTRONICS EGYPT S.A.E (SEEG) Piece No.98, Engineering Sector, Kom Abu Radi Industrial Zone, 62815 Al Wasta, Beni Suef Egypt Ca TÜVRheinis leruna and TUN



TUV, TUEV

www.tuv.com

#### Appendix [B] Review of Product Carbon Footprint Method (1/1)

## CERTIFICATE

Certificate-ID:

Certificate for:

C01-2023-12-21260216

Review of Product Carbon Footprint Method of Samsung Electronics Co., Ltd.

## SAMSUNG

Certified:	Samsung Electronics Co., Ltd. 129 Samsung-Ro, Yeoungtong-Gu, Suwon-Si, Gyeonggi-Do, Korea
Accounting scope:	Methodology for assessing the potential climate change impacts of Samsung electronic products
Applied Standard:	ISO 14067: 2018
Review Report:	ADTR-PCF-0027
Valid until:	December 31 <sup>st</sup> 2024

Based on the standard ISO 14067: 2018 the reviewer concludes that the PCF Methodology developed by Samsung Electronics Co., Ltd. is scientifically based and reflects the state of the art. The approach and principles behind the methodology are generally appropriate for the assessment of potential Climate Change impacts of the considered electronic products. Furthermore the data used are appropriate for the goal and scope of the method. Necessary recommendations for the documentation and calculation tool were discussed and implemented by Samsung Electronics Co., Ltd.. For the future, TÜV Rheinland recommends to continually enhance the methodology in line with the developments in science, technology and corresponding industry and to adapt the methodology report accordingly. Specifications and assessment limits can be found in the review report. The validity can be authenticated using the QR code, or the test mark ID at <u>www.certipedia.com</u>.

Jose

Susanne Jorre

Cologne, December 13, 2023

Ran Tao

Ran Tao TÜV Rheinland Group Sustainability and Carbon Services



Product Carbon Footprint Cartified Calculation Method WWW.tuc.com ID 0000065983





#### Appendix [B] Review of Product Carbon Footprint (1/3)



#### Appendix [B] Review of Product Carbon Footprint (2/3)

Berichtsnummer Report No.:

CN24KXRM 001

Seite Page 2/3

## Zertifikat Certificate

Zertifikatsnummer Certificate No.:

Q 50627037 0001

Produkt Product:

Display Unit (UHD Monitor)

Modell Type:

Bezeichnung Designation:
1) UHD Monitor Viewfinity S80A 27 inch
2) UHD Monitor Viewfinity S80A 32 inch
3) UHD Monitor Viewfinity S80D 27 inch
4) UHD Monitor Viewfinity S80D 32 inch



TÜV, TUEV and TUV



www.tuv.com

#### Appendix [B] Review of Product Carbon Footprint (3/3)

Seite Page 3/3 Zertifikat Certificate Zertifikatsnummer Certificate No.: Berichtsnummer Report No.: Q 50627037 0001 CN24KXRM 001 Produkt Product: Display Unit (UHD Monitor) Fertigungsstätten Factories: SAMSUNG MEXICANA, S.A. DE C.V. 1 BLVD. LOS OLIVOS #11110, PARQUE INDUSTRIAL EL FLORIDO, 2DA. SECCION, 22244 TIJUANA, Baja California, Mexico 2 SAMSUNG ELECTRONICS HCMC CE COMPLEX CO., LTD Lot I-11, D2 Road, Saigon Hi-tech Park, Tang Nhon Phu B Ward, Thu Duc City, Ho Chi Minh City 70000, Vietnam 3 SAMSUNG ELECTRONICS EGYPT S.A.E (SEEG) Piece No.98, Engineering Sector, Kom Abu Radi Industrial Zone, 62815 Al Wasta, Beni Suef Egypt Drior and application LGA Utilisatio **ÜVR**hein are registered trademarks izlerung 20 and TUV a TUEV a TUN.



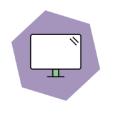
www.tuv.com

#### Appendix [C] TCO Certificate (1/6)



# **CERTIFICATE** TCO Certified, generation 9





Brand name: Samsung Model name: S27D800EAU

Certification date: 2024-04-23 Expiry date: 2026-04-23

#### Toward sustainable IT products

TCO Certified is the world-leading sustainability certification for IT products. It is an easyto-use tool that helps you get environmental and social sustainability right. Criteria are mandatory, tough, and apply globally. Compliance is always independently verified.

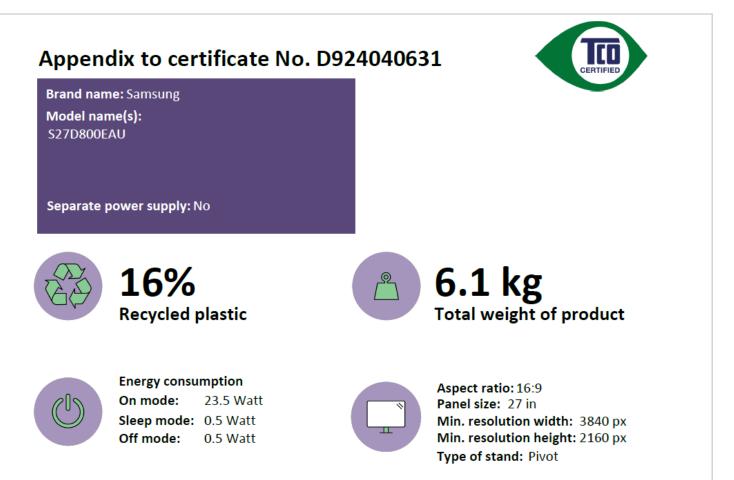
For more information, visit tcocertified.com.

Emma Hagrot Certification process TCO Development

No. D924040631

This certificate confirms that a sample of the certified product, as stated herein, has been tested and approved as to its compliance with the criteria document valid at the time of the laboratory test. The certified product may, subject to the use of the unique combination of brand name, type/model name and sales name as stated in this certificate, be marked and sold with the TCO Certified label in accordance with the agreement.

### Appendix [C] TCO Certificate (2/6)



Sales name(s): S27D800EAI, S27D800EAK, S27D800EAN, S27D800EAU, S27D800EAW, S27D802EAC, S27D802EAN, S27D804EAN, S27D806EAC, S27D806EAK, S27D806EAN

Model name type key(s) 1st \* : N/A 2nd \*: N/A

Emma Hagrot Certification process TCO Development

## Appendix [C] TCO Certificate (3/6)

#### Appendix to certificate No. D924040631



Panels:

SAMSUNG CY-MD270HGAV1H

Vez

Emma Hagrot Certification process TCO Development

#### Appendix [C] TCO Certificate (4/6)



# **CERTIFICATE** TCO Certified, generation 9





Brand name: Samsung Model name: S32D800EAU

Certification date: 2024-04-23 Expiry date: 2026-04-23

#### Toward sustainable IT products

TCO Certified is the world-leading sustainability certification for IT products. It is an easyto-use tool that helps you get environmental and social sustainability right. Criteria are mandatory, tough, and apply globally. Compliance is always independently verified.

For more information, visit tcocertified.com.

Emma Hagrot Certification process TCO Development

No. D924040634

This certificate confirms that a sample of the certified product, as stated herein, has been tested and approved as to its compliance with the criteria document valid at the time of the laboratory test. The certified product may, subject to the use of the unique combination of brand name, type/model name and sales name as stated in this certificate, be marked and sold with the TCO Certified label in accordance with the agreement.

### Appendix [C] TCO Certificate (5/6)



Sales name(s):

S32D800EAI, S32D800EAK, S32D800EAN, S32D800EAU, S32D800EAW, S32D802EAN, S32D804EAN, S32D806EAC, S32D806EAK, S32D806EAM, S32D806EAN

Model name type key(s) 1st \* : N/A 2nd \*: N/A

Emma Hagrot Certification process TCO Development

## Appendix [C] TCO Certificate (6/6)

#### Appendix to certificate No. D924040634





Panels:

SAMSUNG CY-MD315HGHV1H

Ver

Emma Hagrot Certification process TCO Development

#### Appendix [D] REACH Certificate(1/2)

## SAMSUNG

Samsung Electronics Co., Ltd 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea

#### Declaration of REACH Substances of Very High Concern (SVHCs) Disclosure

Model: LS32D800EAUXEN

Dear Customer:

The European Regulation 1907/2006 on the *Registration, Evaluation, Authorization, and Restriction of Chemicals* (REACH) entered into force on 1<sup>st</sup> June, 2007.<sup>1</sup>

Article 33 of REACH requires suppliers to inform recipients and respond to consumer enquiries if an article contains more than 0.1% (by weight per article) of any substance on the candidate list of Substances of Very High Concern (SVHC).<sup>2</sup>

Samsung Electronics Co. Ltd (the "SEC") hereby declares the presence of substances on the SVHC candidate list which are contained in a quantity of more than 0.1% (w/w) in the above product and / or its packaging<sup>3</sup> placed on the European Community market by the SEC and its subsidiaries.

The substances on the REACH SVHC candidate list in concentrations greater than 0.1% by weight per article are listed below.

Substance name	CAS No.	Application
Lead	7439-92-1	ASSY ACCESSORY MANUAL
Leau	/437-92-1	ASSY PCB MAIN
Lead monoxide (lead oxide)	1317-36-8	ASSY PCB MAIN
Melamine	108-78-1	ASSY BACK LIGHT UNIT

Signature:



Date: 2024-03-29

Global Customer Satisfaction Team

Name : Job position/Title : YONGSUP LEE Product Quality Group

<sup>1 &</sup>lt;u>http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:396:0001:0849:EN:PDF</u>

<sup>&</sup>lt;sup>2</sup> SVHC = Substances of Very High Concern. Considered as candidates for inclusion in Annex XIV of REACH.

The latest revision to the candidate list was published by the European Chemicals Agency on 17th January 2022 at: <a href="https://echa.europa.eu/candidate-list-table">https://echa.europa.eu/candidate-list-table</a> <sup>3</sup> Reference: ECHA Guidance on requirements for substances in Articles.

#### Appendix [D] REACH Certificate(2/2)

## SAMSUNG

Samsung Electronics Co., Ltd 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea

#### Declaration of REACH Substances of Very High Concern (SVHCs) Disclosure

Model: LS27D800EAUXEN

#### Dear Customer:

The European Regulation 1907/2006 on the *Registration, Evaluation, Authorization, and Restriction of Chemicals* (REACH) entered into force on 1<sup>st</sup> June, 2007.<sup>1</sup>

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Leau	7437-92-1	ASSY PCB MAIN
Lead monoxide (lead oxide)	1317-36-8	ASSY PCB MAIN
Melamine	108-78-1	ASSY BACK LIGHT UNIT

Signature:



Date: 2024-03-29

Global Customer Satisfaction Team

Name : Job position/Title : YONGSUP LEE Product Quality Group

<sup>1 &</sup>lt;u>http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:396:0001:0849:EN:PDF</u>

<sup>&</sup>lt;sup>2</sup> SVHC = Substances of Very High Concern. Considered as candidates for inclusion in Annex XIV of REACH.

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