

Environmental Footprint Declaration

Aurubis Gold



This document presents an environmental footprint declaration based on the results of a life cycle assessment (LCA) of Aurubis gold, developed in accordance with ISO 14040 and ISO 14044 standards and the principles of ISO 14025. No applicable Product Category Rules (PCR) were available at the time of publication.

1. General information

Product name	Gold
Declared unit	1 kg of 99.99 % gold (granules, bars)
Manufacturer	Aurubis
Production site(s)	Aurubis plant in Hamburg, Germany
LCA	Aurubis supported by Sphera
Publication date	13/10/2025
Time coverage	Reference calendar year 2024
Independent verifier	TÜV NORD CERT Prüf- und Umweltgutachtergesellschaft mbH
Review type	Critical review per ISO 14044 (Clause 6)

2. Methodology and scope

Applied standards/guidelines: The study was conducted in accordance with the ISO 14040 (ISO 14040:2021 Environmental management — Life cycle assessment — Principles and framework) and ISO 14044 (ISO 14044:2021 Environmental management — Life cycle assessment — Requirements and guidelines) LCA standards and the Environmental Footprint impact assessment method (3.1).

Functional unit: 1 kg of 99.99 % gold (granules, bars) at plant gate.

System boundaries: Cradle-to-gate life cycle inventory from the extraction of raw materials to the production of gold, based on allocated inputs from copper electrolysis and lead refining. Excludes packaging, downstream use, and end-of-life.

Allocation procedures: Economic allocation was applied in the life cycle inventory of gold to fairly account for the wide range of co-products.

3. Product

Product description: The Aurubis product gold is offered as fine gold granules and bars with a purity of 99.99 % Au.

Technical properties/applications: The Aurubis product gold meets ASTM B562–95 specifications and is suitable for use in electronics, dental alloys, jewelry manufacturing, and as a financial investment. Its excellent conductivity, corrosion resistance, and purity make it ideal for demanding industrial and technological applications.

Expected service life: 50+ years (dependent on downstream application, e.g., in electronics, renewable energy systems, or industrial)

4. Environmental performance — impact results (per 1 kg gold)

Impact category	Unit	Result
Climate change	kg CO ₂ eq	12,243
Ozone depletion	kg CFC-11 eq	0.0000001
Human toxicity, cancer effects ¹	CTUh	0.000009
Human toxicity, non-cancer effects ¹	CTUh	0.0002
Particulate matter	Disease incidences	0.002
Ionizing radiation	kBq U235 eq	618
Photochemical ozone formation	kg NMVOC eq	79.2
Acidification	mol H+ eq	118
Eutrophication (terrestrial)	mol N eq	310
Eutrophication (freshwater)	kg P eq	0.11
Eutrophication (marine)	kg N eq	28.7
Ecotoxicity (freshwater) ¹	CTUe	67,039
Land use ¹	Pt	55,773
Water use	m ³ world eq	14,732
Resource use, energy carriers	MJ	144,986
Resource use, mineral and metals ¹	kg Sb eq	9.8

¹ Impacts are not sufficiently robust and accurate to be used for metals.

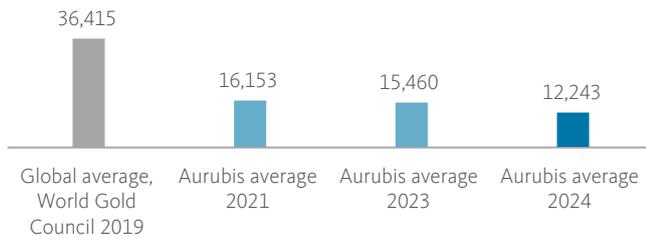
5. Environmental performance improvement and comparison with global average

The following graphs show the environmental improvements achieved by the company between 2021, 2023 and 2024 for gold production.

They also compare the carbon footprint of Aurubis gold with global average values. Global average data was sourced from the World Gold Council.

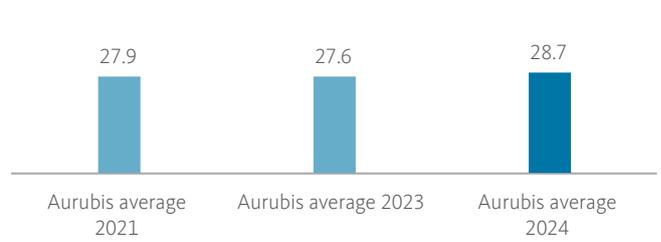
Carbon footprint

in kg CO₂ eq/kg Au



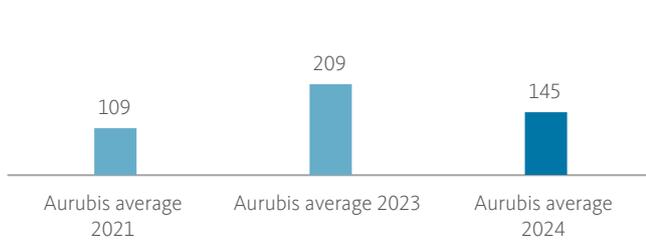
Eutrophication, marine

in kg N eq/kg Au



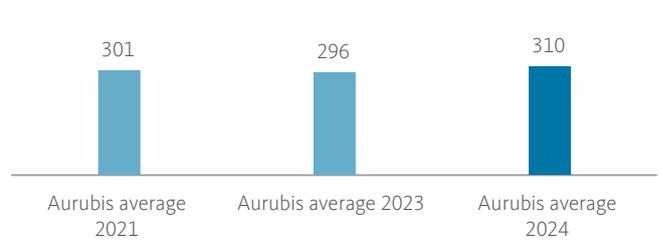
Resource use, fossils

in GJ/kg Au



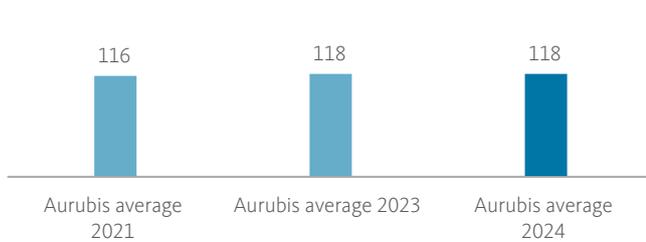
Eutrophication, terrestrial

in mole N eq/kg Au



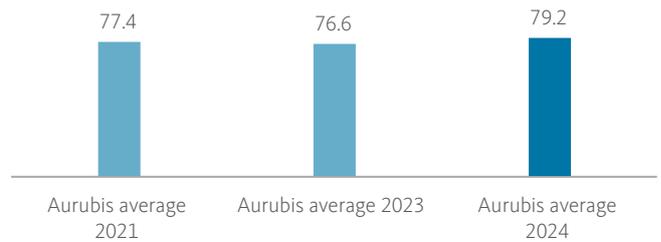
Acidification

in mole H⁺ eq/kg Au



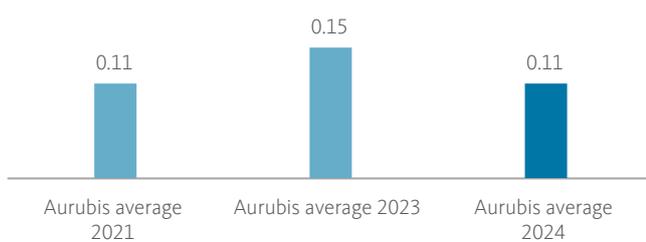
Summer smog

in kg NMVOC eq/kg Au



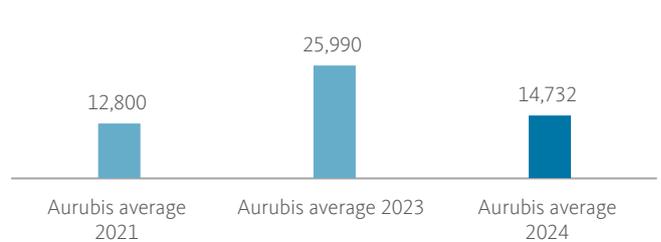
Eutrophication, freshwater

in kg P eq/kg Au



Water use

m³ world eq/kg Au



6. Additional environmental information

Recycled content: The recycled content of gold for calendar year 2024 was 23 %. The recycled content has been verified by TÜV Nord Cert on the basis on ISO 14021.

Environmental labels/Certifications: Aurubis Hamburg, the gold producing site, is certified to ISO 14001 and ISO 50001. Aurubis is certified for processing conflict-free gold with Good Delivery status based on the London Bullion Market Association (LBMA) Gold Guidance and the OECD Due Diligence Guidance for conflict minerals.

7. Interpretation and conclusions

The environmental impact of Aurubis gold is mainly influenced by anode slime, with minor contributions from purchased materials, emissions and energy use.

Aurubis gold has a significantly lower carbon footprint compared to the global gold average reported by the World Gold Council.

The updated environmental impact of Aurubis gold for 2024 is lower than the profile from 2023 for most of the impact categories.

8. Verification

Verification type	Critical review in accordance with ISO 14040 (2021) and ISO 14044 (2021)
Verifier name & organization	Dr. Winfried Hirtz, Michael Sommer TÜV NORD CERT Prüf- und Umweltgutachtergesellschaft mbH Am TÜV 1, 30519 Hannover, Germany Phone +49 (0) 511 986-1172 Email whirtz@tuev-nord.de; micsommer@tuev-nord.de
Date of verification	2/10/2025

The review confirmed that the LCA complies with the applicable standards and is scientifically and technically valid.

9. Disclaimer

This declaration has not been issued under a program operator and has not been verified in accordance with a PCR because none is available. The information is provided for transparency and B2B communication purposes.

10. Annexes

- A. LCA Report
- B. Benchmarking Information World Gold Council, Gold and Climate change: current and future impacts, October 2019

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