



# Smelter and Refiner List

**This list contains the smelters and refiners identified in Apple's supply chain as of December 31, 2022 for certain minerals.**



**As we work to protect the planet and uphold the human rights of people throughout our supply chain, Apple is committed to setting the highest standards when it comes to responsibly sourcing the materials used in our products.**



# Smelter and Refiner List

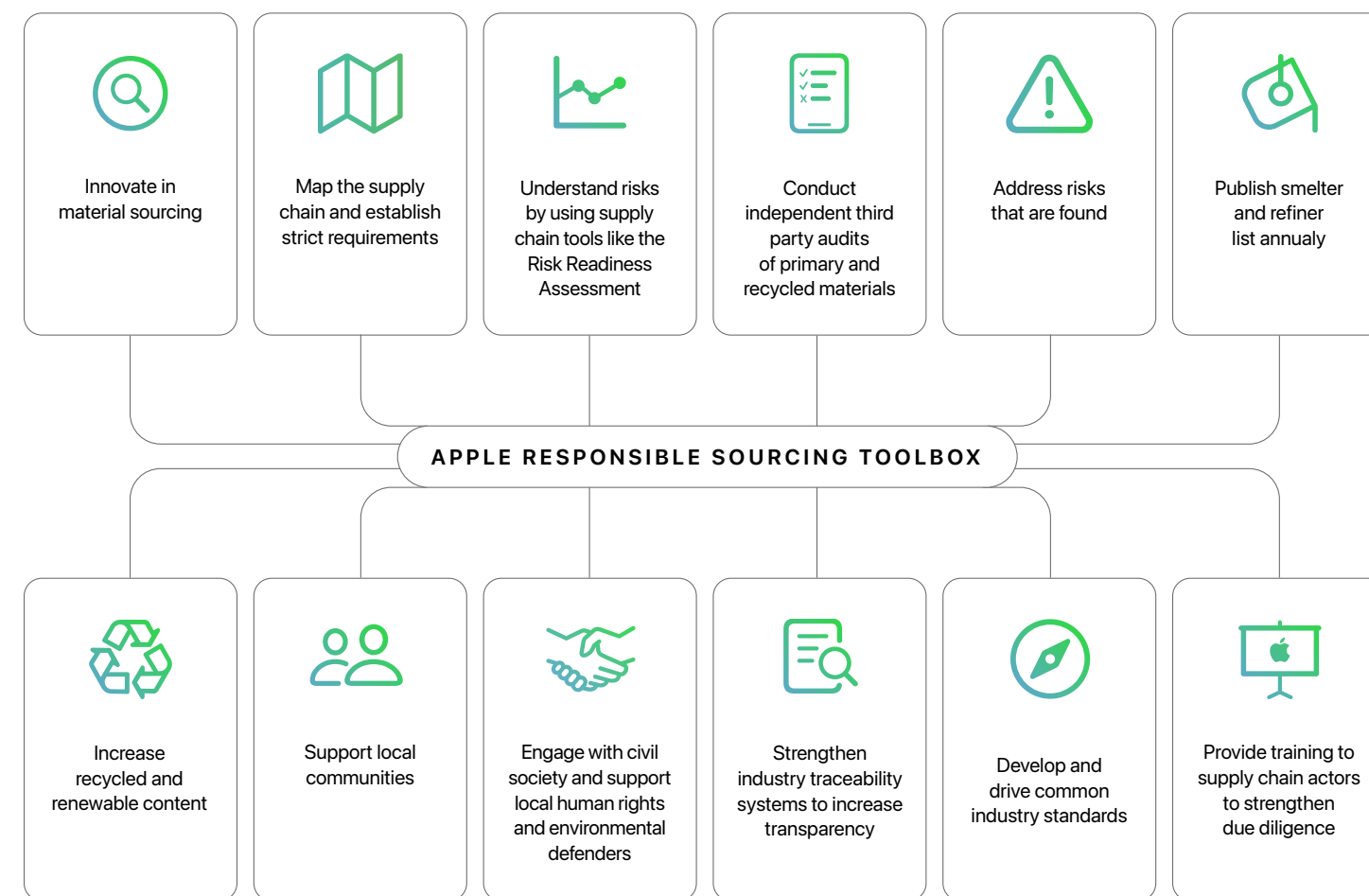
**Our Responsible Materials Sourcing program sets supplier standards for the sourcing of the many materials found in Apple products, ranging from advanced bio-materials to minerals sourced from the earth and recycled content.**

Our goal is to one day use only recycled and renewable materials in our products and packaging. While we work toward this goal, we continue to responsibly source minerals by conducting environmental and human rights due diligence in our supply chain, considering human rights impact on surrounding communities, and fostering opportunities for industry wide progress on responsible minerals sourcing. Just as we do throughout Apple’s supply chain, we utilize a comprehensive set of tools to drive progress in pursuit of these goals.

100% of identified Tin, Tantalum, Tungsten, Gold (3TG), Cobalt, and Lithium smelters and refiners have completed a Third-Party Audit.

More information on our Responsible Materials Sourcing program is available in Apple’s annual [People and Environment in Our Supply Chain Progress Report](#) as well as our [Conflict Minerals Report](#).

For more details, as well as the most current status of each 3TG and Cobalt smelter or refiner, please refer to the information provided by the [Responsible Minerals Initiative’s Responsible Minerals Assurance Process](#) and the [London Bullion Market Association’s Good Delivery List](#).





## Cobalt

<b>SMELTER OR REFINER NAME</b>	<b>COUNTRY OR REGION</b>
Ganzhou Highpower Technology Co., Ltd.	China mainland
Ganzhou Tengyuan Cobalt New Material Co., Ltd.	China mainland
GEM (JIANGSU) Cobalt Industry Co.,Ltd.	China mainland
Guangdong Jiana Energy Technology Co.,Ltd	China mainland
Hunan CNGR New Energy Science & Technology Co., Ltd.	China mainland
Hunan Yacheng New Materials Co.,Ltd.	China mainland
Jiangsu Xiongfeng Science & Technology Co., LTD	China mainland
Lanzhou Jinchuan Advanced Materials Technology Co., Ltd.	China mainland
Quzhou Huayou Cobalt New Material Co., Ltd	China mainland
Umicore Finland Oy	Finland
Umicore Olen (Umicore)	Belgium
XTC New Energy Materials (Xiamen) Ltd.	China mainland
Zhejiang Huayou Cobalt Co., Ltd.	China mainland
Zhuhai Kelixin Metal Materials Co.,Ltd	China mainland

## Lithium

<b>SMELTER OR REFINER NAME</b>	<b>COUNTRY OR REGION</b>
General Lithium Corporation	China mainland
Guizhou Redstar Electronic Materials Co., Ltd	China mainland
Hunan Brunp Recycling Technology Co., Ltd.	China mainland
Jingmen GEM Co., Ltd	China mainland
JS Tech Co., Ltd.	South Korea
Ningdu Ganfeng Lithium Co., Ltd.	China mainland
Qinghai Dongtai Jinear Lithium Resources Co., Ltd.	China mainland
Sichuan Energy Investment Dingsheng Lithium Technology Co., Ltd	China mainland
Sichuan SiTeRui Lithium Co., Ltd.	China mainland
Sichuang Zhiyuan Lithium Co., Ltd.	China mainland
SQM Salar S.A	Chile
Tianqi Lithium (Jiangsu) Co., Ltd.	China mainland
Tianqi Lithium Industry (Shehong) Co., Ltd.	China mainland



## Tungsten

SMELTER OR REFINER NAME	COUNTRY OR REGION
A.L.M.T. Corp. *	Japan
ACL Metais Eireli **	Brazil
Asia Tungsten Products Vietnam Ltd.	Vietnam
China Molybdenum Tungsten Co., Ltd.	China mainland
Chongyi Zhangyuan Tungsten Co., Ltd.	China mainland
Cronimet Brasil Ltda	Brazil
Fujian Ganmin RareMetal Co., Ltd.	China mainland
Fujian Xinlu Tungsten Co., Ltd.	China mainland
Ganzhou Haichuang Tungsten Co., Ltd.	China mainland
Ganzhou Huaxing Tungsten Products Co., Ltd.	China mainland
Ganzhou Jiangwu Ferrotungsten Co., Ltd. *	China mainland
Ganzhou Seadragon W & Mo Co., Ltd.	China mainland
Global Tungsten & Powders Corp. *	United States
Guangdong Xianglu Tungsten Co., Ltd.	China mainland
H.C. Starck Tungsten GmbH *	Germany
Hubei Green Tungsten Co., Ltd.	China mainland
Hunan Chenzhou Mining Co., Ltd.	China mainland
Hunan Jintai New Material Co., Ltd.	China mainland
Hunan Shizhuyuan Nonferrous Metals Co., Ltd. Chenzhou Tungsten Products Branch	China mainland
Japan New Metals Co., Ltd. *	Japan
Jiangwu H.C. Starck Tungsten Products Co., Ltd.	China mainland
Jiangxi Gan Bei Tungsten Co., Ltd.	China mainland
Jiangxi Tonggu Non-ferrous Metallurgical & Chemical Co., Ltd.	China mainland
Jiangxi Xinsheng Tungsten Industry Co., Ltd.	China mainland
Jiangxi Yaosheng Tungsten Co., Ltd.	China mainland

## Tungsten (cont.)

SMELTER OR REFINER NAME	COUNTRY OR REGION
Kennametal Fallon	United States
Kennametal Huntsville *	United States
KGETS Co., Ltd. *	South Korea
Lianyou Metals Co., Ltd. *	Taiwan
Malipo Haiyu Tungsten Co., Ltd.	China mainland
Masan High-Tech Materials *	Vietnam
Moliren Ltd. **, ***	Russia
Niagara Refining LLC	United States
Philippine Chuangxin Industrial Co., Inc. *	Philippines
TANIOBIS Smelting GmbH & Co. KG *	Germany
Wolfram Bergbau und Hütten AG	Austria
Xiamen Tungsten (H.C.) Co., Ltd.	China mainland
Xiamen Tungsten Co., Ltd. *	China mainland
Xinfeng Huarui Tungsten & Molybdenum New Material Co., Ltd.	China mainland



# Tin

SMELTER OR REFINER NAME	COUNTRY OR REGION	SMELTER OR REFINER NAME	COUNTRY OR REGION
Alpha *	United States	Mitsubishi Materials Corporation *	Japan
Aurubis Beerse	Belgium	O.M. Manufacturing (Thailand) Co., Ltd. *	Thailand
Aurubis Berango *	Spain	O.M. Manufacturing Philippines, Inc. *	Philippines
Chenzhou Yunxiang Mining and Metallurgy Co., Ltd. *	China mainland	Operaciones Metalurgicas S.A.	Bolivia
Chifeng Dajingzi Tin Industry Co., Ltd. *	China mainland	PT Aries Kencana Sejahtera	Indonesia
China Tin Group Co., Ltd. *	China mainland	PT Artha Cipta Langgeng	Indonesia
CRM Synergies *	Spain	PT ATD Makmur Mandiri Jaya	Indonesia
CV Ayi Jaya	Indonesia	PT Babel Inti Perkasa	Indonesia
CV Venus Inti Perkasa	Indonesia	PT Babel Surya Alam Lestari	Indonesia
Dowa *	Japan	PT Bangka Serumpun	Indonesia
EM Vinto	Bolivia	PT Bukit Timah	Indonesia
Estanho de Rondonia S.A.	Brazil	PT Cipta Persada Mulia	Indonesia
Fabrica Auricchio Industria e Comercio Ltda.	Brazil	PT Menara Cipta Mulia	Indonesia
Fenix Metals *	Poland	PT Mitra Stania Prima	Indonesia
Gejiu Non-Ferrous Metal Processing Co., Ltd.	China mainland	PT Mitra Sukses Globalindo	Indonesia
Gejiu Zili Mining And Metallurgy Co., Ltd. **	China mainland	PT Prima Timah Utama	Indonesia
Guangdong Hanhe Non-Ferrous Metal Co., Ltd. *	China mainland	PT Putera Sarana Shakti (PT PSS)	Indonesia
HuiChang Hill Tin Industry Co., Ltd.	China mainland	PT Rajawali Rimba Perkasa	Indonesia
Jiangxi New Nanshan Technology Ltd. *	China mainland	PT Rajehan Ariq	Indonesia
Luna Smelter, Ltd.	Rwanda	PT Refined Bangka Tin	Indonesia
Ma'anshan Weitai Tin Co., Ltd. *	China mainland	PT Sariwiguna Binasentosa	Indonesia
Magnu's Minerais Metais e Ligas Ltda. *	Brazil	PT Stanindo Inti Perkasa	Indonesia
Malaysia Smelting Corporation (MSC) *	Malaysia	PT Sukses Inti Makmur	Indonesia
Metallic Resources, Inc. *	United States	PT Timah Nusantara	Indonesia
Mineração Taboca S.A.	Brazil	PT Timah Tbk Kundur	Indonesia
Minsur	Peru	PT Timah Tbk Mentok	Indonesia



## Tin (cont.)

SMELTER OR REFINER NAME	COUNTRY OR REGION
PT Tinindo Inter Nusa **	Indonesia
PT Tommy Utama	Indonesia
Resind Indústria e Comércio Ltda.	Brazil
Rui Da Hung *	Taiwan
Soft Metais Ltda. **	Brazil
Thai Nguyen Mining and Metallurgy Co., Ltd.	Vietnam
Thaisarco *	Thailand
Tin Smelting Branch of Yunnan Tin Co., Ltd.	China mainland
Tin Technology & Refining *	United States
White Solder Metalurgia e Mineração Ltda.	Brazil
Yunnan Chengfeng Non-ferrous Metals Co., Ltd.	China mainland

## Tantalum

SMELTER OR REFINER NAME	COUNTRY OR REGION
AMG Brasil	Brazil
Changsha South Tantalum Niobium Co., Ltd. *	China mainland
D Block Metals, LLC *	United States
F&X Electro-Materials Ltd.	China mainland
FIR Metals & Resource Ltd. *	China mainland
Global Advanced Metals Aizu *	Japan
Global Advanced Metals Boyertown *	United States
Guangdong Rising Rare Metals-EO Materials Ltd.**	China mainland
H.C. Starck Hermsdorf GmbH *	Germany
Hengyang King Xing Lifeng New Materials Co., Ltd.	China mainland
Jiangxi Dinghai Tantalum & Niobium Co., Ltd.	China mainland
Jiangxi Tuohong New Raw Material	China mainland
JiuJiang JinXin Nonferrous Metals Co., Ltd.	China mainland
Jiujiang Tanbre Co., Ltd. *	China mainland
Jiujiang Zhongao Tantalum & Niobium Co., Ltd.	China mainland
KEMET de Mexico *	Mexico
Materion Newton Inc. *	United States
Meta Materials **	North Macedonia
Metallurgical Products India Pvt., Ltd. *	India
Mineração Taboca S.A.	Brazil
Mitsui Mining and Smelting Co., Ltd. *	Japan
Ningxia Orient Tantalum Industry Co., Ltd.	China mainland
NPM Silmet AS *	Estonia
QuantumClean *	United States
Resind Indústria e Comércio Ltda.	Brazil
RFH Yancheng Jinye New Material Technology Co., Ltd.	China mainland



## Tantalum (cont.)

SMELTER OR REFINER NAME	COUNTRY OR REGION
Taki Chemical Co., Ltd. *	Japan
TANIOBIS Co., Ltd.	Thailand
TANIOBIS GmbH *	Germany
TANIOBIS Japan Co., Ltd.	Japan
TANIOBIS Smelting GmbH & Co. KG *	Germany
Telex Metals *	United States
Ulba Metallurgical Plant JSC *	Kazakhstan
XIMEI RESOURCES (GUANGDONG) LIMITED	China mainland
XinXing Haorong Electronic Material Co., Ltd.	China mainland
Yanling Jincheng Tantalum & Niobium Co., Ltd.	China mainland

## Gold

SMELTER OR REFINER NAME	COUNTRY OR REGION
8853 S.p.A. **, ***	Italy
Advanced Chemical Company *	United States
Agosi AG	Germany
Aida Chemical Industries Co., Ltd. *	Japan
Al Etihad Gold Refinery DMCC *	United Arab Emirates
Almalyk Mining and Metallurgical Complex (AMMC)	Uzbekistan
AngloGold Ashanti Córrego do Sítio Mineração	Brazil
Argor-Heraeus S.A.	Switzerland
Asahi Pretec Corp.	Japan
Asahi Refining Canada Ltd.	Canada
Asahi Refining USA Inc.	United States
Asaka Riken Co., Ltd. *	Japan
Aurubis AG	Germany
Bangalore Refinery *	India
Bangko Sentral ng Pilipinas (Central Bank of the Philippines)	Philippines
Boliden AB	Sweden
C. Hafner GmbH + Co. KG	Germany
CCR Refinery - Glencore Canada Corporation	Canada
Cendres + Metaux S.A. **, ***	Switzerland
Chimet S.p.A.	Italy
Chugai Mining *	Japan
DODUCO Contacts and Refining GmbH **	Germany
Dowa *	Japan
DSC (Do Sung Corporation) *	South Korea
Eco-System Recycling Co., Ltd. East Plant *	Japan
Eco-System Recycling Co., Ltd. North Plant *	Japan



**Gold (cont.)**

<b>SMELTER OR REFINER NAME</b>	<b>COUNTRY OR REGION</b>	<b>SMELTER OR REFINER NAME</b>	<b>COUNTRY OR REGION</b>
Eco-System Recycling Co., Ltd. West Plant *	Japan	Metalor Technologies (Hong Kong) Ltd.	China mainland
Emirates Gold DMCC *	United Arab Emirates	Metalor Technologies (Singapore) Pte., Ltd.	Singapore
Geib Refining Corporation *	United States	Metalor Technologies (Suzhou) Ltd.	China mainland
Gold Refinery of Zijin Mining Group Co., Ltd.	China mainland	Metalor Technologies S.A.	Switzerland
Great Wall Precious Metals Co., Ltd. of CBPM	China mainland	Metalor USA Refining Corporation	United States
Heimerle + Meule GmbH	Germany	Metalúrgica Met-Mex Peñoles S.A. de C.V.	Mexico
Heraeus Germany GmbH Co. KG *	Germany	Mitsubishi Materials Corporation *	Japan
Heraeus Metals Hong Kong Ltd.	China mainland	Mitsui Mining and Smelting Co., Ltd. *	Japan
Inner Mongolia Qiankun Gold and Silver Refinery Share Co., Ltd.	China mainland	MKS PAMP SA	Switzerland
Ishifuku Metal Industry Co., Ltd.	Japan	MMTC-PAMP India Pvt., Ltd.	India
Istanbul Gold Refinery	Türkiye	Nadir Metal Rafineri San. Ve Tic. A.S.	Türkiye
Italpreziosi	Italy	Navoi Mining and Metallurgical Combinat	Uzbekistan
Japan Mint	Japan	NH Recytech Company *	South Korea
Jiangxi Copper Co., Ltd.	China mainland	Nihon Material Co., Ltd.	Japan
JX Nippon Mining & Metals Co., Ltd.	Japan	Ogussa Österreichische Gold- und Silber-Scheideanstalt GmbH ***	Austria
Kazzinc	Kazakhstan	Ohura Precious Metal Industry Co., Ltd. *	Japan
Kennecott Utah Copper LLC	United States	Planta Recuperadora de Metales SpA	Chile
KGHM Polska Miedz Spólka Akcyjna	Poland	PT Aneka Tambang (Persero) Tbk	Indonesia
Kojima Chemicals Co., Ltd. *	Japan	PX Précinox S.A.	Switzerland
Korea Zinc Co., Ltd. *	South Korea	Rand Refinery (Pty) Ltd.	South Africa
L'Orfebre S.A. *	Andorra	Remondis PMR B.V. *	Netherlands
LS-NIKKO Copper Inc.	South Korea	Royal Canadian Mint	Canada
LT Metal Ltd. *	South Korea	SAAMP ***	France
Materion *	United States	Safimet S.p.A ** , ***	Italy
Matsuda Sangyo Co., Ltd.	Japan	SAFINA A.S. *	Czechia
Metal Concentrators SA (Pty) Ltd. ***	South Africa	Samduck Precious Metals * , **	South Korea



## Gold (cont.)

<b>SMELTER OR REFINER NAME</b>	<b>COUNTRY OR REGION</b>
SEMPSA Joyería Platería S.A.	Spain
Shandong Gold Smelting Co., Ltd.	China mainland
Shandong Zhaojin Gold & Silver Refinery Co., Ltd.	China mainland
Sichuan Tianze Precious Metals Co., Ltd.	China mainland
Singway Technology Co., Ltd. **	Taiwan
Solar Applied Materials Technology Corp.	Taiwan
Sumitomo Metal Mining Co., Ltd.	Japan
SungEel HiMetal Co., Ltd. *	South Korea
T.C.A S.p.A	Italy
Tanaka Kikinzoku Kogyo K.K.	Japan
Tokuriki Honten Co., Ltd.	Japan
TOO Tau-Ken-Altyn	Kazakhstan
Torecom *	South Korea
Umicore Precious Metals Thailand ***	Thailand
Umicore S.A. Business Unit Precious Metals Refining	Belgium
United Precious Metal Refining, Inc. *	United States
Valcambi S.A.	Switzerland
Western Australian Mint (T/a The Perth Mint)	Australia
WIELAND Edelmetalle GmbH	Germany
Yamakin Co., Ltd. *	Japan
Yokohama Metal Co., Ltd. *	Japan
Zhongyuan Gold Smelter of Zhongjin Gold Corporation	China mainland

\*\*\* The smelter/refiner continues to be in the process of removal as of the filing of this report and/or is no longer approved to be in Apple's supply chain.

\*\* The smelter/refiner has changed its compliance or operational status since December 31, 2022.

\* The smelter/refiner is believed to process at least some 3TG from recycled or scrap sources.

