



Smelter and Refiner List

This list contains the smelters and refiners identified in Apple's supply chain as of December 31, 2023 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

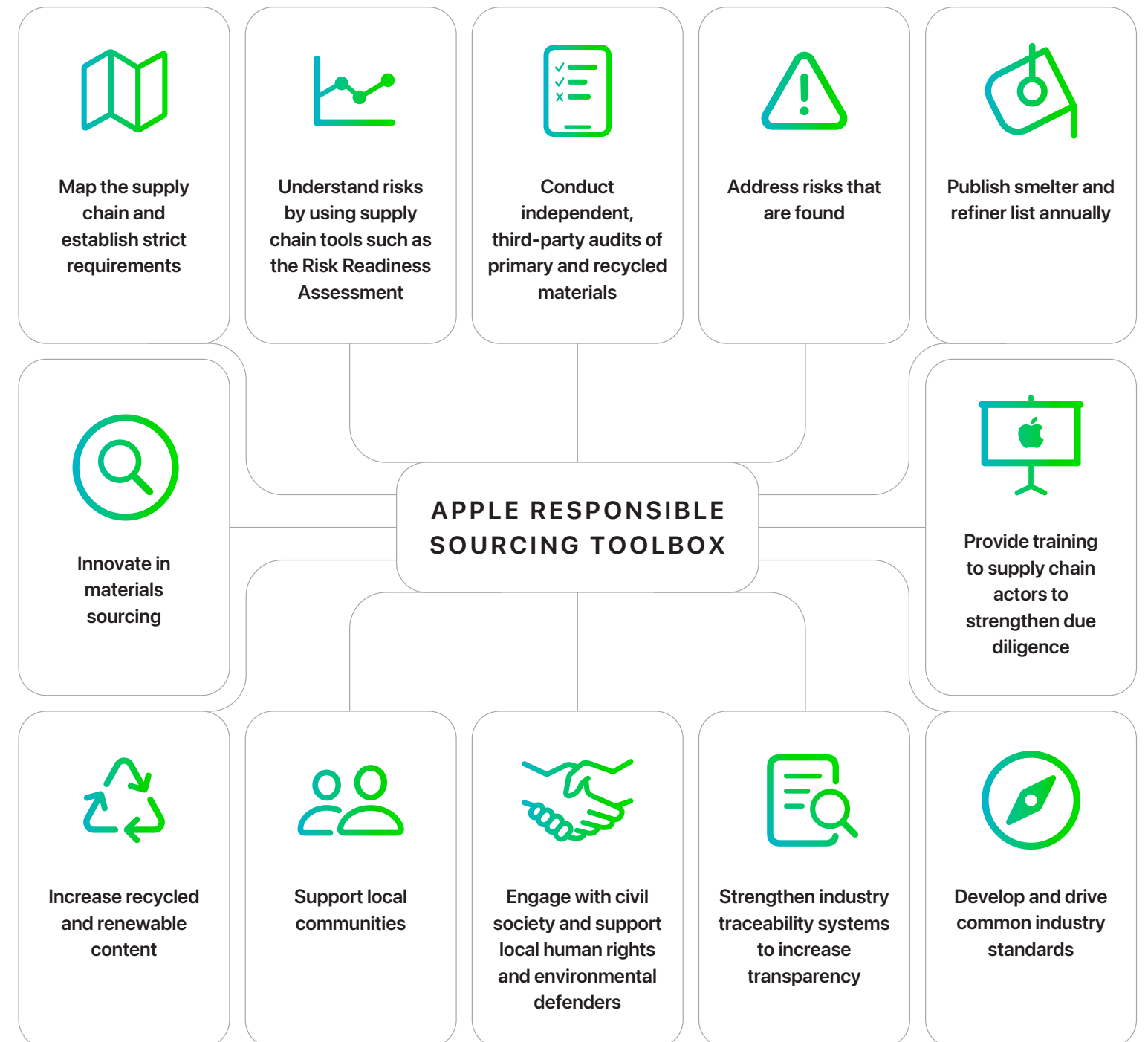
Our Responsible Materials Sourcing program sets supplier standards for the sourcing of the many materials found in Apple products, ranging from advanced bio-materials to minerals sourced from the earth and recycled content.

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 participated in 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

SMELTER OR REFINER NAME	COUNTRY OR REGION
BASF Shanshan Battery Materials (Ningxia) Co., Ltd.	China mainland
Ganzhou Highpower Technology Co., Ltd.	China mainland
Ganzhou Yi Hao Umicore Industry Co., Ltd.	China mainland
GEM (JIANGSU) Cobalt Industry Co., Ltd.	China mainland
Hunan CNGR New Energy Science & Technology Co., Ltd.	China mainland
Jingmen GEM 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	Belgium
XTC New Energy Materials (Xiamen) Ltd.	China mainland
Zhejiang Huayou Cobalt Co., Ltd.	China mainland
Zhejiang New Era Zhongneng Technology Co., Ltd.	China mainland
Zhuhai Kelixin Metal Materials Co., Ltd	China mainland

Lithium

SMELTER OR REFINER NAME	COUNTRY OR REGION
BASF Shanshan Battery Materials (Ningxia) Co., Ltd.	China mainland
General Lithium Corporation	China mainland
Guangdong Guanghua Science & Technology Co., Ltd.	China mainland
Hunan Yongshan Lithium Co., Ltd.	China mainland
Jiangxi Ganfeng Lithium Group Co., Ltd.	China mainland
Ningdu Ganfeng Lithium Co., Ltd.	China mainland
Qinghai Dongtai Jinear Lithium Resources Co., Ltd.	China mainland
Sales de Jujuy S.A.	Argentina
Sichuan Zhiyuan Lithium Industries Co., Ltd.	China mainland
SQM Salar S.A.	Chile
Tianqi Lithium (Jiangsu) Co., Ltd.	China mainland
Tianqi Lithium (Shehong) Co., Ltd.	China mainland



Tin

SMELTER OR REFINER NAME	COUNTRY OR REGION	SMELTER OR REFINER NAME	COUNTRY OR REGION
Alpha *	United States	Minsur	Peru
Aurubis Beerse *	Belgium	Mitsubishi Materials Corporation *	Japan
Aurubis Berango *	Spain	O.M. Manufacturing (Thailand) Co., Ltd. *	Thailand
Chenzhou Yunxiang Mining and Metallurgy Co., Ltd. *	China mainland	O.M. Manufacturing Philippines, Inc. *	Philippines
Chifeng Dajingzi Tin Industry Co., Ltd. *	China mainland	Operaciones Metalurgicas S.A.	Bolivia
China Tin Group Co., Ltd. *	China mainland	PT Aries Kencana Sejahtera	Indonesia
CRM Fundicao De Metais E Comercio De Equipamentos Eletronicos Do Brasil Ltda *	Brazil	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 Prima Tin	Indonesia
DS Myanmar	Myanmar	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
Guangdong Hanhe Non-Ferrous Metal Co., Ltd. *	China mainland	PT Premium Tin Indonesia	Indonesia
HuiChang Hill Tin Industry Co., Ltd.	China mainland	PT Prima Timah Utama	Indonesia
Jiangxi New Nanshan Technology Ltd. *	China mainland	PT Putera Sarana Shakti (PT PSS)	Indonesia
Luna Smelter, Ltd.	Rwanda	PT Rajawali Rimba Perkasa	Indonesia
Magnu's Minerai's Metais e Ligas Ltda. *	Brazil	PT Rajehan Ariq	Indonesia
Malaysia Smelting Corporation (MSC) *	Malaysia	PT Refined Bangka Tin	Indonesia
Metallic Resources, Inc. *	United States	PT Sariwiguna Binasentosa	Indonesia
Mineracao Taboca S.A.	Brazil	PT Stanindo Inti Perkasa	Indonesia
		PT Sukses Inti Makmur (SIM)	Indonesia



Tin (cont.)

SMELTER OR REFINER NAME	COUNTRY OR REGION
PT Timah Nusantara	Indonesia
PT Timah Tbk Kundur	Indonesia
PT Timah Tbk Mentok	Indonesia
PT Tinindo Inter Nusa	Indonesia
PT Tommy Utama	Indonesia
Resind Industria e Comercio Ltda.	Brazil
Rui Da Hung *	Taiwan
Super Ligas	Brazil
Thaisarco *	Thailand
Tin Smelting Branch of Yunnan Tin Co., Ltd. *	China mainland
Tin Technology & Refining *	United States
White Solder Metalurgia e Mineracao Ltda.	Brazil
Yunnan Chengfeng Non-ferrous Metals Co., Ltd.	China mainland
Yunnan Yunfan Non-Ferrous Metals Co., Ltd.	China mainland

Tantalum

SMELTER OR REFINER NAME	COUNTRY OR REGION
AMG Brasil	Brazil
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
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
Metallurgical Products India Pvt., Ltd. *	India
Mineracao 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 Industria e Comercio Ltda.	Brazil
RFH Yancheng Jinye New Material Technology Co., Ltd.	China mainland
Taki Chemical Co., Ltd. *	Japan
TANIOBIS Co., Ltd. *	Thailand
TANIOBIS GmbH *	Germany
TANIOBIS Japan Co., Ltd.	Japan



Tantalum (cont.)

SMELTER OR REFINER NAME	COUNTRY OR REGION
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

Tungsten

SMELTER OR REFINER NAME	COUNTRY OR REGION
A.L.M.T. Corp. *	Japan
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 Xinlu Tungsten Co., Ltd.	China mainland
Ganzhou Haichuang Tungsten Co., Ltd. **	China mainland
Ganzhou Jiangwu Ferrotungsten Co., Ltd.	China mainland
Ganzhou Seadragon W & Mo Co., Ltd.	China mainland
Global Tungsten & Powders LLC	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 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
Kennametal Fallon	United States
Kennametal Huntsville *	United States
Lianyou Metals Co., Ltd. *	Taiwan
Malipo Haiyu Tungsten Co., Ltd.	China mainland



Tungsten (cont.)

SMELTER OR REFINER NAME	COUNTRY OR REGION
Masan High-Tech Materials *	Vietnam
Niagara Refining LLC	United States
Philippine Chuangxin Industrial Co., Inc. *	Philippines
TANIOBIS Smelting GmbH & Co. KG *	Germany
Tungsten Vietnam Joint Stock Company *	Vietnam
Wolfram Bergbau und Hutten AG *	Austria
Xiamen Tungsten (H.C.) Co., Ltd.	China mainland
Xiamen Tungsten Co., Ltd. *	China mainland

Gold

SMELTER OR REFINER NAME	COUNTRY OR REGION
Abington Reldan Metals, LLC *	United States
Advanced Chemical Company *	United States
Agosi AG *	Germany
Aida Chemical Industries Co., Ltd. *	Japan
Almalyk Mining and Metallurgical Complex (AMMC)	Uzbekistan
AngloGold Ashanti Corrego do Sitio Mineracao	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
Bangko Sentral ng Pilipinas (Central Bank of the Philippines)	Philippines
Boliden Ronnskar	Sweden
C. Hafner GmbH + Co. KG *	Germany
CCR Refinery - Glencore Canada Corporation	Canada
Chimet S.p.A.	Italy
Chugai Mining *	Japan
Dowa *	Japan
DSC (Do Sung Corporation) *	South Korea
Eco-System Recycling Co., Ltd. East Plant *	Japan
Eco-System Recycling Co., Ltd. North Plant *	Japan
Eco-System Recycling Co., Ltd. West Plant *	Japan
Geib Refining Corporation *	United States
Gold by Gold Colombia *	Colombia
Gold Refinery of Zijin Mining Group Co., Ltd.	China mainland

**Gold (cont.)**

SMELTER OR REFINER NAME	COUNTRY OR REGION	SMELTER OR REFINER NAME	COUNTRY OR REGION
Heimerle + Meule GmbH *	Germany	Metalurgica Met-Mex Penoles 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	Turkey	Nadir Metal Rafineri San. Ve Tic. A.S.	Turkey
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 Osterreichische 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 Spolka Akcyjna	Poland	PT Aneka Tambang (Persero) Tbk	Indonesia
Kojima Chemicals Co., Ltd. *	Japan	PX Precinox S.A.	Switzerland
Korea Zinc Co., Ltd. *	South Korea	Rand Refinery (Pty) Ltd.	South Africa
L'Orfebvre S.A. *	Andorra	REMONDIS PMR B.V. *	Netherlands
LS MnM Inc.	South Korea	Royal Canadian Mint	Canada
LT Metal Ltd. *	South Korea	SAFINA A.S. *	Czechia
Materion *	United States	Sancus ZFS (L'Orfebvre, SA)**	Colombia
Matsuda Sangyo Co., Ltd. *	Japan	SEMPSA Joyeria Plateria S.A. *	Spain
Metal Concentrators SA (Pty) Ltd. ***	South Africa	Shandong Gold Smelting Co., Ltd.	China mainland
Metalor Technologies (Hong Kong) Ltd.	China mainland	Shandong Zhaojin Gold & Silver Refinery Co., Ltd.	China mainland
Metalor Technologies (Singapore) Pte., Ltd.	Singapore	Sichuan Tianze Precious Metals Co., Ltd.	China mainland
Metalor Technologies (Suzhou) Ltd.	China mainland	Solar Applied Materials Technology Corp. *	Taiwan
Metalor Technologies S.A.	Switzerland	Sumitomo Metal Mining Co., Ltd.	Japan
Metalor USA Refining Corporation	United States	SungEel HiMetal Co., Ltd. *	South Korea



Gold (cont.)

SMELTER OR REFINER NAME	COUNTRY OR REGION
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 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 is believed to process at least some 3TG from recycled or scrap sources.

** The smelter/refiner has changed its compliance or operational status since December 31, 2023.

*** 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.

