



Smelter and Refiner List

This list contains the smelters and refiners identified in Apple's supply chain as of December 31, 2021 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, both of which are available at apple.com/supplier-responsibility.

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**.

Additional details can be found by reading the following reports:

- Apple People and Environment in Our Supply Chain Progress Report
- Apple Conflict Minerals Report



Cobalt

Smelter or Refiner Name	Country or Region
Gangzhou Yi Hao Umicore Industry Co. (Umicore)	China mainland
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 Jinxin New Material Holding Co., Ltd.	China mainland
Hunan Shiji Yintian New Material Co., Ltd	China mainland
Hunan Yacheng New Materials Co.,Ltd.	China mainland
Hunan CNGR New Energy Science & Technology Co., Ltd.	China mainland
Jiangsu Xiongfeng Science & Technology Co., LTD	China mainland
Jiangxi Jiangwu Cobalt Industry Co., Ltd.	China mainland
Jingmen GEM Co.,Ltd.	China mainland
Lanzhou Jinchuan Advanced Materials Technology Co., Ltd.	China mainland
Nantong Xinwei Nickel & Cobalt Hightech Development Co.,Ltd	China mainland
New Era Group Zhenjiang Zhongneng Cycle Technology Co., Ltd	China mainland
Ningbo Hubang New Material Co., Ltd.	China mainland
NORILSK NICKEL HARJAVALTA OY	Finland
Quzhou Huayou Cobalt New Material Co., Ltd	China mainland
Tianjin Maolian Science & Technology 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

Lithium

Smelter or Refiner Name	Country or Region
General Lithium Corporation	China mainland
Guizhou Red Star Electronic Material Co., Ltd.	China mainland
Guizhou Redstar Development Dalong Manganese Industry Co., Ltd	China mainland
Huizhou Hengchuang Ruineng Environmental Technology Co., Ltd	China mainland
Hunan Brunp Recycling Technology Co., Ltd. (Hunan Brunp)	China mainland
Hunan Wuchuang Recycling Technology Co., Ltd.	China mainland
Jilin Tieyang Shengri Recycling Technology Co., Ltd.	China mainland
Ningdu Ganfeng Lithium Co., Ltd.	China mainland
Qinghai Dongtai Jinear Lithium Resources Co., Ltd.	China mainland
Sichuan Changhong Green Environmental Protection Technology Co., Ltd	China mainland
Sichuan Energy Investment Dingsheng Lithium Technology Co., Ltd.	China mainland
Sichuan Zhiyuan Lithium Industries Co., Ltd.	China mainland
SQM Salar S.A.	China mainland
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
Chenzhou Diamond Tungsten Products Co., Ltd.	China mainland
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
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
Hunan Chenzhou Mining Co., Ltd.	China mainland
Hunan Chuangda Vanadium Tungsten Co., Ltd. Wuji**	China mainland
Hunan Chunchang Nonferrous Metals Co., Ltd.	China mainland
Hydrometallurg, JSC*	Russian Federation
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
Jingmen Dewei GEM Tungsten Resources Recycling Co., Ltd.	China mainland
JSC "Kirovgrad Hard Alloys Plant" **	Russian Federation
Kennametal Fallon*	United States

Smelter or Refiner Name	Country or Region
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.	Russian Federation
Niagara Refining LLC*	United States
Philippine Chuangxin Industrial Co., Inc.*	Philippines
TANIOBIS Smelting GmbH & Co. KG*	Germany
Unecha Refractory Metals Plant*	Russian Federation
Wolfram Bergbau und Hütten AG*	Austria
Woltech Korea Co., Ltd.	South Korea
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	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 (Plurinational State of)
China Tin Group Co., Ltd.*	China mainland	PT Artha Cipta Langgeng	Indonesia
CV Venus Inti Perkasa	Indonesia	PT ATD Makmur Mandiri Jaya	Indonesia
Dowa*	Japan	PT Babel Inti Perkasa	Indonesia
EM Vinto***	Bolivia (Plurinational State of)	PT Babel Surya Alam Lestari	Indonesia
Estanho de Rondonia S.A.	Brazil	PT Bangka Serumpun	Indonesia
Fenix Metals*	Poland	PT Bukit Timah	Indonesia
Gejiu Kai Meng Industry and Trade LLC	China mainland	PT Menara Cipta Mulia	Indonesia
Gejiu Non-Ferrous Metal Processing Co., Ltd.	China mainland	PT Mitra Stania Prima	Indonesia
Gejiu Yunxin Nonferrous Electrolysis 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 Rajawali Rimba Perkasa	Indonesia
HuiChang Hill Tin Industry Co., Ltd.	China mainland	PT Rajehan Ariq	Indonesia
Huichang Jinshunda Tin Co., Ltd.**	China mainland	PT Refined Bangka Tin	Indonesia
Jiangxi New Nanshan Technology Ltd.*	China mainland	PT Sariwiguna Binasentosa	Indonesia
Luna Smelter, Ltd.	Rwanda	PT Stanindo Inti Perkasa	Indonesia
Ma'anshan Weitai Tin Co., Ltd.*	China mainland	PT Sukses Inti Makmur	Indonesia
Magnu's Minerais Metais e Ligas Ltda.*	Brazil	PT Timah Nusantara	Indonesia
Malaysia Smelting Corporation (MSC)*	Malaysia	PT Timah Tbk Kundur	Indonesia
Melt Metais e Ligas S.A.	Brazil	PT Timah Tbk Mentok	Indonesia
Metallic Resources, Inc.*	United States	PT Tinindo Inter Nusa	Indonesia
Metallo Belgium N.V.*	Belgium	Resind Indústria e Comércio Ltda.	Brazil
Metallo Spain S.L.U.*	Spain	Rui Da Hung*	Taiwan
Mineração Taboca S.A.	Brazil	Soft Metais Ltda.*	Brazil
Minsur	Peru	Super Ligas	Brazil
Mitsubishi Materials Corporation*	Japan	Thai Nguyen Mining and Metallurgy Co., Ltd.	Vietnam

Tin (cont.)

Smelter or Refiner Name	Country or Region
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
Yunnan Yunfan Non-ferrous Metals Co., Ltd.**	China mainland

Tantalum

Smelter or Refiner Name	Country or Region
AMG Brasil	Brazil
Asaka Riken Co., Ltd.*	Japan
Changsha South Tantalum Niobium Co., Ltd.*	China mainland
D Block Metals, LLC*	United States
Exotech Inc.*	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
H.C. Starck Inc.*	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
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
Solikamsk Magnesium Works OAO	Russian Federation

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
Aida Chemical Industries Co., Ltd.*	Japan
Al Etihad Gold Refinery DMCC*	United Arab Emirates
Allgemeine Gold-und Silberscheideanstalt A.G.	Germany
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
Augmont Enterprises Private Limited	India
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 + Métaux S.A.***	Switzerland
Chimet S.p.A.	Italy
Chugai Mining*	Japan
Daye Non-Ferrous Metals Mining Ltd.	China mainland
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.)

Smelter or Refiner Name	Country or Region	Smelter or Refiner Name	Country or Region
Eco-System Recycling Co., Ltd. West Plant*	Japan	Metal Concentrators SA (Pty) Ltd.***	South Africa
Emirates Gold DMCC*	United Arab Emirates	Metalor Technologies (Hong Kong) Ltd.	China mainland
Geib Refining Corporation*	United States	Metalor Technologies (Singapore) Pte., Ltd.	Singapore
Gold Refinery of Zijin Mining Group Co., Ltd.	China mainland	Metalor Technologies (Suzhou) Ltd.	China mainland
Great Wall Precious Metals Co., Ltd. of CBPM	China mainland	Metalor Technologies S.A.	Switzerland
Heimerle + Meule GmbH	Germany	Metalor USA Refining Corporation	United States
Heraeus Germany GmbH Co. KG*	Germany	Metalúrgica Met-Mex Peñoles S.A. de C.V.	Mexico
Heraeus Metals Hong Kong Ltd.	China mainland	Mitsubishi Materials Corporation	Japan
Inner Mongolia Qiankun Gold and Silver Refinery Share Co., Ltd.	China mainland	Mitsui Mining and Smelting Co., Ltd.	Japan
Ishifuku Metal Industry Co., Ltd.	Japan	MMTC-PAMP India Pvt., Ltd.	India
Istanbul Gold Refinery	Turkey	Moscow Special Alloys Processing Plant	Russian Federation
Italpreziosi	Italy	Nadir Metal Rafineri San. Ve Tic. A.S.	Turkey
Japan Mint	Japan	Navoi Mining and Metallurgical Combinat	Uzbekistan
Jiangxi Copper Co., Ltd.	China mainland	NH Recytech Company*	South Korea
JSC Novosibirsk Refinery	Russian Federation	Nihon Material Co., Ltd.	Japan
JSC UralElectromed	Russian Federation	Ögussa Österreichische Gold- und Silber-Scheideanstalt GmbH***	Austria
JX Nippon Mining & Metals Co., Ltd.	Japan	Ohura Precious Metal Industry Co., Ltd.*	Japan
Kazzinc	Kazakhstan	OJSC "The Gulidov Krasnoyarsk Non-Ferrous Metals Plant" (OJSC Krastsvetmet)	Russian Federation
Kennecott Utah Copper LLC	United States	PAMP S.A.	Switzerland
KGHM Polska Miedz Spólka Akcyjna	Poland	Planta Recuperadora de Metales SpA	Chile
Kojima Chemicals Co., Ltd.*	Japan	Prioksky Plant of Non-Ferrous Metals	Russian Federation
Korea Zinc Co., Ltd.	South Korea	PT Aneka Tambang (Persero) Tbk	Indonesia
L'Orfebre S.A.*	Andorra	PX Précinox S.A.	Switzerland
LS-NIKKO Copper Inc.	South Korea	Rand Refinery (Pty) Ltd.	South Africa
LT Metal Ltd.*	South Korea	Remondis PMR B.V.*	Netherlands
Marsam Metals*	Brazil	Royal Canadian Mint	Canada
Materion*	United States	SAAMP***	France
Matsuda Sangyo Co., Ltd.	Japan		



Gold (cont.)

Smelter or Refiner Name	Country or Region
Safimet S.p.A***	Italy
SAFINA A.S.*	Czechia
Samduck Precious Metals*	South Korea
SAXONIA Edelmetalle GmbH*	Germany
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
SOE Shyolkovsky Factory of Secondary Precious Metals	Russian Federation
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 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, 2021.
 *** 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.



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