

Commodity Report: Manganese (2025)

Manganese is reportedly produced with forced labor (FL) and/or child labor (CL) in the following country:¹

- Zambia (CL)

Top ten countries that export manganese worldwide:²

1. South Africa
2. Gabon
3. Ghana
4. United Arab Emirates
5. Brazil
6. China
7. Cote d'Ivoire
8. France
9. Mexico
10. Malaysia

¹ This list is based solely on findings from the [U.S. Department of Labor's 2024 List of Goods Produced by Child Labor and Forced Labor](#).

² [International Trade Center, Trade Map](#). (ITC Calculations based on UNCOMTRADE Statistics).

Where is manganese reportedly produced with forced labor and/or child labor?

According to the U.S. Department of Labor's 2024 *List of Goods Produced by Child Labor and Forced Labor*, manganese is produced with child labor in Zambia.³

Zambia is listed as a Tier 2 country by the U.S. Department of State 2025 *Trafficking in Persons Report*.⁴

What does human trafficking and/or child labor in manganese production look like?

This section includes countries with publicly available research and reporting on forced labor and child labor, in addition to the countries listed in the above-mentioned government reports.

In **Zambia**, children reportedly perform hazardous tasks associated with mining manganese including carrying heavy loads, crushing stones, manually digging with sharp tools, and working in underground tunnels. The work takes place in artisanal and small-scale mines,⁵ particularly in the Luapula and Central provinces. It has been reported that children drop out of school in order to support their families by working in manganese mines.⁶ In 2019, three boys (11, 13, and 15 years old) in Zambia died when a mine collapsed on them while they were prospecting manganese, an activity that, in Zambia, does not require the implementation of safety standards.⁷

Additionally, companies in **China** known to produce manganese have been included on the Uyghur Forced Labor Prevention Act (UFLPA) Entity List, a list of entities that is maintained by the U.S. Department of Homeland Security. Government-imposed forced labor has been documented among

³ [U.S. Department of Labor. *List of Goods Produced by Child Labor or Forced Labor*. 2024.](#)

⁴ [For the 2025 *Trafficking in Persons Report*'s tier ranking methodology, see "A Guide to the Tiers."](#)

⁵ Artisanal and small-scale mining (ASM) refers to a largely informal economic sector that includes workers around the world who use basic tools to extract a wide range of minerals and metals from the earth. ASM activities are usually informal and may be illegal or unregulated; however, when ASM is properly managed, it provides an important source of livelihood for individuals and communities. ASM is usually conducted by individuals or small groups of people, although it may include larger partnerships or cooperatives. ASM is defined based on the type of equipment used, level of formality, depth of the work, size of the surface area, volumes produced, and other criteria.

⁶ [U.S. Department of Labor. *List of Goods Produced by Child Labor or Forced Labor*. 2024.](#)

⁷ [Nkonde, Humphrey. "Underage Miners." *Development and Cooperation*, 18 Mar 2019.](#)

members of ethnic and religious minority groups, such as the Uyghurs, in the **Xinjiang Uyghur Autonomous Region (XUAR)**.⁸ Xinjiang Nonferrous Metals Industry Group Co., Ltd, a state-owned enterprise that mines, smelts, and processes manganese, was listed on the UFLPA Entity List on November 25, 2024.⁹ Akto County Kebang Manganese Co., Ltd., a subsidiary of Xinjiang Nonferrous Metals Industry Group Co., Ltd., also mines and processes manganese – particularly manganese necessary for manufacturing batteries for electric vehicles and other alloyed metal car parts.¹⁰

In the XUAR, many companies participate in state-sponsored labor transfer programs.¹¹ While the government claims that these programs are law-abiding, voluntary, and intended to alleviate poverty, there is strong evidence that they function through coercion and threat; analysis of the labor transfer programs has revealed that they are mechanisms for the compulsory labor of ethnic and religious minority workers who are held in, or recently released from, internment camps for re-education purposes.¹² Rural workers are also compelled to take manufacturing jobs, often in industrial areas, far from their homes.¹³ According to the U.S. Department of Labor, the following indicators of forced labor have been identified in association with the labor transfer programs in the XUAR and other provinces, across a variety of sectors including electronics, solar energy, and the automotive sector:¹⁴

- Intimidation and threats
- Abuse of vulnerability

⁸ ["Shining a Light on Exploitation in the Solar Supply Chain." U.S. Department of Labor.](#)

⁹ ["UFLPA Entity List." U.S. Department of Homeland Security.](#)

["DHS Will Now Restrict Goods from Over 100 PRC-Based Companies from Entering the United States Due to Forced Labor Practices." U.S. Department of Homeland Security, 22 Nov 2024.](#)

¹⁰ ["Akto County Kebang Manganese Co., Ltd. - Automotive Supply Chains and Forced Labor in the Uyghur Region." Sheffield Hallam University, 2021.](#)

¹¹ ["Shining a Light on Exploitation in the Solar Supply Chain." U.S. Department of Labor.](#)

Murphy, Laura T. and Nyrola Elima. ["In Broad Daylight Uyghur Forced Labour in the Solar Supply Chain." Sheffield Hallam University, 2021.](#)

¹² Murphy, Laura T. and Nyrola Elima. ["In Broad Daylight Uyghur Forced Labour in the Solar Supply Chain." Sheffield Hallam University, 2021.](#)

¹³ Murphy, Laura T. and Nyrola Elima. ["In Broad Daylight Uyghur Forced Labour in the Solar Supply Chain." Sheffield Hallam University, 2021.](#)

¹⁴ ["Shining a Light on Exploitation in the Solar Supply Chain." U.S. Department of Labor.](#)

- Restriction of movement
- Abuse of isolation
- Involuntary excessive overtime
- Lack of access to identity documents
- Abusive working conditions

Victim testimonies, news media reports, and think tank reports all indicate that factories participating in labor transfer programs “frequently engage in coercive recruitment; limit workers’ freedom of movement and communication; subject workers to constant surveillance, religious retribution, physical violence, exclusion from community and social life; and threaten family members.”¹⁵

Manganese mining and refining can present serious occupational risks. Prolonged exposure to manganese dust can result in a condition known as manganism, a form of poisoning that occurs when manganese is inhaled or ingested, enters the bloodstream, and is deposited in the basal ganglia – the part of the brain that controls movement and balance.¹⁶ Inspections of manganese plants conducted by **South Africa’s Labor Department** found that companies had created hazardous working environments and that workers had not been warned about the potential dangers of the work.¹⁷

Finally, Human Rights Watch has reported labor rights violations among manganese miners in **Georgia**, such as long hours, requiring workers to live in employer-provided dormitories during their shifts and limiting their ability to leave, wage deductions, and unpaid hours of work as well as practices such as the implementation of production quotas that expose workers to occupational hazards (such as inadequate rest time and exposure to harmful exhaust from tractors used to transport mined manganese underground) and jeopardize their safety.¹⁸

¹⁵ [U.S. Department of Labor. *List of Goods Produced by Child Labor or Forced Labor*. 2024.](#)

¹⁶ [Chason, Rachel and Ilan Godfrey. "In Scramble for EV Metals, Health Threat to Workers Often Goes Unaddressed." *Washington Post*, 8 Jun 2025.](#)

¹⁷ [Chason, Rachel and Ilan Godfrey. "In Scramble for EV Metals, Health Threat to Workers Often Goes Unaddressed." *Washington Post*, 8 Jun 2025.](#)

¹⁸ ["'No Year Without Deaths;' A Decade of Deregulation Puts Georgian Miners at Risk." *Human Rights Watch*, 2019.](#)

Manganese Supply Chain and Production:

Manganese ore and oxides are primarily mined through large-scale, open-cast and open-pit mines through the use of explosives and excavators. In some locations, such as India, South Africa, and Georgia, it is also extracted through underground mines.¹⁹

Once it is mined, manganese ore is sorted into different grades; these grades are then blended together according to the required specifications of desired saleable product. The blends must then undergo a process known as beneficiation in which the ore is crushed, screened, and processed. The crushed ore is sorted based on particle size fraction ranging from fine manganese to lump ore concentrates. The next processing steps include washing and further separation through high intensity magnetic separation which produces a saleable concentrate in the form of a fine powder.²⁰

Concentrated manganese ore can be transported by ship, rail, and/or truck for further processing. Most manganese ore is smelted through metallurgical processes into ferromanganese and used in the production of steel. Crushed manganese ore can also be processed into manganese chemical compounds including manganese oxide.²¹

The global manganese trade primarily occurs in the form of mined manganese ore and manganese concentrate produced through the beneficiation.²²

¹⁹ ["Manganese: Mining & Transport." International Manganese Institute.](#)

[Gordon, Kaite. "The Assay's Guide to Manganese Mining and Production." The Assay, 20 Mar 2022.](#)

²⁰ ["Manganese: Mining & Transport." International Manganese Institute.](#)

²¹ ["Manganese Ore Supply Chain Profile." EPA, Mar 2023.](#)

²² ["The Raw Material Outlook: Manganese Value Chain." Drive Sustainability, 2021.](#)

How consumers are linked to human trafficking and/or child labor in manganese production:

Top ten countries that import manganese:²³

1. China	6. United States
2. India	7. South Korea
3. Norway	8. Indonesia
4. Japan	9. France
5. Malaysia	10. Spain

Manganese has many commercial and industrial uses; it is commonly used in alloy form to produce iron and steel, and it is a key component for producing rechargeable batteries, such as lithium-ion batteries.²⁴ Ferromanganese and silicomanganese alloys produce strong, hard, wear-resistant metals.²⁵ Manganese is a crucial element of steel production, and it is estimated that 80 to 90 percent of all manganese is used in the steel industry.²⁶ High purity manganese is an essential component of the cathode used in lithium-ion batteries, alongside nickel and cobalt, where it functions as a stabilizer and ensures that batteries operate efficiently even at high temperatures.²⁷ Lithium-ion batteries are commonly used to power electric vehicles. High-purity manganese is also used as a component in livestock feed.²⁸

²³ [International Trade Center](#) (ITC Calculations based on UNCOMTRADE Statistics).

²⁴ ["Manganese X Energy: Refining high-purity manganese for the future."](#) Innovation News Network, 20 Feb 2024.

²⁵ [Gordon, Kaite.](#) "The Assay's Guide to Manganese Mining and Production." The Assay, 20 Mar 2022.

²⁶ [Gordon, Kaite.](#) "The Assay's Guide to Manganese Mining and Production." The Assay, 20 Mar 2022.

²⁷ [Gordon, Kaite.](#) "The Assay's Guide to Manganese Mining and Production." The Assay, 20 Mar 2022.

²⁸ ["Manganese X Energy: Refining high-purity manganese for the future."](#) Innovation News Network, 20 Feb 2024.

Examples of what governments, corporations, and others are doing:

Zambia's National Action Plan for the Elimination of the Worst Forms of Child Labour, 2020-2025

Zambia's 2020-2025 national action plan addressing the elimination of the worst forms of child labor (WFCL), developed by the Ministry of Labour and Social Security with support from the International Labor Organization, aims to strengthen prevention efforts and responses to WFCL by addressing socioeconomic issues at the household and community levels, as well as in institutions and enterprises. Mining and quarrying is considered a hazardous industry in Zambia, representing one of the most prominent sectors impacted by WFCL.²⁹

Tariff Act and Uyghur Forced Labor Prevention Act

Section 307 of the Tariff Act of 1930, as amended, states that “all goods, wares, articles, and merchandise mined, produced, or manufactured wholly or in part in any foreign country by convict labor and/or forced labor or/and indentured labor under penal sanctions shall not be entitled to entry at any of the ports of the United States, and the importation thereof is hereby prohibited....” (19 U.S.C. § 1307).³⁰

In 2021, the United States enacted the Uyghur Forced Labor Prevention Act (UFLPA). The UFLPA established a rebuttable presumption (presumed in violation unless evidence shows otherwise) that goods mined, produced, or manufactured wholly or in part in the Xinjiang Uyghur Autonomous Region (XUAR) of China, or by an entity on the UFLPA Entity List, are prohibited from U.S. importation under Section 307 of the Tariff Act. U.S. Customs and Border Patrol enforces these acts. Under the UFLPA, an interagency Forced Labor Enforcement Task Force is directed to develop a strategy for “supporting

²⁹ [“National Action Plan for the Elimination of the Worst Forms of Child Labour 2020-2025.” Republic of Zambia Ministry of Labour and Social Security.](#)

³⁰ [“Forced Labor Enforcement.” U.S. Customs and Border Protection, 3 Feb 2025.](#)

enforcement of the prohibition on the importation of goods into the United States manufactured wholly or in part with forced labor in the People's Republic of China, especially from the XUAR."³¹

How can I learn more?

- [Read about labor rights in transition mineral mining in South Africa.](#)
- [Read about labor rights violations among coal and manganese miners in Georgia.](#)
- [Read the 2025 *Trafficking in Persons Report* country narrative for Zambia.](#)
- [Read about forced labor in automotive supply chains in the XUAR.](#)

³¹ ["Uyghur Forced Labor Prevention Act." U.S. Customs and Border Protection, 4 Feb 2025.](#)