

## Recovery of Tungsten by liquid-liquid extraction from a Wolframite concentrate after fusion with sodium hydroxide

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This work presents the results of the tungsten recovery from a wolframite concentrate (61.5% WO<sub>3</sub>) from Igarapé Manteiga (Rondônia, Brazil) after fusion with NaOH followed by leaching with water. The optimum fusion conditions required temperatures above 550 °C to avoid partial manganese leaching. 98.6% of tungsten was leached as Na<sub>2</sub>WO<sub>4</sub> after fusion at 650 °C for 1 h. More than 99% of the element was extracted in one stage with Aliquat 336 or Alamine 336 (5-10 vol.% in kerosene, A/O=1 (v/v), 25 °C). Stripping was easily performed in one stage (>99.9%) with 2 mol L<sup>-1</sup> NH<sub>3</sub>(aq.) (A/O= 1 v/v, 25 °C) when Alamine 336 was the extractant. Tungsten was recovered as ammonium paratungstate (APT) [1].

### References

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## Recovery of Tungsten from Wolframite from the mine of Igarapé Manteiga (Rondonia – Brazil) via acidic leaching

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We report results of efficiency of tungsten extraction from a wolframite concentrate (containing 61.5 wt % WO<sub>3</sub>) from the mine of Igarapé Manteiga (state of Rondônia, Brazil) through acid leaching with strong mineral acids at 100 °C and 400 rpm for 2-4 h. HCl yielded the insoluble matter containing the highest WO<sub>3</sub> content (90 wt %). This solid was dissolved in concentrated NH<sub>3</sub>(aq) at 25 °C, followed by filtration of the insoluble matter. The filtrate was slowly evaporated. 70 wt % of the tungsten presented in the starting concentrate material was recovered as ammonium tungstate (APT) [1].

### References

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