Iron ore is one of important raw material for metal production. Indonesian iron ore has been separated from its impurities by froth flotation using pine oil and oleic acid as frothers. The result is compared by the same process using pH. The results show that Fe recovery will decrease with increasing pH and Fe recovery can be optimised by using between 500 to 1250 g/t of oleic acid and 25 to 175 g/t of pine oil as reagent.