CLAIMS

[Claim 1]

A method for recovering a valuable substance, the method comprising:

a thermal treatment step of thermally treating a target at 750°C or higher and lower than 1,085°C, which contains a valuable substance and is stored in a target storing unit, via a flame blocking unit configured to block a flame for thermally treating the target such that the target storing unit is not contacted by the flame; and

a valuable substance recovering step of recovering the valuable substance from a thermally treated product of the target obtained in the thermal treatment step.

[Claim 2]

The method for recovering a valuable substance according to claim 1,

wherein in the thermal treatment step, the target is thermally treated while the flame blocking unit is provided between the target storing unit and a flame radiating unit configured to radiate the flame.

[Claim 3]

The method for recovering a valuable substance according to claim 1 or 2,

wherein the flame blocking unit is formed of stainless steel.

[Claim 4]

The method for recovering a valuable substance according to

any one of claims 1 to 3,

wherein an average thickness of a region of the flame blocking unit contacted by the flame is 3 mm or greater.

[Claim 5]

The method for recovering a valuable substance according to any one of claims 1 to 4,

wherein the flame blocking unit has a plate shape.

[Claim 6]

The method for recovering a valuable substance according to any one of claims 1 to 5,

wherein the target storing unit is formed of iron or stainless steel.

[Claim 7]

The method for recovering a valuable substance according to any one of claims 1 to 6,

wherein the target is a lithium ion secondary battery.

[Claim 8]

The method for recovering a valuable substance according to claim 7,

wherein the lithium ion secondary battery has a housing containing aluminum, and

in the thermal treatment step, the aluminum of the housing of the lithium ion secondary battery is melted and a melted product is separated.

[Claim 9]

The method for recovering a valuable substance according to claim 7 or 8,

wherein the valuable substance contains copper.

[Claim 10]

The method for recovering a valuable substance according to any one of claims 8 to 9,

wherein in the thermal treatment step, a combustion state of the lithium ion secondary battery is observed to judge whether combustion of the lithium ion secondary battery has finished or not, and

when it is judged that combustion of the lithium ion secondary battery has finished, the thermally treating is terminated.

[Claim 11]

The method for recovering a valuable substance according to any one of claims 1 to 10,

wherein the valuable substance recovering step includes:

a pulverizing step of pulverizing the thermally treated product, to obtain a pulverized product;

a classifying step of classifying the pulverized product at a classification point of 0.6 mm or greater and 2.4 mm or less, to obtain a coarse-grained product and a fine-grained product; and

a magnetic force sorting step of sorting the coarse-grained product using a magnet having a magnetic flux density of 0.03 tesla or higher.