What is claimed is:

1. An authentication method for a recycled product performed by a computer system, the authentication method comprising:

a first acquisition step of acquiring information on a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring information on a sending amount of a resin product using the recycled resin in the manufacturing entity or a different manufacturing entity; and

an authentication step of giving authentication to the resin product when an authentication condition based on the information on the sending amount and the receiving amount is satisfied.

2. The authentication method according to claim 1, wherein

the authentication condition includes a condition that the sending amount does not exceed the receiving amount.

3. The authentication method according to claim 1 or 2, comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product, wherein

the authentication condition includes a condition that

relational expression (A1): the receiving amount ≥ the sending amount × the recycling ratio

is satisfied.

4. The authentication method according to claim 1 or 2, wherein

the receiving amount includes a delivery amount of the recycled resin in a manufacturing company of the resin product, and the sending amount includes a shipment amount of the resin product using the recycled resin.

5. The authentication method according to claim 4, wherein

the authentication condition includes a condition that the delivery amount does not exceed the shipment amount.

6. The authentication method according to claim 4 or 5, wherein

the receiving amount further includes a use amount of a recycled resin used in processing of the recycled resin, and

the authentication condition includes a condition that the use amount does not exceed the delivery amount.

7. The authentication method according to claim 6, wherein

in the first acquisition step, information on a use amount of a recycled resin is acquired as the receiving amount from a manufacturing apparatus that processes the recycled resin to obtain a resin product.

8. The authentication method according to claim 6 or 7, wherein

the sending amount further includes a manufacturing amount of a processed resin product, and

the authentication condition includes a condition that the manufacturing amount does not exceed the use amount.

9. The authentication method according to claim 8, wherein

in the second acquisition step, information on a manufacturing amount of a resin product is acquired from a manufacturing apparatus that processes a recycled resin to obtain the resin product.

10. The authentication method according to claim 8 or 9, comprising:

a product stock amount acquisition step of acquiring information on a stock amount after manufacturing about the resin product; and

a shipment amount acquisition step of acquiring a shipment amount of the resin product, wherein

the authentication condition further includes a condition that a sum total of the stock amount after manufacturing and the shipment amount does not exceed the manufacturing amount.

11. The authentication method according to any one of claims 6 to 10, further comprising:

a raw material stock amount acquisition step of acquiring information on a raw material stock amount that is a stock amount of a recycled resin in a manufacturing entity of the resin product, wherein

the authentication condition further includes a condition that a sum total of the use amount and the raw material stock amount does not exceed the delivery amount.

12. The authentication method according to any one of claims 4 to 11, comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product, wherein

the authentication condition includes a condition that

relational expression (A2): the delivery amount ≥ the shipment amount × the recycling ratio

is satisfied.

13. The authentication method according to any one of claims 4 to 12, comprising:

a fourth acquisition step of acquiring information on a stock amount after manufacturing about the resin product, wherein

the authentication condition includes a condition that

relational expression (A3): the delivery amount ≥ the shipment amount + the stock amount after manufacturing

is satisfied.

14. The authentication method according to any one of claims 4 to 13, comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product; and

a fourth acquisition step of acquiring information on a stock amount after processing about the resin product, wherein

the authentication condition includes a condition that

relational expression (A3-1): the delivery amount ≥ (the shipment amount + the stock amount after manufacturing) × the recycling ratio

is satisfied.

15. The authentication method according to any one of claims 4 to 14, comprising:

a fifth acquisition step of acquiring information on a discard amount about the resin product, wherein

the authentication condition includes a condition that

relational expression (A4): the delivery amount ≥ the shipment amount + the discard amount

is satisfied.

16. The authentication method according to any one of claims 4 to 15, comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product; and

a fifth acquisition step of acquiring information on a discard amount about the resin product, wherein

the authentication condition includes a condition that

relational expression (A4-1): the delivery amount ≥ (the shipment amount + the discard amount) × the recycling ratio

is satisfied.

17. The authentication method according to any one of claims 4 to 16, comprising:

a sixth acquisition step of acquiring information on a transfer amount of the recycled resin transferred from a first company to a second company, wherein

the receiving amount is a delivery amount of the recycled resin delivered from the first company to the second company, and

the authentication condition includes a condition that the delivery amount of the recycled resin delivered from the first company to the second company does not exceed the transfer amount.

18. The authentication method according to any one of claims 4 to 17, wherein

the delivery amount is an accumulated delivery amount of the recycled resin associated with same identification information for identifying the recycled resin of a prescribed unit.

19. The authentication method according to any one of claims 4 to 18, wherein

the shipment amount is an accumulated shipment amount of the resin product associated with same identification information for identifying the recycled resin of a prescribed unit.

20. The authentication method according to claim 17, wherein

the transfer amount is an accumulated transfer amount of the recycled resin associated with same identification information for identifying the recycled resin of a prescribed unit.

21. The authentication method according to any one of claims 1 to 20, wherein

acquisition of the information includes acquiring the information from a terminal apparatus communicable with the computer system.

22. The authentication method according to any one of claims 1 to 21, wherein

the receiving amount is a use amount of the recycled resin that is used, and the sending amount is a manufacturing amount of a resin product using the recycled resin.

23. The authentication method according to claim 22, wherein

the authentication condition includes a condition that the use amount does not exceed the manufacturing amount.

24. The authentication method according to claim 22 or 23, comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product, wherein

the authentication condition includes a condition that

relational expression (B1): the use amount ≥ the manufacturing amount × the recycling ratio

is satisfied.

25. The authentication method according to any one of claims 22 to 24, comprising:

a fifth acquisition step of acquiring information on a discard amount about the resin product, wherein

the authentication condition includes a condition that

relational expression (B2): the use amount ≥ the manufacturing amount + the discard amount

is satisfied.

26. The authentication method according to any one of claims 22 to 25, comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product; and

a fifth acquisition step of acquiring information on a discard amount about the resin product, wherein

the authentication condition includes a condition that

relational expression (B2-1): the use amount ≥ (the manufacturing amount + the discard amount) × the recycling ratio

is satisfied.

27. The authentication method according to any one of claims 22 to 26, comprising:

a sixth acquisition step of acquiring information on a transfer amount of the recycled resin transferred from the first company to the second company, wherein

the receiving amount is a use amount of the recycled resin that is delivered from the first company to the second company and used, and

the authentication condition includes a condition that the use amount of the recycled resin delivered from the first company to the second company does not exceed the transfer amount.

28. The authentication method according to any one of claims 22 to 27, wherein

the use amount is an accumulated use amount of the recycled resin associated with same identification information for identifying the recycled resin of a prescribed unit.

29. The authentication method according to claim 28, wherein

the manufacturing amount is an accumulated manufacturing amount of the resin product associated with the same identification information.

30. The authentication method according to claim 27, wherein

the transfer amount is an accumulated transfer amount of the recycled resin associated with same identification information for identifying the recycled resin of a prescribed unit.

31. The authentication method according to any one of claims 22 to 30, wherein

acquisition of the information includes acquiring the information from a terminal apparatus communicable with the computer system.

32. The authentication method according to any one of claims 1 to 31, wherein

the computer system includes a plurality of node apparatuses, and

each of the plurality of node apparatuses includes

performing, with a control unit, consensus building processing to share the information with another of the node apparatuses, and

storing, in a storage unit, the information for which a consensus has been built by the consensus building processing.

33. The authentication method according to claim 32, wherein

the acquisition of the information includes acquiring the information from the storage unit of at least a part of the plurality of node apparatuses.

34. The authentication method according to claim 32 or 33, wherein

at least the part of the plurality of node apparatuses includes

performing, with the control unit, the consensus building processing on authentication information showing that the resin product authenticated as a recycled product is the recycled product, and

storing, in the storage unit, the authentication information having been subjected to the consensus building processing.

35. The authentication method according to any one of claims 1 to 34, wherein

the computer system includes a blockchain network.

36. An authentication system including a processor, wherein

the processor is configured to perform:

a first acquisition step of acquiring information on a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring information on a sending amount of a resin product using the recycled resin in the manufacturing entity or a different manufacturing entity; and

an authentication step of giving authentication to the resin product when an authentication condition based on the information on the sending amount and the receiving amount is satisfied.

37. The authentication system according to claim 36, wherein

the authentication system further includes a manufacturing apparatus that processes a recycled resin to obtain a resin product, and

the processor is configured to perform, as the first acquisition step,

a delivery amount acquisition step of acquiring information on a delivery amount of a recycled resin in a manufacturing company of the resin product, and

a use amount acquisition step of acquiring information on a use amount of a recycled resin used in the processing from the manufacturing apparatus,

perform, as the second acquisition step,

a shipment amount acquisition step of acquiring information on a shipment amount of the resin product in a manufacturing company of the resin product, and

perform, as the authentication step,

an authentication step of determining, on a basis of the information on the delivery amount, the use amount, and the shipment amount, that the resin product satisfies an authentication condition when the authentication condition including a

condition that the use amount does not exceed the delivery amount and the shipment amount does not exceed the delivery amount is satisfied.

38. The authentication system according to claim 37, wherein

the processor is configured to

perform a raw material stock amount acquisition step of acquiring a raw material stock amount that is a stock amount of a recycled resin in a manufacturing entity of the resin product, and

the authentication condition further includes a condition that a sum total of the use amount and the raw material stock amount does not exceed the delivery amount.

39. The authentication system according to claim 37 or 38, wherein

the processor is configured to perform

a manufacturing amount acquisition step of acquiring a manufacturing amount of a resin product in a manufacturing entity of the resin product,

a product stock amount acquisition step of acquiring a stock amount after manufacturing that is a stock amount of a resin product in a manufacturing entity of the resin product, and

a shipment amount acquisition step of acquiring a shipment amount of the resin product, and

the authentication condition further includes a condition that a sum total of the stock amount after manufacturing and the shipment amount does not exceed the manufacturing amount.

40. The authentication system according to any one of claims 37 to 39, further comprising:

a sharing step of transmitting, on a premise that the authentication condition is satisfied, target data from a first node apparatus among a plurality of node apparatuses to another of the node apparatuses to share the target data showing that the resin product satisfies the authentication condition.

41. The authentication system according to any one of claims 37 to 40, further comprising:

a plurality of node apparatuses, wherein

a processor of a first node apparatus among the plurality of node apparatuses is configured to perform

the delivery amount acquisition step,

the use amount acquisition step,

the shipment amount acquisition step,

the authentication step, and

a sharing step of transmitting, on a premise that the resin product is determined to satisfy the authentication condition, target data to the other node

apparatus to share the target data showing that the resin product satisfies the authentication condition with the other node apparatus.

42. The authentication system according to any one of claims 37 to 41, wherein

the manufacturing apparatus includes a weighing unit provided to be able to weigh the use amount of the recycled resin, and

in the use amount acquisition step, the use amount is acquired on a basis of a weighing result by the weighing unit.

43. The authentication system according to any one of claims 37 to 42, comprising:

a first reading device that reads a delivery form of the recycled resin, wherein

in the delivery amount acquisition step, information on the delivery amount based on a reading result of the delivery form by the first reading device is acquired.

44. The authentication system according to any one of claims 37 to 43, comprising:

a second reading device that reads a shipment form of a shipment amount of the resin product, wherein

in the shipment amount acquisition step, information on the shipment amount based on a reading result of the shipment form by the second reading device is acquired.

45. An authentication application system including a processor, wherein the processor is configured to perform:

a first acquisition step of acquiring information on a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring information on a sending amount of a resin product using the recycled resin in the manufacturing entity or a different manufacturing entity;

an authentication application step of transmitting authentication target data including the sending amount and the receiving amount; and

a receiving step of receiving an authentication result showing whether an authentication condition based on the information on the sending amount and the receiving amount is satisfied.

46. The authentication application system according to claim 45, wherein

the authentication application system further includes a manufacturing apparatus that processes a recycled resin to obtain a resin product, and

the processor is configured to perform, as the first acquisition step,

a delivery amount acquisition step of acquiring information on a delivery amount of a recycled resin in a manufacturing company of the resin product, and

a use amount acquisition step of acquiring information on a use amount of a recycled resin used in the processing from the manufacturing apparatus, and

perform, as the second acquisition step,

a shipment amount acquisition step of acquiring information on a shipment amount of the resin product in a manufacturing company of the resin product.

47. The authentication application system according to claim 46, wherein

the manufacturing apparatus includes a weighing unit provided to be able to weigh the use amount of the recycled resin, and

in the use amount acquisition step,

the use amount is acquired on a basis of a weighing result by the weighing unit.

48. The authentication application system according to any one of claims 46 and 47, comprising:

a first reading device that reads a delivery form of the recycled resin, and

in the delivery amount acquisition step, information on the delivery amount based on a reading result of the delivery form by the first reading device is acquired.

49. The authentication application system according to any one of claims 46 to 48, comprising:

a second reading device that reads a shipment form of a shipment amount of the resin product, wherein

in the shipment amount acquisition step, information on the shipment amount based on a reading result of the shipment form by the second reading device is acquired.

~~50. A program for causing a computer system to perform:~~

~~a first acquisition step of acquiring information on a receiving amount of a recycled resin in a manufacturing entity of a resin product;~~

~~a second acquisition step of acquiring information on a sending amount of a resin product using the recycled resin in the manufacturing entity; and~~

~~an authentication step of giving authentication to the resin product when an authentication condition based on the information on the sending amount and the receiving amount is satisfied.~~

~~51. An authentication method for a recycled product performed by a computer system, the authentication method comprising:~~

~~acquiring supply information showing information on a supply chain of a resin product;~~

~~determining whether a recycled resin is used in the resin product on a basis of the supply information; and~~

~~giving authentication to the resin product when an authentication condition including a condition that the recycled resin is used is satisfied.~~

~~52. The authentication method according to any one of claims 1 to 35, further comprising:~~

~~acquiring supply information showing information on a supply chain of a resin product;~~

~~determining whether a recycled resin is used in the resin product on a basis of the supply information; and~~

~~giving authentication to the resin product when an authentication condition including a condition that the recycled resin is used is satisfied.~~

~~53. The authentication method according to claim 51 or 52, wherein~~

~~the determination includes determining whether authentication by a third party organization on a raw material resin of the resin product is obtained on a basis of the supply information, and~~

~~the authentication condition includes a condition that authentication by a third party organization on at least one raw material resin in the supply chain of the resin product is obtained.~~

~~54. The authentication method according to claim 53, wherein~~

~~the authentication condition includes a condition that the authentication by the third party organization is obtained in a recycled resin manufactured from a collected used resin product.~~

~~55. The authentication method according to any one of claims 51 to 54, wherein~~

~~the supply information is information on a supply chain of a resin product using the recycled resin associated with same identification information for identifying the recycled resin of a prescribed unit.~~

56. The authentication method according to any one of claims 51 to 55, wherein

the computer system includes a plurality of node apparatuses, and

each of the plurality of node apparatuses includes

performing, with a control unit, consensus building processing to share the supply information with another of the node apparatuses, and

storing, in a storage unit, the supply information for which a consensus has been built by the consensus building processing.

57. The authentication method according to claim 56, wherein

the acquisition of the supply information includes acquiring the supply information from the storage unit of at least a part of the plurality of node apparatuses.

58. The authentication method according to claim 56 or 57, wherein

at least the part of the plurality of node apparatuses includes

performing, with the control unit, the consensus building processing on authentication information for the resin product, and

storing, in the storage unit, the authentication information having been subjected to the consensus building processing.

59. The authentication method according to any one of claims 51 to 58, wherein

the acquisition of the supply information includes acquiring the supply information from a terminal apparatus communicable with the computer system.

60. An authentication system including a processor, wherein

the processor is configured to perform:

acquiring supply information showing information on a supply chain of a resin product;

determining whether a recycled resin is used in the resin product on a basis of the supply information; and

giving authentication to the resin product when an authentication condition including a condition that the recycled resin is used is satisfied.

61. The authentication system according to any one of claims 36 to 44, wherein

the authentication system is configured to further perform:

acquiring supply information showing information on a supply chain of a resin product;

determining whether a recycled resin is used in the resin product on a basis of the supply information; and

giving authentication to the resin product when an authentication condition including a condition that the recycled resin is used is satisfied.

62. A program for causing a computer system to perform:

acquiring supply information showing information on a supply chain of a resin product;

determining whether a recycled resin is used in the resin product on a basis of the supply information; and

authenticating the resin product as a recycled product when a recycled resin is determined to be used.

63. A determination method that is performed by a computer system and relates to a transaction of at least a resin product or a resin including a recycled resin in a supply chain in which a plurality of companies participate, the determination method comprising:

receiving, from a first company via a first terminal apparatus, shipment information including at least a part of identification information on the resin shipped by the first company, shipment destination information on the resin, shipment amount information on the resin, and shipment timing information on the resin;

receiving, from a second company via a second terminal apparatus, delivery information on the resin delivered to the second company; and

making a transaction determination that is a determination as to validity of the transaction on a basis of the shipment information and the delivery information.

64. The determination method according to claim 63, wherein

the transaction determination includes a determination as to whether the shipment information and the delivery information match to each other.

65. The determination method according to claim 63 or 64, wherein

the delivery information includes approval information showing whether the shipment information is approved, and

the transaction determination includes determining validity of shipment of the resin on a basis of the approval information corresponding to the delivery information.

66. The determination method according to any one of claims 63 to 65, wherein

the transaction determination includes making a determination as to validity of a plurality of transactions accompanied by circulation of the resin occurring between the first company and the second company in the supply chain.

67. The determination method according to any one of claims 63 to 66, wherein

the computer system includes a plurality of node apparatuses, and

each of the plurality of node apparatuses includes

performing, with a control unit, consensus building processing to share the shipment information and the delivery information with another of the node apparatuses, and

storing, in a storage unit, the shipment information and the delivery information for which a consensus has been built by the consensus building processing.

68. The determination method according to any one of claims 63 to 67, wherein

the computer system includes a plurality of node apparatuses, and

each of the plurality of node apparatuses includes

performing, with the control unit, consensus building processing to share transaction validity information showing a result of the transaction determination with another of the node apparatuses, and

storing, in the storage unit, the transaction validity information for which a consensus has been built by the consensus building processing.

69. A determination system including a processor for performing a determination method that relates to a transaction of at least a resin product or a resin including a recycled resin in a supply chain in which a plurality of companies participate, wherein

the determination system is configured to perform:

receiving, from a first company via a first terminal apparatus, shipment information including at least a part of identification information on the resin shipped by the first company, shipment destination information on the resin, shipment amount information on the resin, and shipment timing information on the resin;

receiving, from a second company via a second terminal apparatus, delivery information on the resin delivered to the second company; and

making a transaction determination that is a determination as to validity of the transaction on a basis of the shipment information and the delivery information.

70. A program for causing a computer to perform, in order to perform a determination method that relates to a transaction of at least a resin product or a

resin including a recycled resin in a supply chain in which a plurality of companies participate:

receiving, from a first company via a first terminal apparatus, shipment information including at least a part of identification information on the resin shipped by the first company, shipment destination information on the resin, shipment amount information on the resin, and shipment timing information on the resin;

receiving, from a second company via a second terminal apparatus, delivery information on the resin delivered to the second company; and

making a transaction determination that is a determination as to validity of the transaction on a basis of the shipment information and the delivery information.

What is claimed is:

1. An authentication method for a recycled product performed by a computer system, the authentication method comprising:

a first acquisition step of acquiring, from a terminal apparatus communicable with the computer system, information indicating a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring, from the terminal apparatus, information indicating a sending amount of a resin product using the recycled resin in the manufacturing entity; and

an authentication step of giving authentication to the resin product by generating authentication information indicating that the resin product is a recycled product, when an authentication condition based on the information on the sending amount and the receiving amount is satisfied, wherein:

the receiving amount is information indicating a receiving amount of the recycled resin as a raw material for manufacturing the resin product by the manufacturing entity;

the sending amount is information indicating a weight of the recycled resin included in the resin product or information indicating a sending amount of a recycling-authenticated resin product in a mass balance approach; and

the authentication condition is a condition that the sending amount does not exceed the receiving amount.

2. The authentication method according to claim 1, comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product, wherein

the weight of the recycled resin included in the resin product is calculated by multiplying a weight of the resin product by the recycling ratio.

3. The authentication method according to claim 1 or 2, wherein

in the first acquisition step, information on a use amount of the recycled resin is acquired as the receiving amount from the manufacturing apparatus that processes the recycled resin to obtain a resin product.

4. The authentication method according to claim 3, wherein

the second acquisition step includes acquiring information on a manufacturing amount of the resin product from the manufacturing apparatus that processes the recycled resin to obtain the resin product.

5. The authentication method according to claim 4, comprising:

a product stock amount acquisition step of acquiring information indicating a stock amount after manufacturing about the resin product; and

a shipment amount acquisition step of acquiring a shipment amount of the resin product, wherein

the authentication condition further includes, as a condition for giving authentication to the resin product, a condition that a sum total of the stock amount

after manufacturing and the shipment amount does not exceed the manufacturing amount.

6. The authentication method according to claim 4, further comprising:

a raw material stock amount acquisition step of acquiring information indicating a raw material stock amount that is a stock amount of a recycled resin in the manufacturing entity of the resin product, wherein

the authentication condition further includes, as a condition for giving authentication to the resin product, a condition that a sum total of the use amount and the raw material stock amount does not exceed a delivery amount of a recycled resin that is delivered to the manufacturing entity of the resin product.

7. The authentication method according to claim 1, further comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product from the terminal apparatus, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product and acquiring the sending amount by multiplying the shipment amount by the recycling ratio; and

the authentication condition includes a condition that

relational expression (A2): the delivery amount ≥ the shipment amount × the recycling ratio

is satisfied.

8. The authentication method according to claim 1, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product and acquiring information indicating a stock amount after manufacturing about the resin product and acquiring a sum total of the shipment amount and the stock amount after manufacturing as the sending amount; and

the authentication condition includes a condition that

relational expression (A3): the delivery amount ≥ the shipment amount + the stock amount after manufacturing

is satisfied.

9. The authentication method according to claim 1, further comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product from the terminal apparatus, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product, acquiring information indicating a stock amount after manufacturing about the resin product, and acquiring the sending amount by multiplying a sum total of the

shipment amount and the stock amount after manufacturing by the recycling ratio; and

the authentication condition includes a condition that

relational expression (A3-1): the delivery amount ≥ (the shipment amount + the stock amount after manufacturing) × the recycling ratio

is satisfied.

10. The authentication method according to claim 1, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product, acquiring a discard amount of the resin product, and acquiring a sum total of the shipment amount and the discard amount as the sending amount; and

the authentication condition includes a condition that

relational expression (A4): the delivery amount ≥ the shipment amount + the discard amount

is satisfied.

11. The authentication method according to claim 1, further comprising:

a third acquisition step of acquiring information on a recycling ratio about the resin product from the terminal apparatus, wherein:

the first acquisition step includes acquiring a delivery amount of a recycled resin as the receiving amount;

the second acquisition step includes acquiring a shipment amount of the resin product, acquiring a discard amount of the resin product, and acquiring the sending amount by multiplying a sum total of the shipment amount and the discard amount by the recycling ratio; and

the authentication condition includes a condition that

relational expression (A4-1): the delivery amount ≥ (the shipment amount + the discard amount) × the recycling ratio

is satisfied.

12. The authentication method according to any one of claims 6 to 11, wherein

the delivery amount is an accumulated delivery amount of the recycled resin associated with same identification information for identifying the recycled resin of a prescribed unit.

13. The authentication method according to any one of claims 7 to 11, wherein

the shipment amount is an accumulated shipment amount of the resin product associated with same identification information for identifying the recycled resin of a prescribed unit.

14. The authentication method according to claim 1, wherein:

the manufacturing entity is a manufacturing apparatus of the resin product; and

the receiving amount is acquired based on a use amount of the recycled resin that is used by the manufacturing apparatus, and the sending amount is acquired based on a manufacturing amount of the resin product manufactured by the manufacturing apparatus using the recycled resin.

15. The authentication method according to claim 1, wherein:

the manufacturing entity is a manufacturing apparatus of the resin product;

the first acquisition step includes acquiring information on a use amount of a recycled resin as the receiving amount from a manufacturing apparatus that processes the recycled resin to obtain a resin product;

the second acquisition step includes acquiring information on a manufacturing amount of the resin product, acquiring a discard amount of the resin product, and acquiring a sum total of the manufacturing amount and the discard amount as the sending amount; and

the authentication condition includes a condition that

relational expression (B2): the use amount ≥ the manufacturing amount + the discard amount

is satisfied.

16. The authentication method according to claim 1, wherein:

the manufacturing entity is a manufacturing apparatus of the resin product;

the method comprises a third acquisition step of acquiring information on a recycling ratio about the resin product;

the first acquisition step includes acquiring information on a use amount of a recycled resin as the receiving amount from a manufacturing apparatus that processes the recycled resin to obtain a resin product;

the second acquisition step includes acquiring information on a manufacturing amount of the resin product, acquiring a discard amount of the resin product, and acquiring the sending amount by multiplying a sum total of the manufacturing amount and the discard amount by the recycling ratio; and

the authentication condition includes a condition that

relational expression (B2-1): the use amount ≥ (the manufacturing amount + the discard amount) × the recycling ratio

is satisfied.

17. The authentication method according to any one of claims 1 to 16, wherein

the computer system includes a blockchain network that includes a plurality of node apparatuses, and

each of the plurality of node apparatuses includes

performing, with a control unit, consensus building processing in a blockchain to share information indicating the receiving amount and information indicating the sending amount with another of the node apparatuses, and

storing, in a storage unit, the information indicating the receiving amount and the information indicating the sending amount for which a consensus has been built by the consensus building processing.

18. The authentication method according to claim 17, comprising,

in at least a part of the plurality of node apparatuses:

performing, with the control unit, the consensus building processing on authentication information indicating that the resin product authenticated as a recycled product is the recycled product, and

storing, in the storage unit, the authentication information having been subjected to the consensus building processing.

19. An authentication system including a processor, wherein

the processor is configured to perform:

a first acquisition step of acquiring, from a terminal apparatus communicable with the authentication system, information indicating a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring, from the terminal apparatus, information indicating a sending amount of a resin product using the recycled resin in the manufacturing entity; and

an authentication step of giving authentication to the resin product by generating authentication information indicating that the resin product is a recycled product, when an authentication condition based on the information on the sending amount and the receiving amount is satisfied, wherein:

the receiving amount is information indicating a receiving amount of the recycled resin as a raw material for manufacturing the resin product by the manufacturing entity;

the sending amount is information indicating a weight of the recycled resin included in the resin product or information indicating a sending amount of a recycling-authenticated resin product in a mass balance approach; and

the authentication condition is a condition that the sending amount does not exceed the receiving amount.

20. The authentication system according to claim 19, wherein

the processor is configured to perform:

a delivery amount acquisition step of acquiring information on a delivery amount of a recycled resin that is delivered to a manufacturing company of the resin product, and

a use amount acquisition step of acquiring information on a use amount of a recycled resin used in the processing from a manufacturing apparatus that processes the recycled resin to obtain a resin product;

a shipment amount acquisition step of acquiring information on a shipment amount of the resin product that is shipped from the manufacturing company of the resin product; and

as the authentication step, an authentication step of determining, on a basis of the information on the delivery amount, the use amount, and the shipment amount, that the resin product satisfies an authentication condition when the authentication condition further including a condition that the use amount does not exceed the delivery amount and the shipment amount does not exceed the delivery amount is satisfied.

21. The authentication system according to claim 19 or 20, further comprising:

a sharing step of transmitting, on a premise that the authentication condition is satisfied, target data from a first node apparatus among a plurality of node apparatuses to another of the node apparatuses to share the target data indicating that the resin product satisfies the authentication condition.

22. The authentication system according to claim 20, further comprising:

a blockchain network that includes a plurality of node apparatuses, wherein

a processor of a first node apparatus among the plurality of node apparatuses is configured to perform

the delivery amount acquisition step,

the use amount acquisition step,

the shipment amount acquisition step,

the authentication step, and

a sharing step of transmitting, on a premise that the resin product is determined to satisfy the authentication condition, target data to another node apparatus to share the target data indicating that the resin product satisfies the authentication condition with the other node apparatus.

23. The authentication system according to claim 20, wherein

the manufacturing apparatus includes a weighing unit provided to be able to weigh the use amount of the recycled resin, and

in the use amount acquisition step, the use amount is acquired on a basis of a weighing result by the weighing unit.

24. The authentication system according to claim 20 or 23, comprising:

a first reading device that reads a delivery form of the recycled resin, wherein

in the delivery amount acquisition step, information on the delivery amount based on a reading result of the delivery form by the first reading device is acquired.

25. The authentication system according to any one of claims 20, 23 and 24, comprising:

a second reading device that reads a shipment form of a shipment amount of the resin product, wherein

in the shipment amount acquisition step, information on the shipment amount based on a reading result of the shipment form by the second reading device is acquired.

26. An authentication application system including a processor, wherein the processor is configured to perform:

a first acquisition step of acquiring information indicating a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring information indicating a sending amount of a resin product using the recycled resin in the manufacturing entity;

an authentication application step of transmitting authentication target data including the sending amount and the receiving amount; and

a receiving step of receiving an authentication result indicating whether an authentication condition based on the information on the sending amount and the receiving amount is satisfied, wherein:

the receiving amount is information indicating a receiving amount of the recycled resin as a raw material for manufacturing the resin product by the manufacturing entity;

the sending amount is information indicating a weight of the recycled resin included in the resin product or information indicating a sending amount of a recycling-authenticated resin product in a mass balance approach; and

the authentication condition is a condition that the sending amount does not exceed the receiving amount.

27. The authentication application system according to claim 26, wherein

the authentication application system further includes a manufacturing apparatus that processes a recycled resin to obtain a resin product, and

the processor is configured to perform:

in the first acquisition step, acquiring, from the manufacturing apparatus, information indicating a use amount of the recycled resin as the receiving amount, and

in the second acquisition step, acquiring, from the manufacturing apparatus, information indicating a manufacturing amount of the resin product as the sending amount.

28. The authentication application system according to claim 27, wherein

the manufacturing apparatus includes a weighing unit provided to be able to weigh the use amount of the recycled resin, and

in the use amount acquisition step, the use amount is acquired on a basis of a weighing result by the weighing unit.

29. The authentication application system according to claim 26, wherein

the processor is configured to perform:

a delivery amount acquisition step of acquiring information on a delivery amount of a recycled resin that is delivered to a manufacturing company of the resin product; and

a shipment amount acquisition step of acquiring information on a shipment amount of the resin product that is shipped from the manufacturing company of the resin product.

30. The authentication application system according to claim 29, comprising:

a first reading device that reads a delivery form of the recycled resin, and

in the delivery amount acquisition step, information on the delivery amount based on a reading result of the delivery form by the first reading device is acquired.

31. The authentication application system according to claim 29 or 30, comprising:

a second reading device that reads a shipment form of a shipment amount of the resin product, wherein

in the shipment amount acquisition step, information on the shipment amount based on a reading result of the shipment form by the second reading device is acquired.

32. A storage medium comprising a program for causing a computer system to perform:

a first acquisition step of acquiring, from a terminal apparatus communicable with the computer system, information indicating a receiving amount of a recycled resin in a manufacturing entity of a resin product;

a second acquisition step of acquiring, from the terminal apparatus, information indicating a sending amount of a resin product using the recycled resin in the manufacturing entity; and

an authentication step of giving authentication to the resin product by generating authentication information indicating that the resin product is a recycled product, when an authentication condition based on the information on the sending amount and the receiving amount is satisfied, wherein:

the receiving amount is information indicating a receiving amount of the recycled resin as a raw material for manufacturing the resin product by the manufacturing entity;

the sending amount is information indicating a weight of the recycled resin included in the resin product or information indicating a sending amount of a recycling-authenticated resin product in a mass balance approach; and

the authentication condition is a condition that the sending amount does not exceed the receiving amount.