[CLAIMS]

[Claim 1]

An apparatus for automatically transferring a chemical container, the apparatus comprising:

a shelter configured such that a first chemical container is discharged from a chemical supply device and sheltered in the shelter;

a standby unit configured such that a second chemical container temporarily stands by;

an entrance unit configured to serve as a path along which the first chemical container is discharged and as a path along which the second chemical container is introduced into the chemical supply device;

a control unit configured to control transfer of:

the first chemical container at each of the shelter and the entrance unit; and

the second chemical container at each of the standby unit and the entrance unit; and

at least one transfer line configured to transfer the second chemical container to the chemical supply device,

wherein the standby unit is provided between the transfer line and the chemical supply device, the shelter is connected to one side of the entrance unit, and the standby unit is connected to another side of the entrance unit.

[Claim 2]

The apparatus of claim 1, wherein:

the chemical supply device, the entrance unit, and the shelter are provided on a straight path; and

the standby unit is connected to the entrance unit and provided perpendicular to the shelter with respect to the entrance unit.

[Claim 3]

The apparatus of claim 1, wherein:

the entrance unit includes a first transfer member for transferring the chemical container from the entrance unit toward the shelter, and a second transfer member for transferring the chemical container from the standby unit toward the entrance unit; and

a transfer direction of the first transfer member and a transfer direction of the second transfer member are perpendicular to each other.

[Claim 4]

The apparatus of claim 1, further comprising:

a transfer vehicle rail provided parallel to at least a portion of the transfer line; and

a transfer vehicle which is linearly moved along the transfer vehicle rail and transfers the chemical container from the transfer line to the chemical supply device at an input position adjacent to the standby unit or transfers the chemical container

from the chemical supply device to the transfer line at a discharge position spaced apart from the input position along the transfer vehicle rail.

[Claim 5]

The apparatus of claim 1, wherein the control unit receives information on a chemical of the chemical container transferred along the transfer line and, when the received information on the chemical matches information required by the chemical supply device, controls the chemical container to be supplied to the chemical supply device.

[Claim 6]

The apparatus of claim 1, wherein:

the chemical supply device is provided as a pair of chemical supply devices of which entrances face each other;

the entrance unit is provided as a pair of entrance units near the entrances of the pair of chemical supply devices;

the standby unit is provided as a pair of standby units to each be adjacent to a corresponding one of the pair of entrance units; and

each of the pair of entrance units functions as a shelter in which the first chemical container discharged from the chemical supply device on the other side is sheltered.

[Claim 7]

The apparatus of claim 6, wherein the standby unit is provided at a position on a line perpendicular to a straight path formed by connecting the entrance of the chemical supply device and the entrance unit.

[Claim 8]

The apparatus of claim 1, wherein the standby unit serves as a path along which the first chemical container is discharged.

[Claim 9]

The apparatus of claim 1, wherein the standby unit and the shelter are provided at both sides of the entrance unit.

[Claim 10]

The apparatus of claim 9, wherein:

a first transfer vehicle, which is linearly moved along a first transfer vehicle rail provided at an opposite side of the entrance unit with respect to the standby unit, is provided;

a second transfer vehicle, which is linearly moved along a second transfer vehicle rail provided at the opposite side of the entrance unit with respect to the shelter, is provided;

the second chemical container loaded on the first transfer vehicle passes the standby unit and is introduced into the chemical supply device through the entrance unit; and

the first chemical container placed inside the chemical supply device passes the entrance unit and the shelter, is transferred to the second transfer vehicle, and then is discharged outward through the transfer line.

[Claim 11]

A method of automatically transferring a chemical container, the method comprising:

operation a) of discharging a first chemical container fully used by a chemical supply device to an entrance unit located near an entrance of the chemical supply device;

operation b) of transferring the first chemical container of the entrance unit to a shelter; and

operation c) of passing a second chemical container, which is a new chemical container and stands by in a standby unit, through the entrance unit and introducing the second chemical container into the chemical supply device;

wherein:

the shelter is connected to one side of the entrance unit; and

in operation c), the second chemical container is transferred along at least one transfer line and then stands by in the standby unit connected to another side of the entrance unit.

[Claim 12]

The method of claim 11, further comprising operation d) of transferring the first chemical container sheltered in the shelter to the transfer line.

[Claim 13]

The method of claim 12, wherein, in operation d), the first chemical container sequentially passes the shelter, the entrance unit, and the standby unit and then is transferred to the transfer line.

[Claim 14]

The method of claim 12, wherein the first chemical container is loaded on a transfer vehicle linearly moved along a transfer vehicle rail provided parallel to at least a portion of the transfer line, and then is discharged outward along the transfer line.