

Claims

1. A reactor system (1) comprising
 - a reactor (3),
 - at least one cooler (5) connected to the reactor (3),
 - at least one pump (7) for circulating at least some of a liquid heat-transfer medium (9), wherein the pump (7) is connected to the reactor (3) and/or the at least one cooler (5) , and
 - a container (11) for collecting the liquid heat-transfer medium (9), wherein the container (11) is connected via outlet lines (17a, 17b) to the lowermost points of the reactor (3) and/or the at least one cooler (5) respectively, wherein the container (11) is disposed below the reactor (3) and/or the at least one cooler (5), wherein the container (11) is disposed at least partly below ground level and wherein the volume of the container (11) is 10% greater than the volume of the liquid heat-transfer medium (9) theoretically contained in the reactor (3) and the at least one cooler (5).
2. The reactor system (1) as claimed in claim 1, wherein the container (11) comprises a heating apparatus (13) for heating the liquid heat-transfer medium (9).
3. The reactor system (1) as claimed in claim 1 or 2, wherein the container (11) further comprises a pump (15).
4. The reactor system (1) as claimed in any one of claims 1 to 3, wherein the container (11) is connected to both the reactor (3) and/or the at least one cooler (5) via at least one return line (19).
5. The reactor system (1) as claimed in any one of claims 1 to 4, wherein the outlet lines (17a, 17b) and/or the return line (19) each comprise a heating apparatus.
6. The reactor system (1) as claimed in any one of claims 1 to 5, wherein the reactor (3) is a shell-and-tube reactor for carrying out exothermic reactions and/or the at least one cooler (5) is a salt-bath cooler and the liquid heat-transfer medium (9) is a salt melt.
7. The reactor system (1) as claimed in any one of claims 1 to 6, wherein the cooler (5) comprises an emergency relief (21) and a safety device (23).