CLAIMS

1. A hydrogenation catalyst for hydrogenation of an aromatic halonitro compound, the hydrogenation catalyst for use in a flow-type reaction for performing a gas/liquid/solid three phase reaction and comprising:

a carrier containing titania, the carrier having an average pore diameter of 50 nm or less; and

palladium carried by the carrier;

wherein the average pore diameter is 78 times or less of a longitudinal molecular length of the aromatic halonitro compound.

2. A flow-type organic synthesis system configured to cause a gas/liquid/solid three phase reaction by using:

a fixed catalyst including the hydrogenation catalyst according to claim 1;

hydrogen as a gas raw material; and

the aromatic halonitro compound as a liquid raw material.

3. A manufacturing method of a hydrogenated organic compound, hydrogenating the aromatic halonitro compound by using the hydrogenation catalyst according to claim 1.