

ABSTRACT

METHOD FOR PRODUCING ETHYLENE OXIDE

To provide a novel technique capable of further reducing the
5 argon purge amount in a process for producing ethylene oxide.

A method for producing ethylene oxide, including: a step of
supplying an ethylene oxide-containing reaction product gas
produced in an ethylene oxidation reaction step in an ethylene
oxidation reactor, in which ethylene is subjected to contact
10 gas-phase oxidation using a molecular oxygen-containing gas in the
presence of a silver catalyst, to an ethylene oxide absorption column
to bring the reaction product gas into contact with an absorption
liquid supplied to the ethylene oxide absorption column, supplying
an ethylene oxide-containing column bottom liquid of the ethylene
15 oxide absorption column to an ethylene oxide purification system,
and purifying ethylene oxide in the ethylene oxide purification
system; and a step of supplying at least part of a carbon dioxide
gas-containing gas discharged from a column top part of the ethylene
oxide absorption column to a carbon dioxide gas absorption column
20 to bring the carbon dioxide gas-containing gas into contact with
an absorption liquid, extracting the resulting carbon dioxide
gas-rich absorption liquid as a column bottom liquid of the carbon
dioxide gas absorption column and supplying the same to an upper
part of a carbon dioxide gas stripper column, and stripping a carbon
25 dioxide gas from the carbon dioxide gas-rich absorption liquid and
discharging the same from a column top part of the carbon dioxide
gas stripper column as an exhaust gas, the concentration of molecular
oxygen (O_2) in the molecular oxygen-containing gas supplied from
outside the system into the system being 99.7% by volume or more.

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