

ABSTRACT

325 The present invention relates to a flame-free thermal oxidation incineration
device for dealing with various environmentally harmful substances produced, by
way of example, in the process of producing semiconductors, LED's and displays
and in oil refineries, and the aim of the present invention is to provide a flame-free
thermal oxidation incineration device wherein NO_x production is almost completely
330 absent and the concentration of harmful substances is at the level of a few ppm.
According to the present invention, the aim is achieved by filling the inside of an
incineration incinerating furnace with a catalyst, pre-heating a reactant inlet through
which the harmful substance is supplied, surrounding the entire surface of the
incinerating furnace with oxygen-supply channels, and then ensuring the oxygen to
335 be supplied the incinerating furnace floor surface and thereby causing a combustion
reaction to proceed at a fast rate and with high efficiency.