CLAIMS

1. A decontamination device for decontaminating inside a working chamber,

comprising the working chamber, a mist supply means and a mist circulation dispersion mechanism, wherein

the mist supply means is configured to convert a chemical for decontamination into a mist for decontamination, and supplies the mist to the inside of the working chamber,

the mist circulation dispersion mechanism includes a plurality of vibration boards disposed to internal wall surfaces of the working chamber, and each vibration board is configured to ultrasonically vibrate to generate sound flows from board surfaces by an ultrasound in a vertical direction relative to the board surface, wherein

the plurality of vibration boards is arranged without board surfaces thereof being opposite to each other to generate no stationary wave sound field by an ultrasound generated from each of the vibration boards, and consequently

the mist dispersion mechanism is configured to press the mist for decontamination supplied to the inside of the working chamber by acoustic radiation pressure to circulate and disperse the mist for decontamination so as to rotate inside the working chamber.

2. The decontamination device according to claim 1, wherein

the vibration board includes a base and a plurality of transmitters,

the plurality of transmitters is arranged on a plain surface of the base so as to be uniform in transmission direction, and the transmitters are operated in the same phase, whereby

a sound flow is generated by a significantly directional ultrasound from the board surface of the vibration board in the vertical direction relative to the board surface by mutually amplifying ultrasounds from the plurality of transmitters in the front direction relative to the base and mutually canceling out ultrasounds from the plurality of transmitters in the lateral direction relative to the base.

3. The decontamination device according to claims 1 or 2, wherein

the mist for decontamination supplied to the inside of the working chamber is further refined by ultrasonic vibration generated from the vibration board.

4. The decontamination device according to any one of claims 1 to 3, wherein

the decontamination device comprises a control means for changing the frequency and output of the ultrasound generated from the vibration board and/or for transmitting an ultrasound intermittently to control the moving speed of the mist for decontamination circulated and dispersed in the working chamber.