

PATENT CLAIMS

1. The smart device for the safe disposal of medical infectious waste according to Figures 1 and 2, characterized in that, it consists of executive and control components and basic parts, where the outer part of the device consists of: a switch for opening the lid (1), a lid (2) that opens after pressing the switch for opening the lid (1), or an automatic shutter after medical infectious waste is inserted into the invention, LCD display (3)) which will show the state (volume of untreated waste, battery condition, potential errors and all other parameters that indicate the operation) and the final waste container (4). The inner part of the device consists of: a smaller upper part in which the inlet pipe (5) is located and a larger lower part - a metal chamber (6). The metal chamber (6) contains the following parts: the opening of the inlet pipe (7) which will be filled with a protective cover, which is a connection between the inlet pipes (5) and the first disinfection chamber (8), the first disinfection chamber (8), the opening of the first disinfection chambers (9) to be filled with a protective cover, which is a connection between the first disinfection chamber (8) and the chamber in which the grinding / shredding / crushing system (10) is located; inside this chamber there is a grinding / shredding / crushing machine (11), second disinfection chamber (12), opening of the second disinfection chamber (13) which will be filled with protective lid, and is a connection between the second disinfection chamber (12) and the final container for waste (4), UV lamps (14) that will fill the entire interior of the metal chamber and vacuum devices (15).
2. A method for safe disposal of infectious medical waste with the device according to claim 1, characterized in that, the maximum safety for humans is ensured by the means of metal chamber (6) which will prevent harmful UV rays from entering the environment.
3. A method for safe disposal of infectious medical waste with the device according to claim 1, characterized in that, the creation of necessary optimal conditions (e.g. optimum temperature, humidity, air composition, etc.) is achieved by the means of metal chamber (6), in order to achieve the most efficient operation of UV rays.
4. A method for safe disposal of infectious medical waste with the device according to claim 1, characterized in that, medical infectious waste according to Figures 1 and 2 is inserted into the inlet pipe (5) after opening the lid (2) by pressing the lid opening switch (1), whereby and after removing the waste, the cover (2) closes automatically.
5. A method for safe disposal of infectious medical waste with the device according to claim 1, characterized in that, according to Figures 1 and 2, that after the waste is inserted into the inlet pipe (5) and the automatic closing of the lid (2), further contact of the person with the waste is prevented. The waste within the inlet pipe (5) falls on the cover which closes the opening of the inlet pipes (7). When the waste falls on the lid, the lid automatically opens and the waste from the inlet pipes (5) slides into the first disinfection chamber (8). After the waste falls into the first disinfection chamber (8), the opening of the inlet pipe (7) closes automatically.

6. A method for safe disposal of infectious medical waste with the device according to claim 1, characterized in that, according to Figures 1 and 2, that after the waste slides into the first disinfection chamber (8) the UV lamps (14) inside the device are automatically lit whereby the first disinfection and sterilization phase is performed. If there is insufficient waste in the devices for further processing, the UV lamps (14) will be programmed to shut off after a certain period of time, until new infectious waste is inserted.
7. A method for safe disposal of infectious medical waste with the device according to claim 1, characterized in that, according to Figures 1 and 2, that after collecting certain amounts of waste (about 50% - 85% of the volume of the first sterilization chamber (8)) which was exposed to a certain period of time to UV rays (14), the waste perishes into the chamber in which the grinding / shredding / crushing system (10) is located through the opening of the first sterilization chamber (9).
8. A method for safe disposal of infectious medical waste with the device according to claim 1, characterized in that, according to Figures 1 and 2, after the waste has perished into the chamber (10) the grinding / shredding / crushing machine (11) starts. The waste is grounded / shredded / crushed to the optimum size in order to achieve the most efficiency of UV lights for the final disinfection of the waste in the second disinfection chamber (12).
9. A method for safe disposal of infectious medical waste with the device according to claim 1, characterized in that, according to Figures 1 and 2, that during the operation of the grinding / shredding / crushing machine (11) the shredded waste gradually falls into the second disinfection chamber (12) through an opening connecting the grinding / shredding / crushing chamber (10) and the second disinfection chamber (12).
10. A method for safe disposal of infectious medical waste by the device according to claim 1, characterized in that, according to Figures 1 and 2, after the decay of the waste into the second disinfection chamber (12) the final disinfection of the waste is performed by UV lights (14) a certain period of time. After the waste has been exposed to UV light for some time and when the final disinfection is complete, the waste falls through the opening of the second sterilization chamber (13) into the final waste container (4).
11. A method for safe disposal of infectious medical waste by the device according to claim 1, wherein, according to Figures 1 and 2, the lid that fills the opening of the second disinfection chamber (13) is located at the very bottom of the second disinfection chamber (12), and its purpose is to keep the shredded infectious medical waste in the second disinfection chamber (12) for a certain period of time so that the medical infectious waste is maximally disinfected and sterilized. After the expiration of this time period, the lid that fills the opening of the second disinfection chamber (13) is automatically opened, and the crushed internal municipal waste passes through the opening and enters the vacuum-plastic bag. When all the shredded internal municipal waste from the second disinfection chamber (12) enters the plastic vacuum bag, the lid that fills the opening of the second disinfection chamber (13) is automatically closed and the internal municipal waste is ready for vacuum packaging.

12. A method for the safe disposal of infectious medical waste by the device according to claim 1, characterized in that, according to Figures 1 and 2, there are vacuum bags in the final waste container (4) into which the waste falls. After the vacuum bags are filled to the maximum, a vacuum device (15) of inert medical waste is activated by means of a sensor. The vacuum bag is disposed of in the final waste container (4) and a new empty vacuum bag is replacing the full vacuum bag.

13. A method for the safe disposal of infectious medical waste by the device according to claim 1, characterized in that, according to Figures 1 and 2, when the final waste container (4) is filled with vacuum bags containing municipal inert waste, the LCD display (3) signals that the final waste container (4) needs to be emptied and that the inert municipal waste is ready for further disposal.