

## **Application for Waste Water Treatment at Sandoz GmbH (Pharmaceutical) in Kundl/Tirol for MINIFLASH FLP**

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Waste water from different production facilities of Sandoz GmbH Kundl is fed into the companies' sewage treatment plant via separate drains.

Sewage resulting from reconditioning pharmaceutical substances has to be treated by an ultra-filtration plant, before applying biological treatment to the waste water. By use of an ultra-filtration plant one part of the sewage is freed of permeate and can then be treated with biological methods. The other part of the waste water then contains residual fluids with even higher concentrations of pharmaceutical solvents. Disposal of these residual fluids has been outsourced by Sandoz.

To maximize the output of permeate-free water, it is necessary to filter the waste water at a temperature of 80°C. The ultra-filtration plant is not manufactured explosion-proof. In case a defect occurs during waste water treatment, the water might still contain solvents, which poses a potential risk to the ultra-filtration plant. Thus the flashpoint has to be tested twice before releasing the sewage to the filtration plant. Waste water is released only, if its flashpoint is 95°C or above, which accounts for the operating temperature of the ultra-filtration plant (80°C) plus a safety margin of 15°C.

Since a continuous flow of waste water is required for the operation of the sewage treatment plant, two tanks are used as buffers. Beginning by taking a sample for the determination of the flashpoint until it is released into the ultra-filtration plant, the waste water is rerouted from one tank to the other tank.

Thus, whenever specific pharmaceutical agents are manufactured at Sandoz, MINIFLASH FLP is used daily at the sewage treatment plant.