

Environmental Statement 2021

Air quality control and dust emissions



Air quality control and dust emissions are important environmental topics for Budenheim Germany. In the production of our phosphates, dust containing exhaust air is generated, in particular in the drying and milling processes but also during the pneumatic conveyance and the filling of raw materials and products. The emitted dusts and aerosols do not influence the formation of summer smog, the greenhouse effect or stratospheric ozone depletion. The dusts do not contain any toxic substances but may lead to visible dust fall in the immediate neighbourhood of our premises.

Gaseous emissions result from the combustion of natural gas in the heat and steam production in the boiler house and in some production facilities. In addition, the forklifts used for on-site transport and running on diesel oil, any external transport on our behalf carried out by other companies (delivery of raw materials, shipping of products), and the employees' commutes cause emissions. As solvents are only used to a limited extent in the workshops, VOC (Volatile Organic Compounds) emissions play hardly any role at all. The direct CO₂ emissions resulting mainly from the combustion of natural gas contribute to the greenhouse effect.

NO_x (Nitrogen oxides) emissions are involved in the formation of ground-level ozone and acid rain. The gases CO (Carbon monoxide) and NO_x only occur in such a low concentration in the regional environment that they do not play any role for toxicity to humans (respiration).

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All production facilities are subject to the legal regulations of the Federal Immission Control Act and the associated state laws and ordinances and have to meet the resulting requirements. In addition, strict requirements for facilities subject to approval are stipulated in the notifications of permission.

Always state-of-the-art

Our EHS management system ensures that in new production facilities only the latest exhaust air purification technology is used. The existing exhaust air purification facilities have been optimised by a number of improvements in the past few years. Budenheim uses fabric filters and wet scrubbers for exhaust air purification. The fabric filters have a retention capacity of more than 99.999 per cent.

For exhaust air with temperatures above 250 °C, wet scrubbers, mostly with an upstream cyclone, are used. The water loaded with phosphate dust from the wet scrubbers is completely returned into the production cycle (apart from a small fraction which escapes into the atmosphere in the form of water vapour). All relevant filters, cyclones and wet scrubbers are regularly inspected and checked for their operability by trained employees. At least once per year, preventive maintenance is carried out.

This way we can ensure that the legal requirements on emission control are fulfilled and the actual values achieved definitely meet or even fall below those stipulated in the notifications of permission. The positive development becomes particularly apparent in the reduction of dust emissions by a total of almost 80 per cent which has been achieved since 1994.

Since 2009 the yearly amount of dust emissions has been about 12 tons. The variations around that level by yearly comparison are caused by slightly different runtimes of our plants. For gaseous emissions as well we have been able to reduce the CO₂, CO, and NO_x emissions since 1994 by optimising production processes and modernising steam production.

Emission control everywhere

In order to keep in-company transport-related emissions as low as possible, all main raw materials are transported to the production facilities via pipelines using pumps or pneumatic conveyance. Only special raw materials in small packaging units are transported by forklifts. The forklifts are battery-powered or running on diesel oil. All diesel forklifts are equipped with a filter system to reduce emissions.

We also make sure that emissions are minimised in external transport. Our main raw materials phosphoric acid, caustic soda solution and caustic potash solution for example are shipped using water transport, which, compared to road and rail, is least harmful to the environment. All other raw materials are delivered by lorry.

Our products are also shipped by forwarding companies. Our guideline for forwarders includes the request to use safe, low-pollutant, low noise and energy-saving transport vehicles.

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In this way, Budenheim contributes to the protection of nature and to the health and well-being of people on the company premises and in the neighbourhood. It also supports sustainability in the community and surrounding area.

3 GOOD HEALTH
AND WELL-BEING



11 SUSTAINABLE CITIES
AND COMMUNITIES



15 LIFE
ON LAND



+++ This statement is computer generated and therefore not signed. +++

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