

News Release



Update: Fire at the North Harbor in Ludwigshafen

On Monday, October 17, 2016, there was an explosion and subsequent fires at the North Harbor at BASF's site in Ludwigshafen. Two employees of the BASF fire department and an employee of a tanker which was anchored in the harbor died in the accident. Another employee of the BASF fire department who was severely injured in the explosion died on October 29. Seven people were seriously injured and another 22 suffered slight injuries. Four of the seriously injured have been released from the hospital.

Course of events: The course of events is still being investigated by the public prosecutor's office of Frankenthal. On November 23, the public prosecutor's office released most of the incident area. Only individual pipelines are still sealed off.

A few days prior to the accident, a specialized pipeline construction company began to conduct assembly works on a deflated and secured propylene pipeline route. The aim of the assembly works was to exchange several parts of the pipeline as a preventive maintenance measure. On October 17, a fire started at approximately 11:30 a.m. near the assembly works. Forces of the BASF fire department, emergency service and environmental protection arrived a few minutes later at the incident area and immediately started emergency operations. During the initiation of emergency operations, an explosion, most likely at the ethylene pipeline, occurred. The explosion led to subsequent fires at various points along the pipeline trench, damaging further product and supply pipelines. Additional

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emergency forces immediately began rescue measures as well as extinguishing and cooling measures.

The fire brigade performed controlled burning of the leaking products in accordance with the fire-fighting concept for compressed gases. The pipelines that burned included those used for ethylene, propylene, a butylene product mix (raffinate), pyrolysis gasoline and ethylhexanol. As of October 17, 9.30 p.m., the emergency forces extinguished the fire.

Environmental impact: Following the start of the fire, comprehensive air measurements were conducted at the site of the incident, the plant gate and in areas surrounding the site in Ludwigshafen and Mannheim. The measurements showed no elevated levels of hazardous substances, as confirmed by the environment ministry of Rheinland-Pfalz and the city of Ludwigshafen. Additional measurements conducted by the cities of Speyer, Worms and Frankenthal showed no elevated levels. The only elevated levels measured locally were restricted to the immediate area of the incident. BASF has published the results of the air measurements as well as an overview map [online](#). Water samples also showed no elevated levels of hazardous substances. However, the ground has been contaminated at the site of the damage. Samples have been taken and provided to the criminal police. External experts will carry out further soil testing in accordance with the requirements of the public authorities. Appropriate measures will be developed based on the results of this testing.

Status of the investigation: On Wednesday, October 26, the District Attorney of Frankenthal/Palatinate and the Police Headquarters of Rheinpfalz announced the following information on the progress of the investigation: "In the course of intensive investigations directly at the scene of the incident, it has been established that there was a cut made in a pipeline. This was apparently done with a cutting disc. Maintenance work using an angle grinder was in progress on an adjacent pipeline. The cut pipeline was not part of this work. This pipeline contained flammable raffinate." (Excerpt of the press release

from District Attorney of Frankenthal/Palatinate and the Police Headquarters of Rheinpfalz, translated by BASF).

According to the current, preliminary evaluation, this could be the chain of causes: The cut pipeline contained a butylene mixture. BASF assumes that this butylene mixture leaked out and ignited due to the sparks produced by the angle grinder. This could have led to the fire, which caused the described explosion. BASF has commissioned an independent expert to analyze the accident. The expert's report will analyze the sequence of events and the cause of the incident. This will include, for example, an investigation of the safety of the affected pipelines and the occupational safety measures. The expert began his work on November 4, 2016. The objectives and scope of the safety-related inspection were set out by the Southern Structure and Licensing Directorate (Struktur- und Genehmigungsdirektion Süd) in consultation with the expert.

Moreover, BASF has commissioned a report by an independent expert for the safety-related assessment of the long-distance pipelines. The scope of the report was set out by the Southern Structure and Licensing Directorate in consultation with the expert as well. Furthermore, experts from the state criminal police are looking into the circumstances of the accident. Their investigations center on the maintenance procedures and the safety measures that were carried out prior to the maintenance work.

As the ground has been contaminated at the site of the damage, initial soil samples have been taken and provided to the criminal police. External experts will carry out further soil testing.

BASF will also continue to support the external experts in accordance with the conditions set out by the competent authorities and, if required, provide its own experts.

Safety at the Ludwigshafen site: Safety is the first priority on the Ludwigshafen site as well as globally at BASF. Environmental protection, health and safety are important components of the corporate values and objectives. BASF acts responsibly and always

gives priority to safety when operating existing plants or planning and constructing new plants. During the past 10 years, investments at the Ludwigshafen site have significantly exceeded the amount depreciated every year. As a result, the company has been able to renew more than one-third of the fixed assets on-site, thus making it safer and sustainable. Additionally, a total of €10 billion has been invested in maintenance and repair, increasing annually.

The plants on-site are in reliable condition. This is confirmed by inspections conducted by various relevant authorities as well as internal audits. Every year, more than 300 on-site appointments with supervisory authorities have taken place in Ludwigshafen; 160 of these were announced or unannounced inspections. North Harbor and the damaged pipelines were inspected in September 2012 as planned. The inspections resulted in no technical or organizational deficiencies.

Economic effects and next steps: Due to the fire, the raw material supply of the steam crackers was halted; other Verbund plants, especially in the ethylene and propylene value chains, were also idled or reduced production. Some of the plants were able to continue producing using existing raw material inventory. Now, several plants, including both steam crackers, have restarted production. In the coming weeks, the remaining plants will be gradually restarted or will increase their capacity utilization. Following the fire, the raw material supply at the Ludwigshafen site is still limited. Therefore, individual plants at the site may still be temporarily idled, restarted or may have production reduced in the future. BASF is evaluating various measures to minimize the impact on customer deliveries. BASF immediately informed the affected customers and is in close contact with them to keep them informed about the current availability of products.

Logistics situation: On November 23, 2016, the public prosecutor's office released most of the incident area. Only individual pipelines are still sealed off. The main parts of the harbor are currently still not operational. Repair and remediation work at the North Harbor will take

several months. On November 24, the first ship with polyisobuteneamine was able to be loaded using a loading arm which was not affected by the accident. Since the middle of this week, additional products can be unloaded and loaded at this arm. The riverside harbor, the harbor on Friesenheim Island and the tank farms are functional. Fluids can be handled at the harbor on Friesenheim Island and fluids and solids can be handled at the riverside harbor. Gate 15, which was closed following the accident on October 17 due to security measures at the damage site, resumed full operations on November 2. Since that time, the complete handling process for trucks is now carried out exclusively at gates 11 and 15. As of October 31, the intermodal transportation terminal also resumed operations. The railway system was also not damaged by the incident. The train service on-site is available.