

Information about the correct behaviour in case of an incident at the chemical complex Leuna

Recognising a dangerous situation



- Smell of fire or gas
- Smoke plume or fire
- Loud bang, explosive noises
- Siren alarm: 1 minute up and decongestant howling
- Warning App: note warnings in NINA

Safety instructions



- Keep calm!
- Obey instructions of emergency personnel!
- Listen to loudspeaker announcements! (Police, fire brigade, local government Saalekreis)



- Switch on the radio (FM) and your television set.
- Any announcements will be made via regional broadcasting services like: MDR 1 Radio Sachsen-Anhalt (Frequencies 100,8 MHz / 106,5 MHz) MDR Aktuell (95,3 MHz), MDR Sputnik (104,4 MHz), Radio SAW (103,3 MHz), Rockland (93,3 MHz), Radio Brocken (93,5 MHz), MDR TV station.
- Listen for announcements.



- Stay indoors!
- Ascertain that all children are indoors.
- Help people with disabilities and elderly people.
- Temporarily accommodate passers.



- Close windows and doors tightly.
- If possible seek interior rooms on the upper floors.
- Switch off any ventilation and air conditioning.
- If you are using a car, stay inside the car, close all windows and switch off the ventilation, the air conditioning and the engine.



- If your health has been affected, call your doctor or the medical emergency.
- Please leave your house or car only after you have heard the all-clear announcement (via radio or loudspeaker announcement).

Important phone numbers

- | | |
|--|----------------|
| - Control centre of the site security/fire brigade | 03461 43-4333 |
| - Info-telephone of the chemical site | 03461 43-96920 |
| - Local government Saalekreis, | |
| - civil protection/district control center | 03461 40-1255 |



INFRALEUNA®

Leuna Chemical Complex

INFORMATION OF THE PUBLIC

in accordance with § 11 of the Accident Regulation



www.infraleuna.de



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Dear citizens of Leuna, Merseburg and Spergau,

This is the brochure for the information of the public by companies of the Leuna Chemical Complex in accordance with the Major Accidents Ordinance. The Major Accidents Ordinance commits the operators of incident areas to inform all persons and all facilities with public access, which could be affected by an incident, about the safety measures and the right behaviour in case of an incident. The information has to be checked regularly.

On behalf of the clarity and the comprehensibility, the operators of incident areas at the Leuna Chemical Complex and InfraLeuna GmbH as the responsible on-site infrastructure service provider have decided to fulfil the aforementioned duty to provide information with a common information brochure.

Accordingly, the objective of the brochure is to inform the citizens as well as the facilities of cities and communities located within the immediate neighbourhood of the Leuna Chemical Complex about measures for the preventive avoidance of danger and about danger averting measures in an improbable however possible case.

As you can see in the brochure, the measures to prevent hazardous incidents and the averting measures in case of an incident have the highest priority in the mission statement. This ensures that the facilities in hazardous areas are operated on a very high safety standard and hazardous incidents are improbable. For the case of an incident which however cannot be ruled out completely (however-incident) the affected companies have made all technical, organizational and other arrangements to fight and embank immediately such a however-incident at any time.

With the handover of this brochure the publisher would like to ask you to have the information concerning behavior on hazardous incidents at the Leuna Chemical Complex available at any time. Please transmit all notes, suggestions and comments to the contact persons named in this brochure.

InfraLeuna GmbH
Dr. Christof Günther
Managing Director



ALBERDINGK BOLEY Leuna GmbH

Am Haupttor
Gebäude 6101
06237 Leuna



ALBERDINGK BOLEY Leuna GmbH is a 100% affiliated company of ALBERDINGK BOLEY GmbH. It operates a chemical facility to manufacture dispersions at the Leuna Chemical Complex. The site produces since 1997, today with 41 employees and 3 trainees.

Synthetic dispersions are produced using the emulsion polymerisation process and are basic substances for the paint and construction industry besides the adhesive market.

The various substances used for the operation of the plant as well as the intermediate and finished products are stored within the plant. The plant is subject to the application of the Accident Regulations (so called SEVESO Regulation). The authorities were notified in 2017 in accordance with Section 7 (1) of the Major Accidents Ordinance (StörfallV). The manufacturing processes are partly operated under increased pressure and temperature and are therefore subject to very strict safety regulations.

The concept documents regarding the prevention of accidents and the safety reports of ALBERDINGK BOLEY Leuna GmbH have been examined by independent experts. Considering the relevant substances, environmental and operational hazards described in the safety report and the relevant measures to prevent incidences, it can be said that the plant does not represent a serious hazardous risk.

We have a contractual agreement with the professional fire brigade of InfraLeuna to undertake all necessary tasks of preventive fire protection and operative hazard prevention.

If there should be an accident despite all these safety measures the release of the following substances could not be excluded and may reach the neighbouring vicinity:

Substances	Characteristics
In case of fire: Fumes (Smoke)	hazardous to health with toxic components
Liquids: Styrene Acrylates Acids and Bases	hazardous to health, flammable flammable, hazardous to environment corrosive, flammable, hazardous to environment
Other raw materials	toxic, corrosive, flammable, hazardous to environment

For further information about the company please call +49 (0)3461 43-930.

ALBERDINGK BOLEY Leuna GmbH
Stefan Münch
Site Manager

DOMO Caproleuna GmbH

Am Haupttor
Gebäude 3101
06237 Leuna



We as DOMO Caproleuna GmbH produce both organic and inorganic substances. Our customers polymerise the main product Caprolactam to form Polyamide 6 plastic granulate. This granulate is mainly processed to polyamide fibres.

In Part I of the chemical site Leuna we operate three plants, and in Part II, we operate 6 plants as follows.

Plant	Brief description of activities
Ammonia liquid	Unloading, pressure storage and distribution of liquid ammonia
Ammonia solution	Production of ammonia solution to 35 percent by weight of liquid ammonia
Ammonium sulphate	Production of fertilizer through crystallisation of ammonium sulphate solution
Benzene	Extraction of benzene from a hydrocarbon mixture
Cumene	Production of cumene through liquid phase alkylation of benzene with propene at 23 bar
Phenol	Production of phenol and acetone using the HOCK-process by cumene oxidation
Sulphuric acid	Production of sulphuric acid and oleum using the double contact process
HAS	Production of hydroxyl ammonium sulphate through pressure hydrogenation of nitrogen monoxide
Cyclohexanone	Production of cyclohexanone through phenol hydrogenation at 160 °C and 2,5 bar pressure
Caprolactam	Production of caprolactam by oximation of cyclohexanone with HAS and following rearrangement, in presence of oleum, to caprolactam

Both operational areas fall under the application area of the Hazardous Incident Regulation. Any resulting material and organizational duties required by the responsible authorities have been fulfilled.

The operational areas handle the most important substances listed below. These substances partially have properties that are classified as dangerous to humans and the environment.

Substances	Characteristics
Gases/Vapours	
Ammonia	toxic, caustic, environmentally hazardous
Sulphur dioxide	toxic, caustic
Propene, Propane, Gas, Hydrogen	flammable gases, potentially explosive
Liquids	
Ammonia solution	caustic, environmentally hazardous
Benzene	highly flammable liquid, carcinogenic, toxic
Cumene	highly flammable liquid, hazardous to health, environmentally hazardous
Trichloroethylene	carcinogenic, irritating, environmentally hazardous
Sulphuric acid / Oleum	caustic, corrosive/caustic, irritating, reacts violently with water, corrosive
Phenol	toxic, caustic
Acetone	highly flammable liquid, irritates the eyes

Our principle is to avoid accidents and therefore we have undertaken all safety measures imaginable. These measures have been recorded in writing and have been submitted to the responsible authorities. Additionally we have a comprising operational alarm and hazard prevention plan, which we have designed in close cooperation with the safety and environmental protection authorities at the Leuna chemical site and the responsible authorities.

Contact Partner

Alfons Schömer Managing Director phone: +49 (0)3461 43-2067.
Daniel Gräfe, Accident Manager phone: +49 (0)3461 43-2785.

DOMO Caproleuna GmbH
Alfons Schömer
Site Director Leuna

Dow Olefinverbund GmbH

Werk Leuna
Am Haupttor
Gebäude 3803
06237 Leuna



Dow Olefinverbund GmbH operates two synthesis plants at the Leuna chemical complex to produce plastics (polyethylene) by chemical conversion of ethene.

The products are the basis for the plastics processing industry and are used, for example, in the packaging industry, but also in the manufacturing of hygiene articles and cables.

According to § 2 No. 1 of the 12th BImSchV (Ordinance on Major Accidents), the plants represent a lower-class operating area.

The operating permits have been issued by the responsible authority. Environmental protection, occupational safety and plant safety are of paramount importance for the continuous operation of the plants.

As part of our integrated management system, which is certified to ISO 9001, ISO 14001 and ISO 50001, among others, all necessary measures have been taken to prevent the occurrence of incidents or to minimize their effects.

To this end, the necessary hazard prevention plans, and safety reports are in place and are reviewed regularly. The facilities are integrated into the safety concept of the Leuna chemical site.

The following substances are handled in the plants. In the event of an incident, effects on the neighborhood cannot be ruled out:

Substances	Characteristics
Gases (Ethene)	flammable, explosive
Liquids (Oils, Peroxide)	flammable, hazardous to waters
Polyethylene and compound products	flammable

Contact person:

Dow Olefinverbund GmbH
Carlo de Smet
Chairman of the Board of Management

Dow Olefinverbund GmbH
Andreas Morawe
Production Leader

Straße B 13
06258 Schkopau
E-Mail: fswinfo@dow.com
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www.dowmitteldeutschland.de

Am Haupttor, B3803
06237 Leuna

Dow Olefinverbund GmbH
Werk Leuna
Andreas Morawe
Production Leader

GHC GERLING, HOLZ & CO.
Handels GmbH
Standort Leuna
Am Haupttor
Gebäude 3651
06237 Leuna



For more than 100 years, GHC GERLING, HOLZ & CO. Handels GmbH globally supplies the industry with speciality gases. These gases are used for example for the production of pharmaceuticals, automobile tyres or for the disinfection of drinking water.

At the Leuna Chemical Complex, GHC purifies and liquefies hydrogen sulphide (H₂S). The substance is filled into transportable receptacles and stored afterwards. The product is used by our customers, e. g. for the refinement of mineral oils, the synthesis of flavours, the production of pigments or the production of semiconductors.

Our plants are equipped with state of the art safety installations. They are surveyed by gas detectors twenty-four seven. Even beyond production hours, these detectors are directly connected to the on-site professional fire brigade.

Our plants are subject to strict safety regulations. They are permanently checked by internal and external experts and the supervisory authorities respectively. They are maintained and serviced regularly by qualified and trained personnel.

In case of an accident, the following substances might reach the neighbourhood:

Substance	Characteristics
Hydrogen sulphide	very toxic, extremely flammable, hazardous to water

Hydrogen sulphide will be observed even at low concentrations (already at 0.025 - 0.1 ppm), which are not hazardous to human health, by the intense smell of rotten eggs.

If - despite all safety and security measures - any incident will occur that might endanger the environment, a special emergency plan comes into force. This emergency plan is adapted to the local circumstances and tested in safety trainings regularly. The plan is coordinated with the on-site professional fire brigade and external emergency authorities (police, civil protection).

In case of any questions, please do not hesitate to contact us:

Phone: +49 (0)40 853123-0
E-mail: hamburg@ghc.de
Internet: www.ghc.de

GHC GERLING, HOLZ & CO. Handels GmbH
Dr. Richard Pätow
Site Manager

Greiner GmbH

Am Haupttor
Gebäude 6353
06237 Leuna



Short description of Activities

Main Plant Plant to produce 3.500 tons a year acrylate polymer
Operational Units • BE01 Polymerisation,
 • BE02 Mixing and assembling,
 • BE03 Warehouse for raw materials and end products,
 • BE04 Office building, social rooms
 • BE05 Tank Storages

The main plant is designed to produce polymers. In the next operational unit other auxiliary materials are added to the polymer. These materials are mixed to the product.

Beside the main operational units for polymerization and mixing, necessary buildings, a tank storage and a warehouse, are part of the main plant.

The main plant is built according to the failure regulation, lowest classification.

The main plant is before mechanical finish.

Failure relevant materials (main materials) are:

substance name	properties, indication of danger
Toluol	material number annex I failure regulation, 1.2.5.(1, 2, 3) / P5(a,b,c) flammable fluids, WGK 2
Butylacrylate	material number annex I failure regulation, 1.2.5.(1, 2, 3) / P5(a,b,c) flammable fluids, WGK 1
Organic peroxide	material number annex I failure regulation, 1.2.8 / P8 oxidizing fluids, category 1, 2 or 3 or oxidizing solids, category 1, 2 or 3, WGK 1

Telephone numbers +49 3461 43-7025 and +49 3461 43-7027 for further information about our company can be caught up.

Greiner GmbH
Dr. Wolfram Lüneburg
Plant Manager

InfraLeuna GmbH

Am Haupttor
06237 Leuna



INFRALEUNA®

InfraLeuna GmbH provides infrastructure services for companies based on the closed Leuna Chemical Complex and therefore operates appropriate equipment, facilities and networks. With the exception of a storage and trans-shipment center for hazardous goods, containers for petroleum products and for substances with toxic, very toxic, oxidizing, inflammatory, flammable, highly flammable and / or environmental hazardous characteristics, the equipment, facilities and net-works are not subject to the Hazardous Incident Ordinance.

The approval compliant operation of the storage and trans-shipment center for hazardous containers is ensured by the strict compliance with applicable safety and fire protection regulations as well as regular inspections by qualified operating personnel. The stored goods will be delivered in sealed, approved and suitable for transport containers, stored and retrieved. Here, no emissions are caused during normal operation.

An internal alarm and hazard prevention plan and a safety report have been created for this operating unit, which are regularly updated and revised. Should it come to the release of substances in spite of all precautionary measures in connection with the operation of the storage, technical systems will secure the retention of the dangerous goods and the immediate alerting of the sites fire brigade to fight the effects of the incident. A safety analysis and a concept for the prevention of hazardous incidents have demonstrated that the consequences of a release of substances have no adverse effects on the public.

On the basis of appropriate agreements and regulatory approvals, InfraLeuna GmbH also provides a variety of services for the operators of plants on the Leuna Chemical Complex which are subject to the Hazardous Incident Ordinance, e.g. for the prevention, fighting and containment of incidents. The department environmental protection / safety / quality supports companies with plants that are subject to the Hazardous Incident Ordinance especially in matters of prevention and security coordination. This concerns, for example, the elaboration of the internal alarm and danger prevention plans that need to be created by each company with critical areas and have to be submitted to the responsible authorities for confirmation. For increased clarity, these legally binding internal alarm and danger prevention plans are summarized into an informal, legally non-binding alarm and danger prevention plan for the Leuna Chemical Complex in coordination with the companies concerned. Finally, the department environmental protection / safety / quality coordinates the publishing of this brochure.

The departments site security and professional fire brigade also provide services in the field of prevention, particularly for fire prevention. They have all necessary human and technical resources to fight any incidents and to limit the spread of pollutants. The control center of InfraLeuna GmbH therefore provides the necessary information and ensures the coordination with all affected parties, including the control center of the district administration of the Saalekreis.

The operational capability of the squad and the technology of the professional fire brigade, which also includes a rescue service, is guaranteed at all time at a high level. The site-based information and incident management of InfraLeuna GmbH for example includes:

- a siren warning system (with voice modules),
- a digital alarm and conference server (information system with the help of selected telephone connections at the Leuna chemical site),
- a direct telephone connection to the integrated control center of the district administration Saalekreis and
- an opportunity for the computer-aided calculation of the spread of pollutants in the atmosphere.

Among the services of the professional fire brigade which have to be provided by InfraLeuna GmbH in case of an incident, the following tasks are also included:

- the blocking of roads and gates,
- the containment and the closing off of dangerous areas and
- the direct information in endangered areas using megaphones.

In case of an incident InfraLeuna GmbH will provide the initial information to the authorities, the public and media representatives.

Additional information can be obtained at any time through our information telephone: +49 (0)3461 43-96920.

InfraLeuna GmbH
Dr. Christof Günther
Managing Director

Innospec Leuna GmbH

Am Haupttor
Gebäude 6310
06237 Leuna



Innospec Leuna GmbH operates a plant for the production of plastics and waxes through polymerisation of ethylene, or ethylene and vinyl acetate and a plant for the oxidation of waxes at the Leuna Chemical Complex. Our plastics are processed by the plastic processing industry into injection moulding parts, profiles, foams and foils with very good flexible characteristics and low temperature resistance. Our waxes have numerous applications like printing ink, gloss paint, cleaning agents, textile and paper industry products and are also used as an additive in diesel and heating fuel.

We mainly obtain our raw materials via pipeline (ethylene) or tank lorries (vinyl acetate).

Polymerisation is carried out under high pressure and temperatures.

The plant is subject to approval and to the stipulations of the Federal Immission Control Act (Bundesimmissionsschutzgesetz) and the Accident Regulations (Seveso III). The operation of the plant is carried out in accordance with the statutory regulations and has a high technical and organisational safety standard.

In case of accidents, we have undertaken measures that will limit the effect of an accident to the plant area (e.g. operational alarm and accident prevention plan, professional fire brigade).

Accident relevant substances are:

Substances	Characteristics
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Ethylene (gaseous)	flammable (forms explosion capable mixture with air)
Vinyl acetate (liquid)	highly flammable
Finished products (solid)	flammable
Liquid mineral oil products	

Further information about our company can be obtained via phone +49 (0)3461 43-4066.

Innospec Leuna GmbH
Richard Marks
Dietrich von der Wense
Managing Directors

LCP Leuna Carboxylation Plant GmbH

Am Haupttor
Gebäude 7629
06237 Leuna



LCP GmbH operates a plant for the production of carboxylation products at the chemical site Leuna, which falls within the scope of application of the 12th Federal Immission Control Ordinance (12th BImSchV). The responsible authority has the information required under section 7 (1) of the 12th BImSchV on the operating area.

In the carboxylation plant will be produced salicylic acid and cresotinic acids by chemical conversion of phenol, cresols and other substances para-hydroxybenzoic acid. Some of the ingredients and auxiliaries are substances that can be hazardous to health and the environment as well as physical hazards if handled improperly. The input and auxiliary materials required in connection with the operation of the plants as well as the intermediate and finished products are stored in the plant.

Para-hydroxybenzoic acid is used as a starting point for specialty polymers and used to obtain antimicrobial PHBA esters and their salts. Salicylic acid and cresotinic acids are starting materials for pharmaceutical active ingredients and pharmaceutical preparations. The plant falls under the scope of application of the 12th BImSchV. The processes in the plant are partially under increased pressure and elevated temperature and are therefore operated under strict safety precautions.

An accident prevention concept has been prepared and reviewed by independent experts. The material, environmental and operational hazards relevant to the plant and the countermeasures taken in the accident prevention concept indicate that there is no serious risk posed by the equipment.

The plant fire brigade of InfraLeuna GmbH has contractual agreements for the execution of all tasks of preventive fire protection and operational defense against danger. If, despite all safety precautions, an accident occurs, the population will be warned by the siren system of InfraLeuna GmbH. For information on the behavior in the event of a fault, see the last page of the brochure.

Further information about the facility can be obtained by calling 03461 43-4351.

LCP Leuna Carboxylation Plant GmbH
Felix Hühnerschulte
Managing Director

LEUNA-Harze GmbH

Am Haupttor
Gebäude 6619
06237 Leuna



LEUNA-Harze GmbH operates plants for the manufacturing of resins by various chemical processes such as synthesis, saponification, polycondensation and polymerisation.

The plants produce liquid and solid epoxy resins, epoxy resin hardeners, reactive thinner, ketone resin and bisphenol F as well as epichlorohydrin as base material. The required raw materials like glycerine, bisphenol A, epichlorohydrin, caustic soda solution, phenol and fatty alcohols are supplied via rail tank wagons or tank lorries to Leuna. The finished products are delivered in tank lorries or barrels and small-sized packages via road. The products are known under the brand names: Epilox.

The operational areas of LEUNA-Harze GmbH are subject to the application of the Accident Regulation. The plants operate mainly under normal pressure or vacuum conditions and are operated adhering to very strict safety regulations. The use of modern process control systems allows comprehensive safety checks to prevent accidents.

By applying an integrated management system for the quality assurance, environmental protection and operational safety (ISO 9001, ISO 14001 and EU Eco-audit-regulation) the company and each employee is committed to an up to quality standard, ecosensitive and safe method of operation.

The professional fire brigade also cooperates with LEUNA-Harze GmbH and will take immediate action in case of accidents and fires and will thus limit the consequences of such accidents.

Substances that may be accidentally released into the neighbouring vicinity are:

Substances	Characteristics
fumes (smoke)	health hazard, caustic
gases / vapours of organic liquids, hydrochloric acid (gaseous), chlorine	toxic, health hazard, odorous, flammable, explosion capable
liquids (aromatic solvents, epichlorohydrin, phenol, amines, resins)	toxic, health hazard, flammable, explosion capable, caustic, hazardous to waters and environment

Under the telephone numbers +49 (0)3461 43-3094 and +49 (0)3461 43-3639 further information about our company can be caught up.

LEUNA-Harze GmbH
Klaus Paur
Managing Director



Linde Gas, a business unit of Linde GmbH, including their other subsidiaries Linde Gas Produktionsgesellschaft mbH & Co. KG and Hydromotive GmbH & Co. KG, has specialised in the manufacturing and sale of technical gases.

At the Leuna industrial site, they operate plants for

- the breakdown of air into its components oxygen, nitrogen and inert gases,
- production of hydrogen, carbon dioxide, carbon monoxide,
- liquefaction of hydrogen and carbon monoxide,
- storage of acetylene,
- filling and storage of air and special gases to mobile pressure devices as well as
- storage of trichlorosilane and very toxic substances.

The customers (i.e. chemical industry, food industry and craft trades, hospitals as well as manufacturers of computer components) are supplied using the transport vehicle fleet available on site and via pipelines.

A certified engineering office has worked out safety concepts for the operating units of Linde GmbH allowing us to prove towards the control authority and also to our neighbours that the operations carried out in our plant are always safe. Compliance with the applicable laws and regulations with regard to the installation and operation of our plants is a matter of course. In addition, we have introduced a certified quality, safety and environmental management system on a volunteer basis.

Please find below some information on the properties of substances which are listed in the regulation of hazardous incidents and handled by Linde GmbH during their activities:

Substances	Characteristics	Behaviour in case of danger
Oxygen	chilled liquefied, oxidising, heavy fog formation with humidity	keep away from the fog patches, no fire, no smoking
Acetylene, Hydrogen	inflammable gases, mixtures with air are explosive	no smoking, no fire, no sparking
Toxic Gases	toxic, partially caustic, partially odourless	comply with the instructions given by the emergency services, stay in closed rooms
Trichlorosilane	extremely flammable liquid, strong odor, self-ignites in contact with air, reacts violently with water, emits toxic gases in contact with water	do not smoke, no fire, no sparks, follow instructions of emergency services, stay in closed buildings

For more information, please contact our SHEQ department (Phone: +49 (0)89 7446-0) or management (Phone: +49 (0)3461 853-226).

Linde GmbH
 Sean Durbin
 Jürgen Nowicki
 Matthias von Plotho
 Managing Directors

Linde Gas Produktionsgesellschaft mbH & Co. KG
 Matthias Kranz
 Botond Tordai
 Managing Directors

Hydromotive GmbH & Co. KG
 Joachim Heider
 Christoph Laumen
 Managing Directors

MinAscent Leuna Production GmbH

Am Haupttor
Gebäude 4208
06237 Leuna



MinAscent Leuna Production GmbH operates a multi-purpose plant for the production of fine and specialty chemicals and associated storage facilities in the northern part of the Leuna Chemical Complex. The products manufactured are used in the chemical and pharmaceutical industries.

The operation performed falls within the scope of the Accident Regulation with upper class.

The operation of the facilities is done under a tight safety system. Modern distributed control systems ensure a safe monitoring and operation of the production processes. The stock quantities of starting materials are kept to a necessary minimum, in order to limit the impact on the surrounding neighborhood in case of an accident.

MinAscent is working in the direct responsibility and in the self-understanding to continuously improve the protection of health, the environment and the safety of the employees and neighbors.

The MinAscent facilities are integrated in the security and emergency response system of the Leuna Chemical Complex. In case of a severe accident, materials with the following hazardous potential may be released besides fire and explosions and despite all the safety measures in place:

Substances	Characteristics
Acetone	Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness and dizziness.
Ammonia	Flammable gas. Toxic if inhaled. Causes serious irritation of the skin and serious eye damage. Very toxic to aquatic life with long lasting effects.
Di-tert-butyl-dicarbonate	Flammable liquid and vapor. Flammable solid. Danger to life if inhaled. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause respiratory irritation.
Dichloromethane	Causes skin irritation. Causes serious eye irritation. May cause drowsiness and dizziness. Suspected of causing cancer.
Dimethyl sulphate	Toxic if swallowed. Danger to life if inhaled. Causes serious irritation of the skin and serious eye damage. May cause an allergic skin reaction. May cause respiratory irritation. Suspected of causing genetic defects. Can cause cancer.
Ethyl acetate and Isopropanol	Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness and dizziness.
Heptane and Toluene	Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness and dizziness. Very toxic to aquatic life with long lasting effects.
Dimethyl sulfate and Methyl Methane sulfonate	Highly flammable liquid and vapor. Catches fire spontaneously in contact with air. Contact with water releases flammable gases which may ignite spontaneously. Harmful if swallowed. Causes serious irritation of the skin and serious eye damage. May cause drowsiness and dizziness.
Caustic soda and Sulfuric acid	May be corrosive to metals. Causes serious irritation of the skin and serious eye damage.
Nitric acid	May intensify fire, oxidizing agent. May be corrosive to metals. Danger to life if inhaled. Causes serious irritation of the skin and serious eye damage.
Selenium	Toxic if swallowed. Toxic if inhaled. May cause damage to organs through prolonged or repeated exposure. May cause long lasting harmful effects to aquatic life.
Thionyl chloride	Harmful if swallowed. Toxic if inhaled. Causes serious irritation of the skin and serious eye damage. May cause respiratory irritation.
Hydrogen	Extremely flammable gas. Contains gas under pressure; may explode if heated.
Hydrogen peroxide	May intensify fire; oxidizing agent. Harmful if swallowed or if inhaled. Causes skin irritation. Causes serious eye damage. May cause respiratory irritation.

For further information please contact

Head of Production Tel.: +49 3461 43-4406
Site Manager Tel.: +49 3461 43-4535

Quadrimex Sulfur Chemicals GmbH & Co. KG

Am Haupttor
Gebäude 3651
06237 Leuna



The Quadrimex Sulfur Chemicals GmbH & Co. KG operates a plant for the production of sodium hydrosulphide (NaHS plant) at the Leuna Chemical Complex, which falls within the scope of application of the 12th Federal Immission Control Ordinance (12th BImSchV) and forms an 'upper-tier establishment'. The responsible authority has the information required under section 7 (1) of the 12th BImSchV on the establishment.

In the NaHS plant, sodium hydrosulphide, sodium sulphide or ammonium sulphide are produced by chemical transformation from hydrogen sulphide and caustic soda or ammonia water. The ingredients and the products are substances which, if handled improperly, can be hazardous to health and the environment as well as possibly evoking physical hazards. The input materials required in connection with the operation of the plants and the intermediate and finished products are stored in the plant.

The products manufactured in the plant are mainly used as flotation agents in ore processing, as auxiliaries in the leather, paper and pulp industries, in waste gas and wastewater treatment, and as feedstock in the chemical industry. In some cases, processes in the plant run at a slight overpressure and at slightly elevated temperatures. The system is operated under strict safety precautions.

An accident prevention concept and a safety report have been prepared by us and reviewed by the responsible authorities and independent experts. The plant relevant operational, material and environmental hazards presented in the safety report as well as the countermeasures taken indicate that the plant poses no serious danger.

There are contractual agreements with the fire brigade of InfraLeuna GmbH to perform all tasks of preventive fire protection and operational security. If, despite all safety precautions, an accident occurs, we immediately inform the relevant authorities who will warn the population. Information about actions to be taken in the event of an accident can be found on the last page of the brochure.

Information about the last on-site inspections as well as the monitoring plan of the responsible authority can be found on the website of the Landesverwaltungsamt Sachsen-Anhalt:

(<https://lvwa.sachsen-anhalt.de/aktuelles/ueberwachung-von-industrieemissions-anlagen-ie-anlagen/>).

Further information about Quadrimex can be obtained by calling the telephone number +49 (0)3461 43-9801.

If, despite all safety precautions, an accident occurs, the release of toxic and environmentally hazardous substances cannot be ruled out. In such a case, those substances may be released into factory premises and thus also in the immediate vicinity, depending on the current meteorological conditions. As the plants within the operating area are operated by suitably qualified and trained employees, the facilities are regularly checked, maintained and repaired as necessary and the fire brigade of InfraLeuna GmbH can effectively and quickly take measures against effects of an accident. It will be possible to minimize such effects usually limited to the company or to the territory of the Leuna Chemical Complex. The regular further development, maintenance and testing of our technical and safety systems are just as much part of our comprehensive concept for the targeted and preventive avoidance of accidents as the continuous training of our employees. This also includes regular emergency drills in cooperation with the fire department of InfraLeuna GmbH.

The hazard control responsible authority has developed an external alarm and hazard prevention plan that includes the necessary precautions to protect people and the environment in the event of an accident with effects outside the Chemical Complex. If, in the event of an accident, impacts still occur outside the plant or the Leuna Chemical Complex, we recommend that you follow the instructions for emergency and rescue services for your own protection.

Quadrimex Sulfur Chemicals GmbH & Co. KG
Martin Ziegler
Managing Director

RKB Raffinerie-Kraftwerks-Betriebs GmbH

Standort Leuna
Am Haupttor
Gebäude 3691
06237 Leuna



The Raffinerie-Kraftwerks-Betriebs GmbH, a 100 % subsidiary of STEAG GmbH, has been operating the Leuna refinery power plant since 1996 to supply the neighbouring TotalEnergies Raffinerie Mitteldeutschland GmbH with electricity, process steam, compressed air, process water as well as drinking and cooling water. The power plant has a gas boiler and three oil boilers with a rated thermal input of 520 MW.

The main fuels used are distillation and conversion residues. Other starting materials used include ammonia, ammonia water and heating oil EL.

Due to the amount of ammonia, distillation and conversion residues held in the power plant, the Leuna refinery power plant is a lower-grade operating facility in accordance with the provisions of the Major Accidents Ordinance. The operating facility has been notified to the competent authority. The obligations of the operator resulting from the provisions of the Major Accidents Ordinance are fulfilled.

The refinery power plant is actively involved in air pollution control. It is equipped with state-of-the-art facilities for flue gas cleaning such as electrostatic precipitators, flue gas desulphurisation plants and nitrogen oxides reduction. The operation of the nitrogen oxide reduction systems requires a plant for ammonia supply. It essentially consists of a supply pipeline from DOMO Caproleuna GmbH, an additional railway unloading station, storage tanks for liquefied ammonia, connecting lines and the evaporator station. Ammonia is vaporized and then injected into the flue gas stream. On the DeNOx catalyst, the nitrogen oxides are then reduced to nitrogen and water and thus removed from the flue gas. The ammonia supply system is equipped with state-of-the-art safety systems.

In principle, an incident can be based on the relevant hazardous substances used in the power plant. In addition to ammonia with the highest potential risk, this could also be possible from the other substances, even if the probability for this is very low. The following table lists the hazardous substances relevant for the purposes of the Major Accidents Ordinance and their essential hazardous properties.

Substances	Characteristics	Usage
Ammonia (Liquefied under pressure)	Inflammable gas Toxic by inhalation Very toxic to aquatic life	Nitrogen oxide reduction of the flue gases
Ammonia water (25 %) Slurry	Very toxic to aquatic life Very toxic to aquatic life	Conditioning of the boiler feed water Fuel for the oil boilers
Vacuumvisbreaker residue (VVR)	Very toxic to aquatic life	Fuel for the oil boilers
Light fuel oil (Heating oil EL)	Flammable liquid and vapor Toxic to aquatic life with long lasting effects	Fuel for the start-up operation of the oil boiler Fuel for the gas boiler
Fuelgas	Extremely inflammable gas, toxic by inhalation	Fuel for the gas boiler
Synthesis gas	Extremely inflammable gas, toxic by inhalation	Fuel for the gas boiler

The refinery power plant is subject to constant operational safety controls by well trained staff. Safety-relevant system components are additionally regularly checked by recognized experts.

If you have any questions, please contact us or call us via +49 (0)3461 548-2114.

RKB Raffinerie-Kraftwerks-Betriebs GmbH
Michael Schellhardt
Operation Manager

Shell Catalysts & Technologies Leuna GmbH

Am Haupttor
Gebäude 8322
06237 Leuna



Shell Catalysts & Technologies

Shell Catalysts & Technologies Leuna GmbH manufactures inorganic products at the Leuna Chemical Complex, which are mainly used as catalysts in chemical processes. These catalysts mainly consist of chemically nearly inactive materials (e.g. alumina, silicates) and certain base metal or precious metal parts. They are used very versatilely e.g. for the refining of petrochemical and oleo-chemical intermediates as well as in the sector of environmental protection.

The production facilities used for the manufacturing of catalysts are in the south-eastern part of the Chemical Complex. All raw and auxiliary materials as well as the intermediates and finished products are stored there. In the sense of the Federal Immission Control Act (Bundesimmissionsschutzgesetz/ BImSchG) these facilities are an operating area for which, basically because of the handling of respirable Nickel dusts, apply extended safety obligations according to the regulation on hazardous incidents which are completely fulfilled by our company. This has been confirmed by independent experts as a result of conducted safety analysis.

A safety report, a concept for the prevention of hazardous incidents and an internal alarm and danger fighting plan have been submitted to the charged authority which has accepted them. Furthermore, a reliable safety organisation within our company in cooperation with the articulated works of the fire brigade, with other on-site facilities acting to prevent danger and with the state surveillance authority guarantees that the facilities within the operating area of Shell Catalysts & Technologies Leuna GmbH are only operated under strict compliance with the safety regulations.

In case that despite all preventative safety measurements substances which are subject to the regulation on hazardous incidents are uncontrollably released, it is ensured that we immediately and comprehensively fulfil our information duty as well as our obligation to fight the hazardous incident and thus limit or eliminate any damaging effects on the neighbourhood.

Substances that may be accidentally released into the neighbouring vicinity are:

Substances	Characteristics (substance-number appendix I 12. BImSchV)
Hydrogen, Natural gas	flammable gas (P2, 2.1)
Ammonia water <25%	hazardous to waters (E2)
Ammonia (anhydrous)	acute toxic (H2), flammable gas (P2), hazardous to waters (E1)
Base metal compounds (Nickel, Cobalt, Copper as salt solutions, suspensions or solids)	acute toxic (H1, H2) and/or carcinogenic (2.31), hazardous to waters (E1, E2)
Hydrazine solution 64%	acute toxic (H2), hazardous to waters (E1)

For further information about our company call +49 (0)3461 43-4384 or +49 (0)3461 43-3447.

Shell Catalysts & Technologies Leuna GmbH
Dr. Guido Unverzagt
Marc Schwindt
Managing Directors

TAMINCO Germany GmbH

Am Haupttor
Gebäude 8314
06237 Leuna



Our company operates an operational area with plants for the production of methylamine, dimethylformamide and derivatives of methylamine on the southern part of the chemical site. The operational area is subject to the Accident Regulations. The plants produce a range of basic chemicals. Methylamines are made from methanol and ammonia and are catalytically synthesised using increased pressure and temperature before being purified in a number of distillation columns. Methylamines are raw materials used for solvents, vulcanisation accelerator, pesticides, ion exchangers, disinfectants, animal feed additives, corn growth stabilisers, colourings and pharmaceuticals.

Dimethylformamide is synthesised in a further plant, from carbon monoxide and dimethylamine, using a methanol solution derived from sodium methylate synthesised under high pressure and increased temperature and purified by a distillation unit. Dimethylformamide is a solvent used in many applications. It is for example used in the production of acrylic fibres and polyurethanes.

In the derivatives plant, we manufacture dimethylammoniumchloride solution made of dimethylamine, hydrogen chloride and water as well as trimethylammoniumchloride solution made of trimethylamine, hydrogen chloride and water. Chlorocholine chloride is used in agriculture as a growth control agent for stabilising stalks of cereals and is made of the raw materials trimethylamine and dichloroethane. Most raw materials are acquired from other companies on site via pipelines, these are: methanol, ammonia, carbon monoxide and hydrogen chloride.

We handle the following hazardous substances in accordance with appendix 1 of the Accident Regulations:

Substances	Characteristics
Gases / Vapours:	
Methylamine	highly flammable liquefied gases, strong odour
Ammonia	flammable, toxic
Carbon monoxide	highly flammable, toxic, odourless
Hydrogen	highly flammable
Natural Gas	highly flammable
Fumes in an accident	health hazard with toxic substances
Hydrogen chloride	toxic, corrosive
Liquids:	
Methylamine solutions	highly flammable, strong odour
Methanol/Methylate solutions	easily flammable, toxic
Distillery residue	easily flammable, toxic, strong odour
Dimethylformamide	flammable
Dichloroethane	easily flammable, toxic

In order to limit any effect of an accident the following equipment has been provided:

In case of leakages parts of the plant can be released and emptied via a blow-down-system with a flare.

Flash gases produced by the chlorocholine chloride plant are routed to a thermal after-burner.

Stationary and remote controlled sprinkler systems to cool containers and control of water-soluble gases (ammonia, methylamine).

Fire extinguishing and water retention facilities.

For further information please call +49 (0)3461 43-4502.

TAMINCO Germany GmbH
Martin Leipnitz
Site Manager

TotalEnergies Raffinerie Mitteldeutschland GmbH

Maienweg 1
06237 Leuna OT Spergau



TotalEnergies Raffinerie Mitteldeutschland incorporates the refinery's new process area, the POX/methanol plant as well as the tank farm and loading facilities. The plants are state of the art and are operated by qualified staff. The crude oil as the determining resource is received via pipelines.

The refinery produces liquefied petroleum gases, gasoline, kerosene, diesel fuels, raw products for the chemical industry (BHC [benzene heart cut], methanol, petrochemical naphtha, propylene, sulphur) and bitumen. Additives and auxiliary materials required for operation as well as the intermediate and finished products are stored onsite. Finished products are dispatched via loading facilities for rail and truck loading as well as via product pipelines.

Most of the production facilities operate under elevated pressure and temperature; they are mainly subject to the German Hazardous Incident Ordinance. The resulting technical and organizational measures have been implemented. The necessary safety reports have been produced and assessed by independent experts. The corresponding inspections were carried out in approval procedures involving various technical authorities and the operation of these plants was officially approved. The production and storage facilities are subject to regular technical monitoring by experts.

The refinery has its own fire brigade which can intervene directly in the event of product releases and fires and limits the consequences of these incidents. The fumes mentioned below may occur in case of incineration of the handled materials. Explosion effects on the environment of the refinery can be reasonably excluded.

Substances that may cause an incident and could be released into the neighbourhood are:

Substance	Characteristics
Hydrogen Sulfide	very toxic, highly flammable, dangerous to the environment, irritates the respiratory tract, acutely hazardous to aquatic organisms
Sulphur dioxide	toxic by inhalation, causes burns
Carbon monoxide	extremely flammable gas, toxic by inhalation
Ammonia	flammable gas, toxic by inhalation, causes burns, acutely hazardous to aquatic organisms
Hydrogen	flammable gas
Gaseous hydrocarbons	flammable gases
Liquid hydrocarbons	extremely flammable, acutely toxic if swallowed and transferred to the respiratory tract, may cause genetic defects or cancer, acutely hazardous to waters
Methanol	highly flammable, toxic if swallowed, in contact with skin or inhaled, harmful to organs
Fumes (Smoke)	toxic by inhalation

For information about the plant, products and questions concerning the company, please contact us via internet www.corporate.totalenergies.de, via email kommunikation-trm@totalenergies.com or via telephone 03461 48-0. The citizen's phone is permanently available via 0800 4848112.

TotalEnergies Raffinerie Mitteldeutschland GmbH
Thomas Behrends
Managing Director

UPM Biochemicals GmbH

Am Haupttor
Gebäude 4614
06237 Leuna



UPM Biochemicals GmbH is a subsidiary of the Finnish UPM Group, a leading company in the forest, pulp, and paper industry. With the investment in a biorefinery at the Leuna Chemical Complex, UPM has taken the next step in its corporate transformation to enter the biochemicals business. The biorefinery will produce various wood-based biochemicals that provide a sustainable alternative to fossil raw materials in numerous application areas.

Our high-quality glycols

- biobased monoethylene glycol (BioMEG) and
- biobased monopropylene glycol (BioMPG)

can be processed into various industrial goods and products for everyday use, such as packaging, textiles, coolants & cosmetics.

Our third product, UPM BioMotion™ Renewable Functional Fillers (RFF), is used in various rubber applications as a sustainable alternative to industrial carbon black and silica. It does not only offer climate benefits, but is also characterized by lightweight and high purity.

The biorefinery is divided into the main area and the wood yard. Both areas are connected by a conveyor belt.

Woodyard with wood handling

Hardwood, preferably beech wood, is delivered to the wood yard and stored. For further processing, the wood is debarked and then chipped. The resulting wood chips are transported to the main refinery site via the conveyor belt.

Refinery

By enzymatic hydrolysis, cellulose is converted into sugar and lignin is separated. The sugar is purified and then processed into the final products by catalysis and distillation. The lignin is refined into renewable functional fillers in further process steps.

Substances that could cause an incident and reach the neighbouring vicinity are:

Substance	Characteristics
Formaldehyde	acute toxic (Cat. 3), causes severe skin burns and eye damage, may cause allergic skin reaction, may cause genetic defects and cancer
Methanol	highly flammable, toxic if swallowed, in contact with skin or inhaled, harmful to organs
Fumes (smoke)	toxic in case of inhalation

Our plants are equipped with modern safety facilities. We have contractual agreements with the InfraLeuna GmbH plant fire brigade to provide preventive fire protection and operational hazard prevention.

In addition, we implement a certified energy, quality, safety and environmental management system.

If you have any questions, please write or call us:

Contact

Managing Director, Dr. Michael Duetsch, michael.duetsch@upm.com, Tel.: 03461 519 5005
Manager Process Safety, Robert Sachse, robert.sachse@upm.com, Tel.: 0151/51758453

<https://www.upmbiochemicals.com>

UPM Biochemicals GmbH
Dr. Michael Duetsch
Managing Director

Vantage Leuna GmbH

Am Haupttor
Gebäude 7302
06237 Leuna



Vantage Leuna GmbH is specialized in the production of anionic and nonionic tensides and special chemicals.

At the Leuna Chemical Complex, Vantage Leuna GmbH operates plants for the production of substances achieved through a chemical conversion process, especially alkane sulfonates as basic substances for emulsion polymerisation and the production of washing agents.

- Fatty acid-N-methyltaurinate for the production of detergents and textile appliances and pesticides,
- Sodium-isethionate for the production of body care products and detergents,
- Chloroparaffins as flame retardant,
- nonionic tensides as cleaning agents,
- Fatty alcohols for detergents and cleanser, creams, body lotions, leather and textile auxiliaries, as surfactant.

The plants are subject to the application of the Accident Regulation. Due to the substances used, the plants are operated under very strict safety measures. In accordance to the Accident Regulations, Vantage Leuna GmbH prepared a safety report about the operational area, which has been approved by independent experts and submitted to the relevant authorities.

The Leuna Chemical Complex has a professional fire brigade, which will take immediate action in case of substance release or fire and will, in cooperation with company staff, emergency and rescue services, take the appropriate measures to fight any incident and do its utmost to limit the effect of the incident.

To fight the effects of an incident outside of the working area, an external alarm and hazard prevention plan has been designed. The directions of the emergency and rescue services must be adhered to.

Substances that could cause an incident and reach the neighbouring vicinity are:

Substances	Characteristics
Chlorine	fatal if inhaled
Sulphur dioxide	toxic if inhaled
Ethylene oxide	toxic, extremely flammable
Propylene oxide	extremely flammable
Methanol	toxic, highly flammable liquid and vapour
Phosphorus trichloride	fatal if swallowed or if inhaled
Other substances e.g. Acids, Lyes, Methylamine solution	caustic, hazardous to waters

For further information about our company please contact us via phone +49 (0)3461 43-4397.

Vantage Leuna GmbH
Marcus Friedrichs
Managing Director

Date of the last on-site inspections according to the Major Accidents Ordinance

Operating areas in accordance with the Major Accidents Ordinance are subject to a monitoring program of the competent authority, including on-site inspections as per the following overview.

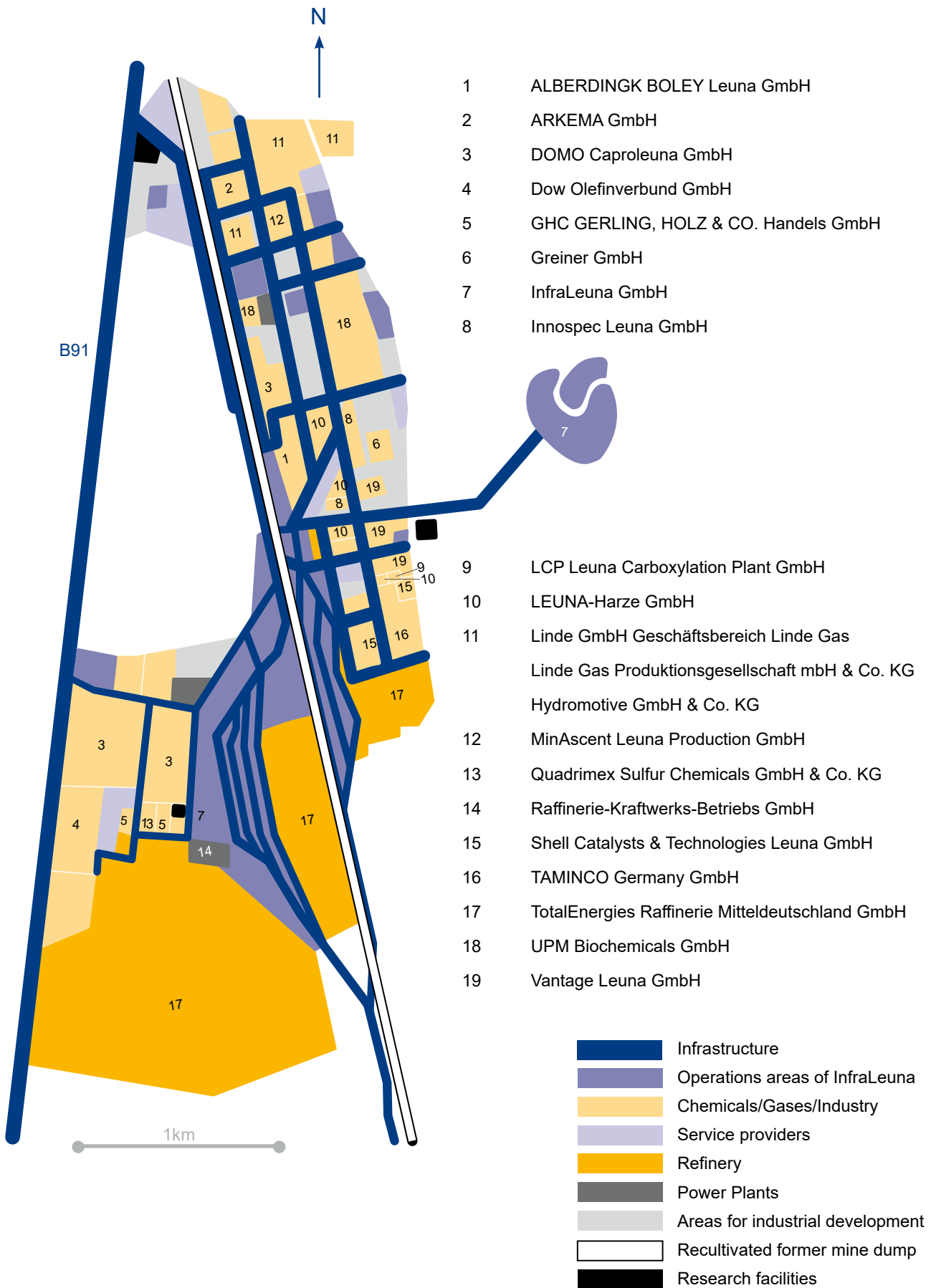
More detailed information on the on-site inspections and monitoring plan will be issued by the National Board of Administration (Landesverwaltungsamt) in response to the Environmental Information Act.

Operating company of facilities according to the Major Accidents Ordinance at the chemical site Leuna	Date of the last on-site inspections
ALBERDINGK BOLEY Leuna GmbH	17.10.2017
ARKEMA GmbH	11.05.2022
DOMO Caproleuna GmbH • operating unit I (site part 1) • operating unit II (site part 2)	29.10.2020 29.10.2020
Dow Olefinverbund GmbH	19.08.2022
GHC Gerling, Holz & Co. Handels GmbH	14.10.2020
Greiner GmbH	-
InfraLeuna GmbH	22.08.2017
Innospec Leuna GmbH	18.08.2021
LCP Leuna Carboxylation Plant GmbH	11.11.2021
LEUNA-Harze GmbH	26.10.2021
Linde GmbH Geschäftsbereich Linde Gas Linde Gas Produktionsgesellschaft mbH & Co. KG Hydromotive GmbH & Co. KG	21.08.2019 10.10.2018 20.10.2020
MinAscent Leuna Production GmbH	05.04.2021
QuadrimeX Sulfur Chemicals GmbH & Co. KG	11.08.2021
Raffinerie-Kraftwerks-Betriebs GmbH	16.03.2022
Shell Catalysts & Technologies Leuna GmbH	17.08.2021
Taminco Germany GmbH	29.06.2021
TotalEnergies Raffinerie Mitteldeutschland GmbH	11.05.2022
UPM Biochemicals GmbH	-
Vantage Leuna GmbH	05.09.2022

(italics = to the date of publication of this brochure known next inspection date)

Regardless of the on-site inspections according to the Major Accidents Ordinance, inspectors of competent authorities carry out regular inspections with regard to other areas of law, such as immission protection, water protection, occupational safety or waste legislation.

Companies



IMPRINT:

Information of the public in accordance with § 11 of the Accident Regulations (12th BImSchV)
13th edition May 2023

Editor:

InfraLeuna GmbH

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GHC GERLING, HOLZ & CO. Handels GmbH
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LCP Leuna Carboxylation Plant GmbH
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Linde GmbH Geschäftsbereich Linde Gas
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Hydromotive GmbH & Co. KG
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