

State of the Environment Report for 2020



PRECHEZA a.s. is an important European manufacturer of high quality titanium dioxide and other inorganic pigments. It is a safe, modern, and well-managed company which takes the environment into consideration in all of its activities.

PRECHEZA Joint Stock Company

with its registered address in Přerov is proud of its long tradition in the manufacturing of inorganic chemical products, spanning over a hundred years. Today, PRECHEZA is the largest inorganic pigment manufacturer in the Czech Republic. It is also a founding member of the Association of Chemical Industry of the Czech Republic, a member of the Association of Paint Manufacturers of the Czech Republic and an active member of the Czech Chamber of Commerce and a member of the Titanium Dioxide Manufacturers Association (TDMA) in the European Union.

The manufacturing technologies the company uses are based on its own know-how and are compliant with European norms both with regard to environmental protection and application of the best available technology.

The company's management and all its integral parts, especially the Safety Management and Occupational Health and Safety, Quality and Environmental Protection and Energy Management Systems are built in accordance with the internationally recognized ISO 9001, ISO 14001, ISO 45001, and ISO 50001 standards. The company has also implemented Food Safety Management under FSSC 22000 standard for food grade titanium dioxide production. Individual products are further certified for compliance with the applicable legislative and technical norms. Expert supervision is conducted by external authorized persons. Since 1994 PRECHEZA has been engaged in the world-wide RESPONSIBLE CARE initiative – responsible care and business in chemistry.

PRECHEZA's manufacturing program is oriented mainly to manufacturing inorganic pigments and chemicals produced as intermediate products in main production. PRETIOX titanium dioxide is PRECHEZA's most important product – its sales account for approx. 88% of the company's total turnover. PRECHEZA also manufactures iron oxide pigments (6% of the company's turnover), sulfuric acid (1%) and other chemical substances. PRECHEZA exports more than 90% of its production.



State of the Environment Report

A systemic approach to the environment and occupational safety



Responsible Care

PRECHEZA a.s. conforms with the eight basic principles of the RESPONSIBLE CARE – responsible business in the chemical industry – a voluntary program:

1. Corporate leadership culture, which proactively supports safe handling of chemical substances within the Responsible Care global initiative.
2. Protection of people and environment by continuously improving the environment, health and safety performance, safety of facilities, processes and technologies, and by continuous improvement of the safety of chemical products and caring for our products in the whole supply chain.
3. Improving chemical management systems by participating in the creation and implementation of legislation and tried and tested procedures, oriented to the product life cycle, scientifically proven results, and chemical safety.
4. Working with business partners in order to support safe handling of chemical substances within their application.
5. Engaging interested parties in order to understand their concerns and expectations for safe production and products, forthcoming communication concerning our products and results.
6. Contributing to sustainable development by way of improving performance, expanding economic opportunities and development of innovative technologies and further solutions by facing up to social challenges.

Basic principles of „RESPONSIBLE CARE“ in the field of environment are laid down in the approved “Integrated Management Systems Policy” of the joint stock company and in the RC programme. After the 9th successful defense PRECHEZA a.s. has the right to use the RESPONSIBLE CARE logo – responsible business in the chemical industry – until October 2024. .

Integrated Policy of the Management Systems

PRECHEZA a.s. abides itself by the basic principles of the RESPONSIBLE CARE GLOBAL CHARTER - a voluntary initiative for responsible business in chemistry:

- occupational health and safety (OH&S) of employees and other persons within the company's site, prevention of major accidents (PMA) from activities with specified chemical substances for humans,
- the environment and assets within the company's site and its surroundings,
- reducing negative impacts of the company on the environment,
- assurance of specified, agreed or assumed quality and safety of products, services and processes, improvement of energy performance in manufacturing and non-manufacturing activities of the company as well as in objects in its ownership and the procurement of energy efficient products and services that impact energy performance.

In accordance with this approach PRECHEZA a.s. commits itself:

1. To comply with applicable legal requirements and other requirements to which the company subscribed in the areas of the OH&S, PMA, quality and environmental management as well as in relation to energy efficiency, energy use and energy consumption.

2. To improve performance and the management system of the company, continually and with objectives, in the areas of the OH&S, PMA, in environmental impacts of the company's activities, in quality of production, services and processes and in energy performance together with supplying all necessary information and resources to achieve established objectives and targets.
3. To provide safe and healthy working conditions and environmental protection by systematic identification of relevant risks, their assessment, elimination of hazards and reduction of risks and to care about prevention of injuries, major accidents, health damages, pollutions or other negative environmental impacts, imperfect products, services, and processes as well as uneconomic uses of energy.
4. To ensure the complex competence, training and motivation of employees towards the correct and safe control of processes as well as awareness of their own responsibility in influencing the OH&S, PMA, environment, quality and energy use.
5. To communicate openly with relevant partners in the areas of the OH&S, PMA, environment, quality and energy management, to ensure necessary consultation and participation of workers or their representatives in OH&S processes and to provide necessary information for adjusting reciprocal obligations, documenting their execution and achieving feedback to improve performance.

The commitments of the Integrated Policy of Management Systems are reflected into a set of internal management documents that define rights, duties, and operational procedures in the areas of the OH&S, PMA, environment, quality, and energy use for individual working positions of the company and its organisational departments.

The commitments of the Integrated Policy of Management Systems serve for the company's management as a basis for establishing specific, time-bound and periodically checked objectives and targets in the areas of the OH&S, PMA, environment, quality and energy use.

The Integrated Policy of the OH&S, PMA, environmental, quality and energy management systems is binding on all employees of PRECHEZA a.s. and open to the general public. It is communicated to all individuals who work for the company or to those acting upon the company's authority. The management of the company is responsible for its implementation, understanding and maintenance on all levels of the organisation.

Management Systems Certificate

The inspection visits by BUREAU VERITAS CZECH REPUBLIC, spol. s r.o., an external auditor, which took place in May and September 2020, confirmed conformity of the Integrated Environmental Management System with the requirements of the ISO 14001:2015 and ISO 9001:2015 standards. This confirmed the validity of the previously issued certificates. At the same time, a recertification audit of the Occupational Health and Quality Management System and the Energy Management System was conducted, based on the new ISO 45001:2018 and ISO 50001:2018 standards, on whose basis new certificates were issued to the company.



Compliance with legal norms and other regulations

In 2020, PRECHEZA met its reporting obligations via the Integrated System of Reporting Obligations (ISPOP).

Compulsory measurements in 2020 proved compliance with the binding emission limits at all sources, with regard to both air and water. Waste management was set up in accordance with valid permits.

The company runs a system which allows efficient identification of legal and other requirements, control of their implementation and timely solutions of identified issues.

Development, investments and other environment-related costs

PRECHEZA a.s. consistently invests considerable amounts into environmental protection, into the installation of new facilities, as well as into the renewal and modernization of existing ones, including their operation. 2020 was no exception. Investments into the equipment for environment protection amounted to approximately 90 mil CZK. Above all, the investment covered the installation of the fourth wet electrostatic precipitator, which is an integral part of the line for capturing emissions from TD calcination.



Air protection

PRECHEZA a.s. operates the following stationary pollution sources:

- 1 – Inorganic pigment manufacturing
- 2 – Sulphuric acid manufacturing (S1)

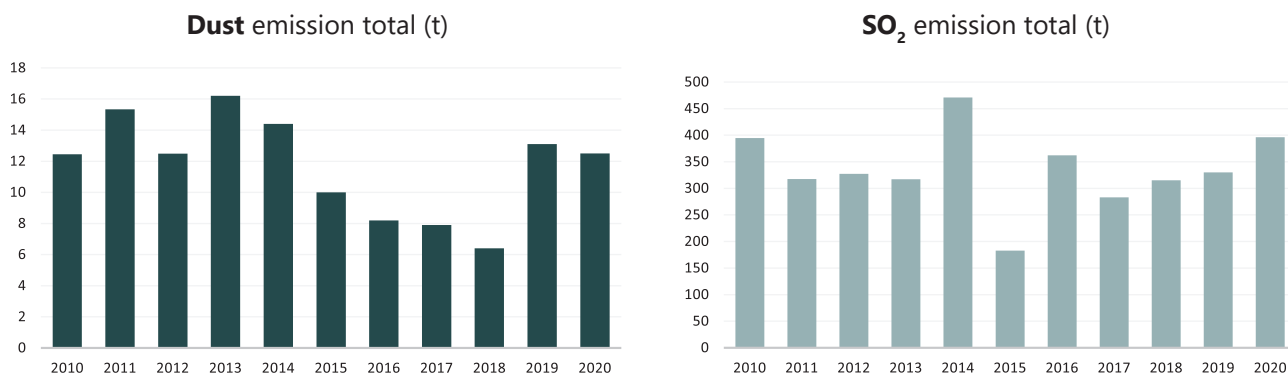
Operation of these sources generates emissions of SO_x (expressed as SO_2), particulate matter, NO_x (expressed as NO_2) and CO, for which relevant binding emission limits are set for individual emission ducts and measuring points.

The total atmospheric emissions (in tons per year) in 2020 and before are shown in the following chart:

| Year | SO_2 | Dust | NO_2 | CO |
|------|---------------|------|---------------|-----|
| 2016 | 362 | 8.2 | 82.7 | 8.9 |
| 2017 | 283 | 7.9 | 69.8 | 3.8 |
| 2018 | 315 | 6.4 | 65.0 | 4.4 |
| 2019 | 315 | 13.1 | 81.0 | 6.8 |
| 2020 | 396 | 12.5 | 80.1 | 6.2 |

Atmospheric emissions were compliant with the limits set out in the integrated permit and with the requirements for the so-called best available technology (BAT) outlined in relevant European reference documents (BREF). In the integrated permit, PRECHEZA a.s. has stricter limits than the general national and specific Czech limits or the limits that can be found in the relevant EC directives with regard to some items. Emission level values are generally at the lower end of the interval for the European Best Available Techniques, which means maximum performance in the EU pigment manufacturing industry.

The dynamics of air emissions of key substances in the recent years are shown in the following charts:



The total volume of key emissions into the atmosphere increased interannually, in case of sulfur oxides (approx. by 20%); and decreased in case of solid pollutants (approx. by 5%). The proportion of component productions is varied – while in the titanium dioxide and sulfuric acid productions the emissions increased interannually, besides other things due to a higher production in 2020 compared to 2019; emissions in the iron pigment production, on the other hand, saw a decrease. The significant decrease of SO₂ emissions in 2015, which is visible in the graph, was caused by a long-term shutdown of the sulfuric acid production.



Since 2013, PRECHEZA has been listed in the European Emissions Trading System for Greenhouse Gases (EU ETS). In 2020, 103 263 tons of CO_{2e} were produced (in 2019 the total figure stood at 100 896 tons of CO_{2e}, in 2018 it was 90 455 tons of CO_{2e}). The gradual increase is linked to the increase in the production of titanium dioxide, or rather to the connected consumption of limestone at the neutralization station, and also to natural gas in the heat processes of pigment production.

Water protection

PRECHEZA makes saving natural resources, minimizing pollution and recycling water in technology its long-term priorities. Wastewater is purified and its quality and quantity are in conformity with the integrated permit in all their indicators. White gypsum PREGIPS is obtained by neutralization of certain technological waters and the rest are used for producing red gypsum PRESTAB.

With regard to groundwater protection, the company carries out long-term regular monitoring of quality of groundwater on its premises and in the surrounding areas. Monitoring and evaluation are performed in a specialized hydrogeological form.

PRECHEZA a.s. complies with emission limits of pollution released out of the neutralization station for concentration of soluble inorganic salts (SIS), sulfate ions, non-soluble substances (NS), total iron (Fe_{total}) and for the chemical oxygen demand (COD_{Cr}).

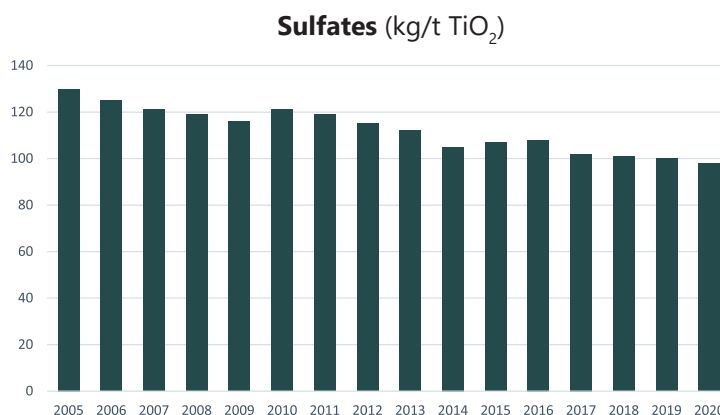


The total water emissions in tons per year in 2020 and before are shown in the following chart:

| Year | SIS | Sulfates | NS | Fe total | COD_{Cr} |
|----------------|----------|-----------|----------|----------|------------|
| | (t/year) | (kg/t TD) | (t/year) | (t/year) | (t/year) |
| 2016 | 9,530 | 108 | 14.0 | 0.6 | 50 |
| 2017 | 9,534 | 102 | 10.0 | 0.5 | 46 |
| 2018 | 8,950 | 101 | 9.3 | 0.5 | 41 |
| 2019 | 9,945 | 100 | 6.0 | 0.6 | 34 |
| 2020 | 9,664 | 98 | 5.4 | 0.6 | 2 |
| Emission limit | 15,000 | 400 | 80.0 | 18.0 | 250 |

Water emissions were compliant with the limits set in the integrated permit and with the requirements for the so-called best available technology (BAT) outlined in European reference documents (BREF).

Sulfate emission in wastewater is typical for titanium dioxide production. The dynamics of this parameter in the recent years is shown in the following chart:



In 2020 there was a significant decrease in the indicator of the chemical oxygen demand (COD_{Cr}), which indicates the content of organic substances in wastewater – due to the decrease in the consumption of organic additives during the titanium dioxide milling by optimization of their addition based on properties of the micronized material.

Waste

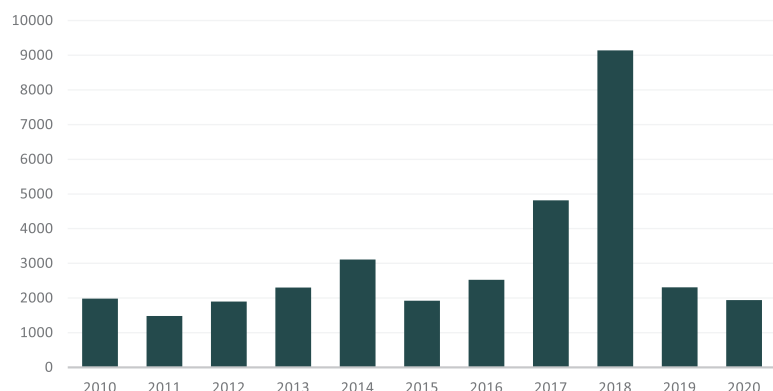
Waste management was carried out in accordance with the applicable valid legislation in 2020.

| Total amount of waste in previous years | | | | | | | |
|-----------------------------------------|-------|-------|-------|-------|-------|-------|-------|
| Waste type | Limit | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Hazardous | tons | 412 | 854 | 3,311 | 7,768 | 21 | 826 |
| Other | tons | 1,512 | 1,656 | 1,506 | 1,374 | 2,289 | 1,112 |
| Total | tons | 1,923 | 2,510 | 4,817 | 9,142 | 2,310 | 1,939 |

The total volume of produced waste decreased interannually by 16%. In the category of „other waste“ the decrease was even higher – approx. to a half. On the other hand, there was a substantial increase in the volume of the „hazardous waste“, mostly due to the removal of contaminated soil to a landfill for disposal of hazardous waste following investment operations in 2020. In the field of handling waste in 2020 PRECHEZA continued to co-operate with its long-time exclusive partner – company SUEZ CZ.

From the long-term perspective, the development of waste is as follows.

Waste (t)



Energy consumption

Energy consumption in 2020 and before is shown in the following chart:

| Year | 2017 | 2018 | 2019 | 2020 |
|------------------------------------------------|-----------|-----------|-----------|-----------|
| Electric energy (GJ) | 281,030 | 266,819 | 283,654 | 288,306 |
| Steam consumption (GJ) | 812,675 | 739,812 | 743,311 | 736,759 |
| Gas consumption (GJ) | 857,765 | 817,052 | 907,198 | 885,012 |
| Total energy consumption (GJ) | 1,935,981 | 1,807,539 | 1,927,198 | 1,910,077 |
| Water consumption - from the river (m³) | 2,617,100 | 2,530,000 | 2,807,100 | 2,737,544 |
| - drinking water (m³) | 49,565 | 48,505 | 52,243 | 40,579 |

The long-term trend of energy consumption in production – expressed \ in GJ of energy consumed per ton of manufactured pigment – has been decreasing.

Occupational safety

The indicator of occupational safety the company uses is the number of industrial injures per 100 employees. An industrial injury is defined as damage to health causing inability to work for a period of over 3 calendar days. The values for 2020 and previous years are as follows:

| Year | Number of industrial injuries | Frequency per 100 employees | Severity (avg. % of inability to work) |
|-------------|-------------------------------|-----------------------------|----------------------------------------|
| 2016 | 5 | 0.80 | 0.28 |
| 2017 | 10 | 1.60 | 0.19 |
| 2018 | 13 | 2.00 | 0.30 |
| 2019 | 4 | 0.61 | 0.17 |
| 2020 | 14 | 2.24 | 0.18 |

The injuries mainly occurred due to a lack of attention and risk underestimation at work. Statistically, the highest number of injuries were linked to falls and stumbling and as a result of industrial toxic substances, also due to moving heavy loads. In all cases of injury, remedial steps have been taken.

The conformity between hygiene requirements and the working conditions in the company is ensured by regular monitoring of working conditions, especially by measuring levels of industrial hazards in the working environment (especially, dust and noise) in an authorized lab. The measurements the company has carried out indicated conformity with the current categorization of work.



Activities for community and society

PRECHEZA a.s. bases its relationship with community on informational openness, one of the guiding principles of Responsible Care.

PRECHEZA a.s. discloses reliable and timely information about its impact on the environment and the implementation of the comprehensive environmental protection program. It informs general public in the media about its manufacturing program and the results of implementation of its environmental management program. It always places an emphasis on timely consultations about its investment projects with relevant public authorities.



The company has been awarded the prestigious Regional Employer of the Year several times.

Sponsorship and promotional activities are primarily aimed at selected interest groups (particularly children and young people) with the goal of promoting and explaining the role of chemical industry in our everyday life, and in creating advanced economy. PRECHEZA a.s. gathers young people for studying chemistry and on the whole contributes to the improvement of the quality of life in the region. Furthermore, it supports selected cultural and sports events. PRECHEZA continually supports charitable projects, either by way of the Agrofert Foundation, or through direct collaboration with Přerov Charity.

PRECHEZA is a significant and reliable employer. It offers a range of outstanding benefits to its employees and creates safe working conditions and job security from a good employer. It remains in contact with former, retired employees, keeping them abreast about the happenings in the company by way of sending them the company magazine Precheza Newspaper.

Sports and cultural events, organized every year by PRECHEZA for its employees and their families, regrettably had to be cancelled in 2020 due to the COVID pandemic. The company at least tried to support individual sport, for instance, by taking part in the nationwide Bike to Work project.

PRECHEZA a.s. takes good care of its buildings, as well as the greenery on its premises and in the vicinity with the goal of improving the work environment for its employees, visitors, and citizens of the town. The company's goal is to intensify its social role as one of the major business entities in the region and to show the wider public that it is a safe, modern, and well-run company with a future.

Selected socially beneficial of PRECHEZA a.s.:

- support of charity projects in the region
- long-standing co-operation with the Secondary Technical School Hranice, Pardubice University of Pardubice, Technical University of Ostrava and Palacký University Olomouc and other schools in the region
- regional round of the knowledge contest for students of chemistry in collaboration with Jakub Škoda Grammar School in Přerov
- support of the Czechoslovak Jazz Festival
- co-operation within the Association of Chemical Industry of the Czech Republic, TDMA
- general partner of the Women's Volleyball Extraliga team PVK PRECHEZA
- support of car races organized by Autoklub PRETIOX
- support of the development of Přerov ice-hockey, especially aimed at the youngest athletes
- implementation of specific measures of the local program for improving the air quality for the town of Přerov



Joint stock company identification

Company name: PRECHEZA a.s.

Registered address: nábr. Dr. Edvarda Beneše 1170/24

Prerov I - Město

750 02 Prerov

Česká republika

Business ID: 26872307

Tax ID number: CZ 26872307

Industrial Classification of Economic Activities

(OKEČ) Code 241200

Telephone: +420 581 252 111

Fax: +420 581 217 048

Email: precheza@precheza.cz

The company is entered in the Commercial Register kept by the Regional Court in Ostrava, Section B, Insert 2



www.precheza.cz

