



5/2024

STATE OF THE ENVIRONMENT REPORT FOR 2023

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.



RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY



Joint Stock Company PRECHEZA

with its registered address in Přerov has a nearly 130-year-long tradition, especially in the production of inorganic chemical products. Today, PRECHEZA a.s. 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 a.s. 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 chemical substances produced as intermediate products in main production. PRECHEZA's most important product is the titanium dioxide PRETIOX®, whose sales accounted for 85.5% of total sales and the share of exports in total sales was 88.5%. In addition, iron oxide pigments, sulfuric acid and other chemicals contribute to the company's turnover.



STATE OF THE ENVIRONMENT REPORT

A systemic approach to the environment and occupational safety



RESPONSIBLE CARE[®]
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Responsible Care

PRECHEZA a.s. conforms with the basic principles of the global charter of the voluntary initiative "RESPONSIBLE CARE" – responsible business in the chemical industry

1. **A Corporate Leadership Culture**, that proactively supports safe chemicals management through the global Responsible Care initiative
2. **Saafeguarding People and the Environment** by continuously improving our environmental, health and safety performance; the security of our facilities, processes and technologies; and by driving continuous improvement in chemical product safety and stewardship throughout the supply chain.
3. **Strengthening Chemicals Management Systems** by participating in the development and implementation of lifecycle-oriented, sound-science and risk-based chemical safety legislation and best practices.
4. **Influencing Business Partners** to promote the safe management of chemicals within their own operation.
5. **Engaging Stakeholders**, understanding and responding to their concerns and expectations for safer operations and products and communicating openly on our performance and product.
6. **Contributing to Sustainability** through improved performance, expanded economic opportunities and the development of innovative technologies and other solutions to societal 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

An integral part of all activities of PRECHEZA a.s., a manufacturer of inorganic pigments and other chemical substances, is the systemic care of

- occupational health and safety (OH&S) of employees and other persons within the company's premises,
- prevention of major accidents (PMA) from activities with specified chemical substances for humans, the environment, and the property on the company's premises and their 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 efficiency.



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 efficiency 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 uneconomical 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 organizational departments.



The commitments of the Integrated Policy of Management Systems serve for the company's management as a basis for establishing specific, timebound 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 organization.

Management Systems Certificate

During April 2023 the audit team of Bureau Veritas Certification CZ carried out the 2nd surveillance audit of the quality management system according to ISO 9001:2016 (QMS) and the environmental management system according to ISO 14001:2016 (EMS). At the same time, the recertifying audit of the energy management system according to ISO 50001:2019 (EnMS) and the occupational safety management system according to ISO 45001:2018 (OHSM) was carried out. The audit confirmed the validity of the previously issued certificates.



Compliance with legal norms and other regulations

In 2023, PRECHEZA met its reporting obligations via the Integrated System of Reporting Obligations (ISPOP). Compulsory measurements in 2023 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, checking of their implementation and timely solutions of identified issues.

Development, investments and other environment-related costs

Environmental care is continuously supported both by investments in new facilities as well as in the renovation and modernization of existing facilities. In 2023 approximately 33 million CZK were invested in the acquisition of environmental protection equipment. In particular, the continuation of investment actions to reduce SO₂ emissions from decomposition, the SO₂ scrubber behind the K-system, including the replacement of the flue pipe, the renewal of the dedusting of the Monohydrate pneumatic transportation, installation of new packers, including the dedusting.



Air protection

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

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

Operation of these sources generates emissions of SO_x (expressed as SO₂), solid pollutants (TSP), NO_x (expressed as NO₂) and CO, for which relevant binding emission limits are set for individual emission ducts and measuring points.

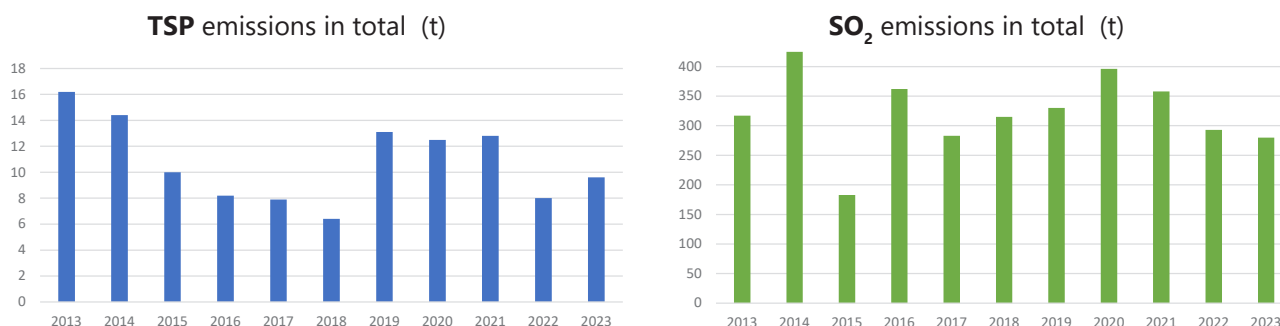
The total atmospheric emissions (in tons per year) in 2023 and the previous years are shown in the following chart:

Year	SO ₂	TSP	NO ₂	CO
2018	315	6.4	65.0	4.4
2019	315	13.1	81.0	6.8
2020	396	12.5	80.1	6.2
2021	358	12.8	79.9	4.9
2022	298	8.0	63.3	4.7
2023	280	9.6	83.5	5.2

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 development of air emissions of key substances in the recent years is shown in the following charts:



Total air emissions remain roughly at the same level. In the long term, 2023 was one of the years with a low total emission burden from PRECHEZA. The significant decrease in SO₂ emissions in 2015, as seen in the graph, was due to the long-term shutdown of the sulfuric acid plant.

Since 2013, Precheza has been included in the European greenhouse gas emission allowance trading system (EU ETS).

From 2021, PRECHEZA a.s. also determines greenhouse gases emissions at the corporate level according to the global GHG Protocol standard in scope 1 (direct GHG emissions from the company's own activities), scope 2 (indirect GHG emissions from purchased and consumed energy) and in some categories of scope 3 (other indirect emissions). The development of direct emissions from the company's activities, and therefore emissions under the EU ETS, are directly related to the development of the titanium dioxide production or rather the associated consumption of limestone at the neutralization plant and natural gas in the thermal processes during iron pigments production.





Water protection

PRECHEZA a.s. has been paying maximum attention to the conservation of natural resources, minimization of pollution and reuse of water in technology for a long time. Process water is treated, and its quantity and quality correspond in all indicators to the integrated permit. Neutralization of process water produces white industrial gypsum PREGIPS and red industrial 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 by a specialized hydrogeological firm.

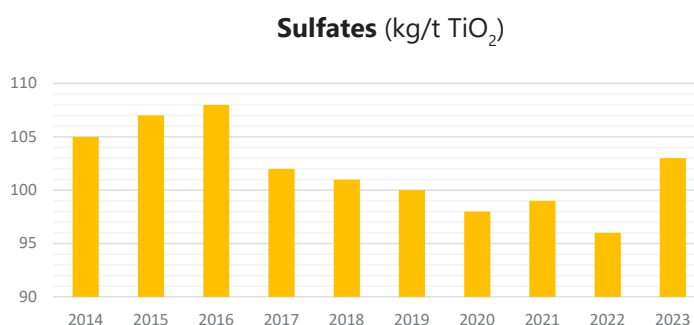
PRECHEZA a.s. has set permissible emission limits for discharged pollution in wastewater at the outflow from the neutralization plant, namely for the contents of soluble inorganic salts (SIS), sulphate ions, non-soluble substances (NS), total iron (Fe_{total}) and for the chemical oxygen demand (COD_{Cr}).

The total water emissions in tons per year in 2023 and previous year are shown in the following table:

Year	SIS	Sulfates	NL	Fe_{total}	COD_{Cr}
	(t/year)	(kg/t TB)	(t/year)	(t/year)	(t/year)
2018	8 950	101	9.3	0.5	41.0
2019	9 945	100	6.0	0.6	34.0
2020	9 664	98	5.4	0.6	2.0
2021	9 422	99	11.4	0.6	4.6
2022	9 111	96	10.7	0.6	19.0
2023	9 676	103	10.8	0.4	23.8
Emission limit	15 000	500	80	18	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).

The production of titanium dioxide is characterized by sulfate emissions to wastewater. The development of this parameter in recent years is illustrated in the following graph:



Pollution of discharged water by measured pollutants was also at a comparable level to recent years. Furthermore, the preparation of an adaptation measure for possible water shortages in the dry season has continued in the form of the preparation of the construction of a raw water reservoir.

Waste

Waste management was carried out in accordance with the applicable valid legislation in 2023.

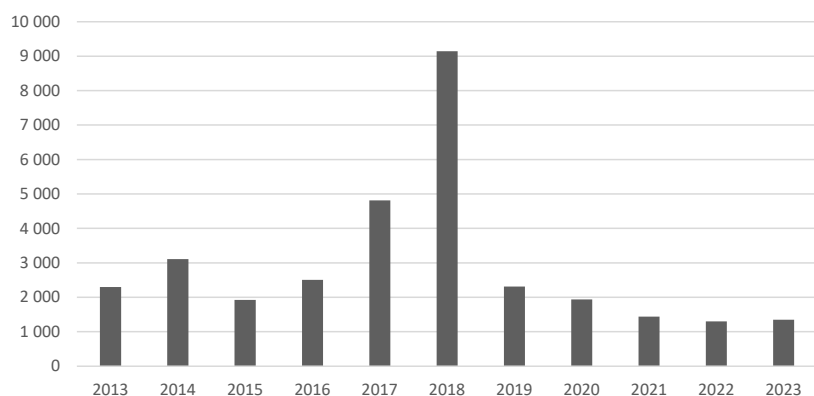
Total amount of waste in the previous years:

Waste type	unit	2017	2018	2019	2020	2021	2022	2023
Hazardous	ton	3 311	7 768	21	826	452	284	196
Other	ton	1 506	1 374	2 289	1 112	990	1016	1155
Total	ton	4 817	9 142	2 310	1 939	1 442	1 300	1351

The total volume of waste generated in 2023 was at the level of the previous year. The volume of hazardous waste decreased year-on-year (from 284 tons to 196 tons), while the volume of other waste was slightly higher (from 1 016 tons to 1 155 tons). In the area of waste transfer, in 2023 PRECHEZA a.s. continued to cooperate its long-standing exclusive partner, company RECOVERA Resource Utilization a.s.

Total volume of waste (t)

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



Energy consumption

Energy consumption in 2023 and the previous year is shown in the following table:

Year	2019	2020	2021	2022	2023
Electric energy (GJ)	283 654	288 306	272 718	270 673	249 262
Steam consumption (GJ)	743 311	736 759	694 350	693 326	705 817
Gas consumption (GJ)	907 198	885 012	839 195	839 278	746 193
Total energy consumption (GJ)	1 927 198	1 910 077	1 806 263	1 803 277	1 701 272
Water consumption – from river (m³)	2 807 100	2 737 544	2 812 400	2 584 300	2 497 800
- drinking water (m³)	52 243	40 579	47 905	46 361	40 890

The long-term trend in the energy intensity of production - expressed in GJ of energy consumed per ton of pigment produced - has a downward trend.

Occupational safety

The indicator of occupational safety used is the number of work injuries per 100 employees. A work injury is defined as damage to health causing inability to work for a period of over 3 calendar days. The values for 2023 and the previous years are as follows:

Year	Number of work injuries	Frequency / 100 employees	Seriousness (approx. % inability to work)	Number of injuries per million hours worked
2019	4	0.61	0.17	3.72
2020	14	2.24	0.18	13.45
2021	8	1.23	0.35	7.80
2022	4	0.62	0.06	3.78
2023	6	0.93	0.08	5.76

The number of injuries causing inability to work in 2023 was significantly below the long-term average of the last 10 years (about 8-9 injuries). 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 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 laboratory. The conducted measurements indicated conformity with the current categorization of work.



Social activities



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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, company activities, 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.

Sponsorship and promotional activities are primarily aimed at children, young people and senior citizens. The aim is to promote and explain the role of the chemical industry in our daily lives and in building a developed economy, but also, as a major industrial company in the region, to support activities and projects that contribute to improving the quality of life of the people in the city. PRECHEZA a.s. attracts young people to study chemistry, especially by working closely with schools and by supporting competitions and chemical olympiads. It also contributes to the organization of selected cultural and sporting events. PRECHEZA continuously supports charitable projects in the region.

PRECHEZA a.s. is a significant and reliable employer and the winner of the Employer of the Year 2023 award. It offers its employees a range of above-standard benefits and creates safe working conditions and the security of a good employer. It maintains contact with retired employees and organizes regular Retiree Meetings and keeps them abreast about the happenings in the company by way of sending them the company magazine PRECHEZA Newspaper.

Annually PRECHEZA a. s. organizes a Sports and Family Day for its employees and their families, a cycling trip Cycle Tour, a hiking expedition Airing of the Lungs and other tours and events. For many years the company has been involved in the nationwide Bike to Work project.

PRECHEZA a.s. takes good care of the 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 general public that it is a safe, modern, and well-run company with a future. In 2023, it received a certificate of merit in the Olomouc Regional Council President's Award for Social Responsibility.

Selected socially beneficial activities of PRECHEZA a.s.:

- support of charity projects in the region focused on the senior citizens
- long-standing cooperation with Secondary Technical School Přerov, 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 and the Blues nad Bečvou Festival
- cooperation within the Association of Chemical Industry, 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 data

Company name: PRECHEZA a.s.
 Registered address: nábr. Dr. Edvarda Beneše 1170/24
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The company is registered in the Companies
 Register kept by the Regional Court in Ostrava, ref. no. B 2953.

www.precheza.cz

