

HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE

WHAT WE DID IN 2022

SUCCESSSES

- Over 99% of our employees have medical insurance
- Psychological wellbeing assessments completed

SA operations

- Reduction in the number of workplaces exceeding 31°C
- Buy quiet strategy, to reduce noise levels, implemented

US operations

- DPM strategy with a three-pronged approach developed

CHALLENGES

- Challenges in implementing DPM given worldwide semiconductor shortage



BENCHMARKS

- Diesel particulate filter fitment for PGM diesel fleet; expected completion Q4 2023
- Development of mental health resilience
- Universal health coverage across the business
- 100% annual re-measurement of WHO-5 against 2022 baseline, determination across all operating jurisdictions

Status

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ALIGNMENT WITH SDGs



See the supplementary disclosure – *Progressing the UN's SDGs*

www.sibanyestillwater.com/news-investors/reports/annual/

APPROACH

Our iCARES values guide our approach to health and wellbeing. We participate in the health working group of the ICMC. As mandated by the Mine Health and Safety Act (MSHA) all employees and contractors whose jobs expose them to risk undergo annual medical examination. Our care to employees includes

- Occupational health resources that assess risks, determine fitness to work, and manage disease and rehabilitation
- Primary health care centres with doctors and nurses managing cases 24/7
- Shaft clinics within walking distance from the workplace offering primary health care facilities, including health assessments and treatment for communicable diseases and chronic ailments

- Satellite primary health care clinics
- Employee assistance programme (EAP) that includes counselling for employees and immediate family, provided by ICAS via 24/7 multilingual toll-free call centre and on-site social workers
- Emergency medical services equipped with paramedics and 24/7 rescue capability
- Hospital network with specialised care for trauma and for occupational injuries and diseases

HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

ACCOUNTABILITY, GOVERNANCE AND ASSURANCE

GOVERNANCE

ACCOUNTABILITY

Board

- Social, Ethics and Sustainability Committee
- Audit Committee

Executive Committee and C-suite

- The ESG Committee reports into the Social, Ethics and Sustainability Committee
- Chief Regional Officers

Regional

- EVP and Head of Group Human Resources

Operational

- The SA Senior Vice President: Health and Employee Well-being has oversight of the health and well-being programmes at Sibanye-Stillwater. Health has a central oversight with unit managers at the SA operations
- The Senior Safety Manager has central oversight at the US operations for occupational health and employee wellbeing. Site Safety Managers provides support to the Senior Safety Manager
- Health and safety full-time representation see to it that the health and safety programmes are agreed to and are effective

RELEVANT LEGISLATION AND REGULATIONS

(list not exhaustive, only key regulations listed)

South Africa

- Mine Health and Safety Act of 1996
- Occupational Diseases in Mines and Works Act of 78 of 1973
- Compensation for Occupational Injuries and Diseases Act 130 of 1993
- National Nuclear Regulator Act 1999, Act 47 of 1999, and Regulations
- Mine Health and Safety Council milestones

United States

- Federal Mine Safety and Health Act of 1977
- Occupational Safety and Health Act of 1970

Europe

Finland

- Occupational Safety Act (738/2002)
- Occupational Health Care Act (1383/2002)
- Workers' Compensation Act (459/2015)

France

- REACH Regulation (1272/2008 EC)
- CLP Regulation (1272/2008)
- Occupational risk assessment document (DUERP) is compulsory

The Group also adheres to the ICMM and WGC Responsible Mining principles on safety and health.

ASSURANCE AND REVIEWS

- Sibanye-Stillwater's health performance is monitored and verified by several external agencies such as Registrar for Medical Schemes, Department of Health and the DMRE
- Audits relating to the Compensation for Occupational Injuries and Diseases Act (COIDA), in terms of compensation for occupational injuries and diseases; external assurance on performance indicators by PwC (■ page 281); Occupational diseases in Mines and Works Act audits for TB and silicosis cases
- At the US PGM operations, health performance is verified and monitored by the Mine Safety and Health Administration, Montana Department of Labor and Industry, as well as by the US Department of Labor; the Blue Cross Blue Shield of Montana and the Brokers and actuaries at Hub International's consultants also review our performance
- In France, compliance with occupational health laws is enforced by representatives of the state itself, called the labour inspectorate
- In Finland the compliance with occupational safety and health laws are enforced by occupational safety and health authorities that operate under Regional State Administrative Agencies. The main method of enforcement is workplace inspections

Key supporting policies and policy statements

- Health and safety policy statement (🌐 see www.sibanyestillwater.com/sustainability/reports-policies/)
- Medical surveillance programme and ISO 45001
- Alcohol, drugs and prohibited substances policy
- Mandatory code of practices covering, among others fitness to work, COVID-19, noise, thermal stress and occupational health programmes
- Radiation protection quality management policy

Sibanye-Stillwater's approach to health and occupational hygiene is guided by UN SDG 3.

In terms of the wide-ranging SDG 3, sections 3.3 and 3.7 are the most relevant for Sibanye-Stillwater. The former (communicable diseases) aims to 'End the epidemics of AIDS, tuberculosis, malaria and neglected tropical diseases and combat hepatitis, water-borne diseases and other communicable diseases.' The latter (sexual and reproductive health) aims to "Ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes." SDG 3.4 (Promoting mental health) is also of significance for us. ■ See page 142 (HIV/Aids); page 141 (tuberculosis); page 139 (universal health cover); and page 141 (mental health services).

📄 See supplementary disclosure: *Progressing the UN's SDGs* 🌐 www.sibanyestillwater.com/news-investors/reports/annual/



SDG 3 – Ensure healthy lives and promote well-being for all at all ages

3.3.3, 3.7



HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

SA OPERATIONS' HEALTH STRATEGY

2019-2020	2021-2023 ¹	2024-2030 ¹
<ul style="list-style-type: none"> Align medical scheme(s) Standardisation of SA operations' health and wellness People, processes and systems focus for efficiency 	<ul style="list-style-type: none"> Intentional bias towards in-house medical scheme Sustaining efficiency of health and wellness ISO 45001 certification of in-house health systems Focus on clinical governance and audit 	<ul style="list-style-type: none"> Align to National Health Insurance (NHI) Focus on service provider networks Enhanced occupational health services and wellness efficiency

Integral wellbeing

We are committed to furthering the 'integral wellbeing' of our employees. By this we mean wellbeing that goes beyond basic mental and physical health, encompassing the full potential and purpose of the human personality. Among other things, this involves a commitment to

- Promote a safe and healthy working environment in pursuit of optimum productivity and preservation of human life and wealth
- Enhance our employee value proposition with a workplace culture that is holistic (integral) and that prioritises wellbeing
- Encourage employees to take responsibility for their own wellbeing
- Enable the Group to better oversee the wellbeing of employees, particularly when this impacts organisational objectives
- Reduce health and wellbeing costs
- Integral wellbeing policy include mental health

¹ Timelines could potentially be impacted due to government rollout regressions

Medical schemes

In 2013, only 8% of our employees had a medical scheme membership, as of 2023, 99% of our SA employees are on medical schemes.

Sources of health care funding (R million)

	2022					2021				2020		
	Total	US PGM	EU region	PGMs	Gold	Total	US PGM	PGMs	Gold	Total	PGMs	Gold
Medical schemes	539	539	0	1,008	719	1,629	—	952	677	989	661	328
Company-funded	444	444	0	131	145	762	423	130	210	431	126	305
Compensation for occupational injuries and diseases ¹ (Rand Mutual Assurance)	289	NA	NA	144	145	291	NA	125	166	371	199	172
Occupational diseases in Mines and Works Act dust levies ¹	31	NA	NA	4	27	40	NA	6	34	32	3	29
Total²	1,304	983.6	0	1,287	1,036	2,722	423	1,213	1,087	1,823	989	834

¹ Care funding costs exclude Occupational Diseases in Mines and Works Act dust levies for gold (R392 million from 2013 to 2018) and PGM operations (R4.8 million from acquisition to 2018)

² Excludes COVID-19-related expenditure

Funding employee health care (number of employees)

	2022					2021				2020		
	Total	US PGM	EU region ²	PGMs	Gold	Total	US PGM	PGMs	Gold	Total	PGMs ¹	Gold ¹
Principal medical scheme members	63,656	1,774	230	35,170	26,482	66,544	1,867	35,849	28,828	49,740	35,301	6,173
Employees on medical schemes – Principal members (%)	99	97	100	98	100	98	95	99	97	62	96	22

¹ Medical scheme data has been automated and, through this process, the 2020 data has been updated ² For Sandouville refinery and Keliber



HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

Health care provision at the US PGM operations

The US government does not provide universal health cover. We have partnered with a local hospital in Montana to assist employees with infertility treatment, family planning, and artificial insemination. This gives credence to our commitment to UN SDG 3.7, which supports universal access to sexual and reproductive health.

Finland's health care

All of our Keliber employees are covered by occupational health care at no cost to the employee. It covers a wide range of treatments. In addition, all Finnish citizens are covered by the public healthcare system.

Health care at Sandouville

In France, employees are covered by health insurance, which is compulsory. This health insurance is contracted by the employer, who passes it on to all these employees in return for a participation fee. In addition, all French people are also covered by a public health system.

PERFORMANCE

COVID-19

Emerging statistics are encouraging for protection against COVID-19, demonstrating 97% antibody protection, high vaccine immunity, and natural immunity within the general population and among Sibanye-Stillwater employees. The mandatory COVID-19 Code of practice remains in place and Sibanye-Stillwater continues to apply a risk-based approach to managing any pandemic in the workplace, including COVID-19. The vaccination sites will remain accessible at designated locations, including at some public health facilities. Health and safety remain our priority; protocols will be revisited and reapplied should the risk level increase.

SA operations: chronic disease risk classification¹

	2022						2021					
	1 Criteria group	2 Criteria groups	3 Criteria groups	More than 3 criteria groups	Total	%	1 Criteria group	2 Criteria groups	3 Criteria groups	More than 3 criteria groups	Total	%
SA gold	4,387	3,171	1,955	500	10,013	27	4,708	3,857	2,268	640	11,473	30
SA PGM	7,219	6,020	3,384	1,188	17,811	36	7,233	6,681	3,622	1,237	18,773	38
Total	11,606	9,191	5,339	1,688	27,824	32	11,941	10,538	5,890	1,877	30,246	35

¹ Chronic disease risk criteria categories include, amongst others, diabetes, hypertension, TB, occupational lung diseases, HIV, heart diseases, being overweight, age, kidney failure and carcinomas



US PGM operations – Montana

HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

SA OPERATIONS

MENTAL HEALTH SERVICES

We take an integral approach to mental health and wellbeing. By this we acknowledge the role of community, culture, and value-system in shaping how we respond to the challenges of life. Our user-friendly wellbeing resources assist employees to reflect on their own mental health. Sibanye-Stillwater's MyWellness application provides support for the physical wellbeing of all our employees, by providing a hands-on clinical rehabilitation facility to ensure safe return to work following illness or injury. It also comprises a virtual platform to encourage healthy lifestyle behaviour. Our employee assistance programme (EAP) at our SA and US operations spreads awareness about our various mental health initiatives, including integral wellbeing and trauma counselling. In 2022, we measured the psychological wellbeing of employees at our SA gold and PGM operations; we will continue this practice annually. Employees at our US operations and at Sandouville were, for the first time, assessed against psychological wellbeing principles.

For 2022, the off-site EAP engagement rate at our SA operations was 4.2%. High-risk cases for 2022 constituted 3.7% of the total engagement rate (including employee dependents). This compares to the high-risk rate of 2021 which was at 3.9%. The key drivers for high-risk cases in 2022 were mental health, relationship difficulties and financial problems. Counselling services offer emotional support and psychological empowerment techniques to help employees. We offer (in conjunction with a third-party provider) a toll-free hotline that employees can call for psychological support. Our SA operations invested R4,9 million in our Employee wellbeing programme. Our operations in Europe and the United States also have access to EAP services.

Furthermore, victims of gender based violence (GBV) have access to free and confidential psychosocial support at our SA PGM and SA gold operations through GBV reporting and referral centres.

Tuberculosis

Since embarking on our objective to eradicate tuberculosis (TB) at our SA operations, we reduced active TB cases from 832 in 2014 to 201 in 2022 (2021: 249). At our SA PGM operations year-on-year active cases increased from 197 to 203. This equates to a TB rate of 5.72 per 1,000 employees at the SA gold operations and 4.37 per 1,000 employees at the SA PGM operations.

In pursuit of our goal of TB elimination from our operations we will continue with annual compulsory TB screening and compulsory case management. We have a post-employment TB programme in partnership with TEBA that manages patients on exiting the mine. This guarantees laboratory follow up, and medication.

SA operations: TB rates per 1,000 employees (new and retreatment cases)

	2022			2021			2020		
	Total	PGMs	Gold	Total	PGMs	Gold	Total	PGMs	Gold
Total TB	4.95	4.37	5.72	5.12	3.99	6.61	6.26	5.36	6.64
Pulmonary TB	4.19	3.94	4.53	3.97	3.46	5.17	5.41	4.69	4.73
Extra pulmonary TB	0.76	0.43	1.20	0.86	0.53	1.43	1.27	0.33	2.04
Cardiorespiratory TB	4.61	4.16	5.21	4.66	3.70	5.92	5.41	4.69	5.55
Multidrug-resistant TB	0.07	0.06	0.09	0.08	0.04	0.13	0.19	0.23	0.11

SA operations: number of new and retreatment cases of TB

	2022			2021			2020		
	Total	PGMs	Gold	Total	PGMs	Gold	Total	PGMs	Gold
TB	404	203	201	446	197	249	494	257	237
Cardiorespiratory TB	376	193	183	406	183	223	427	225	202
New cases of drug resistant TB	11	4	7	11	2	9	11		11
New cases of multidrug-resistant TB	6	3	3	7	2	5	15	11	4



HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

HIV/Aids

In keeping with the 2025 UNAIDS HIV targets (which aligns with our commitment to meeting the UN SDG goals related to AIDS, notably SDG 3, ending Aids by 2030), our targets for HIV/AIDS are as follows

- 95% of people living with HIV (PLHIV) using combination prevention
- 95% of PLHIV knowing their status
- 95 % of people who know their status initiating treatment
- 95% on treatment being virally suppressed
- 95% coverage of services
- 95% of women having access to HIV and reproductive health services

We have various initiatives to achieve these targets

- Compulsory HIV counselling and screening offered annually at all occupational health centres for all employees
- Medical schemes reporting on linkages to treatment and status of viral suppression
- Monitoring disease management programmes run by medical schemes, relating to highly-active antiretroviral therapy (HAART)
- On average, 84% of HIV positive employees receive first line antiretroviral treatment
- For those employees that exit the organisation – our HIV/HAART patients are transferred to the state programme or they remain on the medical schemes disease management programme on leaving the organisation

SA operations: HIV, VCT¹ and HAART (highly-active antiretroviral therapy)

	2022			2021			2020		
	Total	PGMs	Gold	Total	PGMs	Gold	Total	PGMs	Gold
VCT offered	92,127	50,577	41,550	88,187	44,511	43,676	76,819	42,986	33,833
VCT conducted	28,675	23,335	5,340	29,041	23,036	6,005	30,606	22,125	8,481
VCT test-positive	660	393	267	803	449	354	831	326	505
Proportion of workforce tested ²	—	—	—	0	0	0	0	0	0
New recipients of HAART ³	3,844	1,712	2,132	1,845	959	886	1,063	509	554
HAART patients alive and on treatment, total employees including category 3-8 employees ⁴	14,620	8,796	5,824	15,160	8,326	6,834	15,163	7,960	7,203
Employees who have left HAART programme ⁵	817	577	240	142	92	50	289	266	23

Note: Sibanye-Stillwater recognises the right of employees not to disclose their HIV status.

¹ Voluntary counselling and testing

² VCT conducted as a percentage of total workforce (employees and contractors)

³ Previously the information only reflected Category 4-9 employees, but for 2020 those employees with medical schemes have been added

⁴ Entry-level mining employees (Category 4-9) of the SA gold operations

⁵ Employees who left HAART programme within 12 months of starting antiretroviral therapy (including retrenched employees with ill health and any other labour-related terminations)



HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

OCCUPATIONAL HYGIENE and MEDICINE

HEAT-RELATED ILLNESS

Given the depth of some of our mines, thermal stress and heat-related illness are serious risks for our SA operations. Our policy focuses on minimising exposure to temperatures above 31°C (wet bulb), which is 1.5°C below the legally allowed exposure of 32.5°C (wet bulb). To do so we use underground ventilation and refrigeration systems, which are reviewed annually against planned production targets and their performance optimised to achieved acceptable conditions.

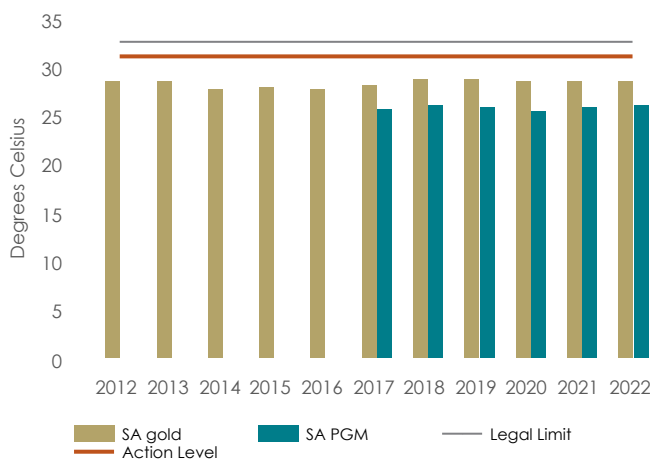
All underground employees are trained, as part of the annual refresher training, on standards and procedures regarding thermal stress, including safe declaration, withdrawal temperature limits, stopping work without hesitation when temperatures exceed the limit.

In 2022, we installed a cooling water system at the Siphumelele shaft (SA PGM); this and other measures has reduced the number of areas that exceed our temperature threshold.

Temperature is included in the life-saving behaviours (our non-negotiable rules that address risk areas), which instruct employees to withdraw if the temperature reaches 32.5°C. For our SA operations, the average wet bulb temperatures and air velocities were within acceptable limits for the year under review.

Our US PGM operations do not generally experience heat-related issues.

AVERAGE STOPE WET BULB TEMPERATURE



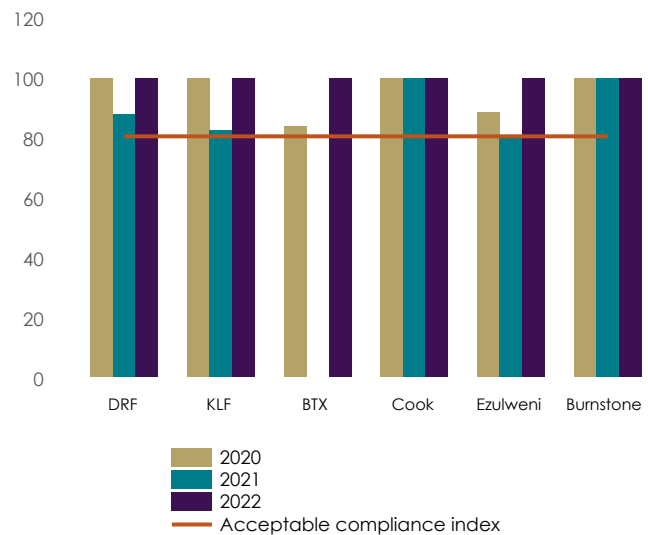
Radiation exposure

Radiation hazards in our mines arise from naturally occurring radioactive uranium associated with the gold bearing reef. Our SA gold operations are regulated by the National Nuclear Regulator (NNR) in terms of the NNR Act (Act 47, 1999), which mandates us to have a nuclear certificate of registration (COR).

The NNR routinely conducts audits during the year to ensure compliance with various conditions and procedures of the COR.

These cover a range of issues, including: managing radiation exposure, radioactive waste, decommissioning of projects, physical security and access control at regulated sites, medical surveillance of employees, radiation protection programmes. All the SA operations comply with COR conditions. The graph below shows our levels of compliance as per the NNR inspection audits conducted in 2020, 2021 and 2022. All mines achieved 100% compliance in 2022. Beatrix was not audited in 2021.

NNR AUDITS/INSPECTIONS



Our SA gold operations have a Radiation protection quality management policy. This demonstrates a commitment to integrate the management of radiological exposure into our business philosophy, ensuring adequate resources for compliance with all legal requirements (both national and international legal requirements), and to communicate all relevant matters regarding radiation to the relevant parties.

The NNR national dose register steering committee oversees the rollout and implementation of the recording system of radiation exposure doses nationwide. All our SA gold operations upload their quarterly radiation exposure on to the national dose register. Our accumulated 2022 radiation exposure doses are well below the dose limit as set by regulation (R388 of April 2006, 20 mSv/a for workers).

In terms of radioactive contamination of waste, this is negligible at our operations. However, all hazardous waste is disposed of responsibly. During 2022, 4,752 tonnes of contaminated scrap metal were released to NNR authorised scrap dealers. (■ See *Minimising our environmental impact*, page 205).

HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

SA operations: occupational diseases (number of cases reported and rate per 1,000 employees)²

	2022			2021			2020		
	Total	PGMs	Gold	Total	PGMs	Gold	Total	PGMs	Gold
Silicosis ¹	88	29	59	93	32	61	139	66	73
Silicosis rate per 1,000 employees	1.09	0.62	1.90	1.2	0.7	1.9	1.8	1.4	2.4
Chronic obstructive pulmonary disease (COPD)	32	26	6	30	24	6	39	34	5
COPD rate per 1,000 employees	0.40	0.56	0.19	0.37	0.50	0.19	0.49	0.71	0.16
Noise-induced hearing loss (NIHL)	264	101	163	294	122	172	231	138	93
NIHL rate per 1,000 employees	3.28	2.18	5.26	3.66	2.54	5.31	2.93	2.83	3.01
Cardiorespiratory TB (CRTB)	376	193	183	406	183	223	427	225	202
CRTB per 1,000 employees	4.68	4.16	5.90	5.05	3.81	6.88	5.41	4.69	6.54

¹ Number of cases reported includes new and resubmission cases² Rates calculated based on at-risk employee population**SA operations: occupational health management**

	2022			2021			2020		
	Total	PGMs	Gold	Total	PGMs	Gold	Total	PGMs	Gold
Medical surveillance and certificate of fitness examinations – total ¹	171,455	106,787	64,668	169,647	97,125	72,522	235,736	96,934	138,802
Employees	123,742	73,646	50,096	125,960	69,283	56,677	188,321	74,634	113,687
Contractors	47,713	33,141	14,572	43,687	27,842	15,845	47,415	22,300	25,115
Days lost due to health-related absenteeism	892,980	586,982	305,998	1,229,355	689,941	539,414	804,986	420,651	384,335

¹ Excludes heat tolerance screening (HTS) testing in 2021, post-COVID assessments and vulnerability assessments**SA operations: new and resubmitted cases of occupational diseases**

	2022	2021	2020
Silicosis	88	93	139
Gold	59	61	73
PGM	29	32	66
Chronic obstructive pulmonary disease	32	30	39
Gold	6	6	5
PGM	26	24	34
Cardiorespiratory TB	376	406	427
Gold	183	223	202
PGM	193	183	225
Noise-induced hearing loss	264	294	231
Gold	163	172	93
PGM	101	122	138

Cases and claims: Medical Bureau for Occupational Diseases, and Compensation Commissioner for Occupational Diseases

	2022	2021	2020
Cases assessed by Medical Bureau for Occupational Diseases (certification)	8,706	5,848	16,964
Sibanye-Stillwater's claims processed by Commissioner for Occupational Diseases	789	1,247	1,107
Claims processed by Compensation Commissioner for Occupational Diseases	6,086	6,171	5,881
Total paid only to Sibanye-Stillwater beneficiaries (R million)	18	25	30
Total paid to industry beneficiaries including Sibanye-Stillwater beneficiaries (R million)	136	126	201

HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

Noise-induced hearing loss

Our SA operations follow the MHSC milestone of all process noise (including machinery) below 107dB(A) by 2024. Our noise-induced hearing loss (NIHL) strategy says that by reducing these operational noise levels and with the use of hearing protection devices, employees should not be exposed to noise levels above 85dB(A), which is the statutory limit.

We have various actions across our SA operations to ensure we meet the target

1. Implemented buy quiet strategy as per Minerals Council, with initial target of 105dB(A)
2. Moulded hearing protection devices roll out
3. Auditing and monitoring of critical controls for noise
4. Tightened access control to areas with high noise levels
5. Hearing protection compliance is being monitored in noise demarcated areas

Our hearing conservation programme is aligned with the Mandatory Code of Practice for noise and includes silencing of equipment, risk assessments, monitoring and measurement, personal protective equipment, investigation of any deterioration in hearing above 5%, and medical surveillance.

Non-compliance to noise levels is mainly a result of damaged (or absent) mufflers on mechanical equipment, e.g., rock drills. At our US operations, some equipment, such as jackleg drills, exceed 107dB(A) and a few ventilation main fans exceed 115dB(A). These areas are designated as 'restricted access'.

In 2022 our SA PGM and SA gold operations recorded 101 and 163 NIHL cases respectively. This compares to the 2021 figures of 122 NIHL cases at our SA PGM operations and 172 NIHL cases at our SA gold operations.

We are continuing with the rollout of moulded hearing protection devices at our SA operations, with the expectation that the SA gold rollout will be complete early 2023 and the SA PGM rollout towards the later part of 2023.

In 2022, at our SA operations, we conducted a review for the silencing of certain equipment (such as pumps, fans and rock drills) We enhanced signage at high noise level areas, and instituted daily checks on hearing protection usage. Meanwhile, at our US operations we focused on training of employees on usage of hearing protection devices, reduction of equipment noise levels, and the use of double hearing protection where needed.

Silica, dust and airborne pollutants

Dust at our SA PGM and our US operations has very low silica content and is well controlled, presenting negligible regulatory or health risks.

Silicosis (an occupational lung disease caused by long-term inhalation of dust particles) is of concern at our SA gold operations. South Africa's deep-level gold mines, where quartz concentrations are high, present a risk for silicosis, and increased susceptibility to TB.

Early in 2022, we reviewed our internal target for silica dust exposure and reduced it to no more than 5.6% (from 7.0% in 2021) of samples to exceed 0.05mg/m³. South Africa's legislated occupational exposure limit is almost double this (i.e. 0.1mg/m³). Our new target aligns with our long-term strategy to meet the MHSC standard of <5% samples exceeding 0.05mg/m³ by 2024 at SA gold operations. In 2022, at our SA gold operations, 5.87% samples exceeded 0.05mg/m³.

In 2022, we recorded 59 silicosis cases at our SA gold operations; this is an improvement on 2021 (61 cases) and the culmination of sustained improvement over the previous years. For 2022, our silicosis rate at our SA operations was 1.09 per 1,000 employees (1.2 in 2021). The downward trend in the number of submitted silicosis cases is encouraging, suggesting that the investment in dust suppression and management strategies around dust has led to this trending in the right direction.

At our SA operations, employees' exposure to airborne pollutants is monitored in line with the relevant DMRE codes of practice. To date, 50 real-time dust monitors have been installed. The data from these dust monitors is collated automatically and daily reports are generated and distributed through QlikView.

Continuous real-time monitoring (CRTM) for silica and dust is now in place across our SA gold operations. The data is available on our SCADA data system, and reported daily on QlikView.

Sustained focus and ongoing action plans are in place and monitored to reduce the dust load across all operations. Investigations are conducted for each exposure that exceeds 0.05mg/m³. Our action plans include improving awareness through campaigns and developing and tracking leading indicators that will mitigate the dust load in the ambient air.

Soluble platinum salts (chloroplatinates)

While dust and silica are not a problem at our platinum mines, soluble platinum salts (or chloroplatinates) can cause platinum salt sensitivity.

Chloroplatinate salts are potent skin and respiratory sensitisers that can result in the clinical syndrome of platinum salt sensitivity. This induces symptoms typical of a type I allergy, the most significant of which is asthma. Once sensitised, the concentration that elicits an adverse response is lower and the sensitised worker may need to be removed from an area where chloroplatinates are present. Symptoms of sensitisation do not appear immediately, and a subsequent platinum salt exposure that elicits a response may occur much later, making it more difficult to find the exact exposure conditions that cause sensitisation. We have developed a five-year action plan to achieve the voluntary guideline value of 100 nanograms/m³ set by the International Platinum Association (IPA). As per our existing controls, average exposure levels have been trending well below the national occupational exposure limit of 2,000mg/m³.

Several reduction initiatives have been implemented, including stringent housekeeping standards and spillage management. For 2023 we plan to conduct real-time monitoring for chloroplatinates at our SA PGM precious metals refinery.

Our five-year action plan to achieve the voluntary guidelines includes

- Real-time monitoring for ventilation airflow and pressure
- Real-time dust monitoring
- Local extraction and dilution ventilation
- Resin technology for PGM separation
- Chemical reduction of salts
- Alternative filtration technology
- Gas and fume containment technology

HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

Dust management at SA PGM

At our SA PGM operations, dust on surface (e.g., blown off TSFs and from haul roads) is a nuisance and a potential health problem to employees and community members. It is made worse by the fact that our SA PGM operations are in dry parts of the country. Although there are no serious risks posed by the problem (regulatory or otherwise) we have a five-year dust management plan (starting 2020) for our Rustenburg and Kroondal operations. The plan includes netting barriers on the side slopes and application of chemical dust suppressants on the crest areas of the Paardekraal and Kroondal tailings storage facilities. It also includes propagation of tamarisk to act as wind barriers.

■ For more information see *Minimising our environmental impact*, page 195.

Tshiamiso Trust

The Tshiamiso Trust was set up to carry out the terms of a December 2019 settlement between six mining companies and claimants suffering from silicosis and work-related TB. The trust, worth R5 billion, was instituted in February 2020. Claimants can make use of numerous lodgement centres across various countries, and medical centres carrying out medical benefit examinations. As one of the six companies involved, Sibanye-Stillwater helped in setting up the operating structures and claims system. To date (February 2023) almost R1 billion has been paid out, with claimants coming forward and claims being paid regularly. The website provides real-time statistics on appointments, registrations, claims lodged and claimants paid. Sibanye-Stillwater assisted the Department of Health in launching their Tshiamiso Trust campaign at our Andrew Saffy Memorial hospital. See www.tshiamisotruster.com

Diesel particulate matter

The use of diesel-powered equipment in underground operations leads to health risks posed by over-exposure to diesel particulate matter (DPM). South Africa currently has no legislated occupational exposure limit for DPM. Our internal DPM target is 0.16mg/m³ (measured as total carbon), which is in line with US law.

For our PGM operations we follow the ICMM guidelines on DPM management.

In 2022, we took 1,449 personal DPM exposure samples at our SA gold operations, 125 of which exceeded our target (in 2021 it was 187 out of 1,602). Of the 359 personal DPM exposure samples taken at our SA PGM operations in 2022, 111 exceeded our target (in 2021 it was 131 out of 312). This shows a year-on-year improvement in DPM levels.

The Group continues to roll out diesel particulate filters. Diesel particulate filter fitment for the SA PGM diesel fleet began in Q2 2022. By the end of 2022, 352 of 490 filter units (71.5%) had been installed. For our SA gold operations, diesel particulate filter fitment for the selected diesel fleet began in Q1 2022 and is expected to be completed by H1 2023.

Current controls for DPM exposure include: vehicle maintenance, the use of low-sulphur diesel, occupational hygiene monitoring, personal protective equipment (including respiratory protection), and dilution ventilation. Update on the controls to reduce DPM exposure at our SA PGM and gold operations are tabulated below.

Control implementation update	SA gold	SA PGM
Working with OEMs to improve maintenance and engine performance	Ongoing maintenance on existing diesel fleet	Ongoing maintenance on existing diesel fleet
Rollout of diesel particulate filters (DPF)	In progress	To be completed early 2023 (semiconductor shortages causing delays)

US PGM OPERATIONS

US legislation stipulates DPM to be below 160 micrograms per cubic metre (0.16mg/m³) for total carbon. To ensure compliance, each mining operation has an industrial hygienist to monitor engineering controls, administrative controls, and employee exposures. Further, we developed a DPM reduction strategy (called the 'P reduction strategy'), which has a three-pronged approach to reducing diesel particulates: diesel engine maintenance, provision of adequate dilution ventilation, and operational discipline such as traffic management.

The two mine sites (East Boulder and Stillwater) have a total of 10 Pinssar units to provide continuous real-time measurement, and 20 Maestro units to measure mine gases. Five additional Pinssar units and five additional Maestro units were purchased (Q4 2022) for East Boulder. Our US PGM operations will purchase more units for Stillwater. As the units arrive, installation will be determined based on active mining areas and traffic patterns, to determine their optimal positioning in terms of generating leading indicators for mine air quality. We will also correlate the Pinssar and Maestro units for better air quality tracking in the future.

Clean fuel initiatives are being implemented at both mines, including filtering closed-loop systems in storage areas. Work continues at both mines to reduce emissions on the small vehicle fleet engines, including traffic management measures. We are testing battery-electric LHDs and are investing in lower or zero emissions utility vehicles to replace legacy vehicles.

Routine sampling was conducted throughout 2022, and sample results continue to demonstrate improvement in DPM mitigation practices.

Radiation exposure

All the US operations have a radiation safety programme. A dedicated radiation safety officer monitors radiation levels by means of nuclear gauges. We comply with guidelines issued by the Nuclear Regulatory Commission.

Noise-induced hearing loss

A dedicated hearing conservation programme, which provides training on the effects of noise as well as the use of personal protective equipment, has been underway for several years. The effectiveness of this programme is evidenced by the fact that no elevated exposures were recorded in 2022 at our US operations.

HEALTH, WELLBEING AND OCCUPATIONAL HYGIENE continued

EU region

Sandouville

A compulsory medical review is required for all employees at the refinery and a hearing test is part of the review. Several choices of protective equipment are available to employees. In addition, many of our training and awareness programmes inform employees about occupationally-related risk and what rules to apply to mitigate the risk.

Keliber

With the Keliber operations in planning stage, risk assessments and workplace surveys have been done and will continue in co-operation with the occupational health service provider. The key is to eliminate or separate the exposing processing aspects, in design and planning phase, to reduce occupational exposure.

Noise-induced hearing loss

Noise prevention programme has been started and people working at risk areas, such as construction site supervisors are offered personal hearing protection. The planning of facilities considers noise risks. For example machines and process parts producing noise can be separated or encased.

Dust

The key risk related to both construction stage and operations is the crystalline silica that is classified as carcinogenic. The process planning considers this and dusting parts of process can be separated or encased. The construction sites will have separate dust prevention programmes.

We have commenced a study with the Finnish Institute of Occupational Health to analyse all process fractions and ore for harmful substances and any fibrous minerals. This work will provide further information for the workplace surveys in the operations, we will also get recommendations for personal protective equipment and monitoring once the operations start.

Radiation

Use of radiation equipment in Finland requires a permit according to Radiation Act (2859/2018). We are preparing a radiation safety management system for utilisation at the operations.

FUTURE FOCUS

SA REGION	<ul style="list-style-type: none"> • Enhance occupational health risk management by leveraging technology • Continued focus on DPM, heat-related and mental health disorders across all our operations in South Africa, whilst also managing other occupational injuries and diseases • Funding of healthcare benefits arrangements to ensure financial risk protection and access to healthcare for all employees and families in the context of government's planned National Health Insurance • Alignment of all stakeholders to our three-dimensional strategy
EU REGION	<p>Finland</p> <ul style="list-style-type: none"> • To complete workplace surveys including exposure assessments for operations <p>France</p> <ul style="list-style-type: none"> • To update and maintain our workplace risk assessments to feed into a prioritised risk reduction action plan at the source • As projects are progressed, integrate health aspects during the design stage of the installations
US REGION	<ul style="list-style-type: none"> • Continue to progress and enhance understanding from Pinssar DPM monitors and develop the criteria for triggering timely corrective actions to reduce exposure; conduct side by side sampling to further define data relationship • Develop an integrated health management plan, including a sampling schedule and health risk assessment process • Further refine and act upon the installed gas and airflow monitoring equipment