

UNGC COMMUNICATION ON PROGRESS REPORT

2021



OCTOBER 11TH, 2022

S AND D CHEMICALS (PRIVATE) LIMITED

BLOCK A, BIYAGAMA EXPORT PROCESSING ZONE (BEPZ), WALGAMA, MALWANA, SRI LANKA

COMMUNICATION
ON PROGRESS



This is our **Communication on Progress** in implementing the Ten Principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

STATEMENT BY CEO

01st November 2022

To our stakeholders,

I am pleased to confirm that S AND D CHEMICALS (PRIVATE) LIMITED reaffirms our support of the Ten Principles of the United Nations Global Compact in the areas of Human Rights, Labour, Environment and Anti-Corruption.

S & D CHEMICALS takes pride in being Sri Lanka's first to manufacture the full range of products needed for textile processing and wet processing of garments. This benefited the local textile industry significantly and contributed to raise the competitive standards of Sri Lankas garment industry.

At present, the company exports to India, Bangladesh, Indonesia, Pakistan, Egypt, Vietnam and also to buyers in Australia, Ethiopia, Spain, Singapore, Oman and Dubai. We are also excited about the possibility of exporting our products to other countries in the region. In the coming years our target is to become a leading manufacturer of textile auxiliaries and wet processing aids in the region.

S & D is a very professional and highly customer focused organization, developing innovative value-added products tailor made to a variety of customers' end-use. Almost all products manufactured by us are biodegradable and therefore environment friendly. We place a vital focus for a sustainable future and prioritize process optimization and the use of sustainable energy.

Since the very beginning the organization maintained sustainable business as its clear vision. For each and every step of designing and developing our product profiles we take proactive steps to avoid restricted substances in our building blocks, which complies with our internally developed S AND D Material Restricted Substance List (S AND D-MRSL). Thus, enabling us to obtain approval for our products from some of the world's leading standards for textiles such as Bluesign®, GOTS and ZDHC.

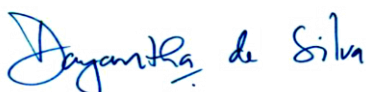
As recognition of our highest level of commitment and endeavor to operate our business as a greener industry we were awarded the Bronze Award at the Presidential Green Awards ceremony in the year 2016. Moreover, as recognition to operate our business as a sustainable industry, we were awarded with the Merit Award for Industrial

Excellence, in the National Level Manufacturing Sector under the Extra-Large Category, at the CNCI Achiever Awards ceremony in 2019. Furthermore, as a result of our continuous marketing efforts, we were rewarded with the Highest Foreign Exchange Earner Award for Chemical and Paints Products Sector, at the Presidential Export Awards ceremony in 2018 and also with the Best Exporter Award for Chemical and Paints Products Sector, at the Presidential Export Awards ceremony consecutively in the years 2019, 2020 and 2021. In 2020, S AND D was also awarded the Best Exporter in Product Diversification at the Presidential Export Awards ceremony.

We are a signatory for United Nations Global Compact (UNGC) and also a member of the Lanka Responsible Care Council. Registering and taking part in the National Green Reporting System (NGRS) and the UNGC Communication on Progress (COP) Reporting System spells out the company's commitment to human rights, occupational health and safety (OHS), resource productivity and environmental and social sustainability.

In this report, our fifth annual Communication on Progress, we describe our actions to continually improve the integration of the Global Compact and its principles into our own business strategy, culture and daily operation. Moreover, we also commit to sharing this information with our stakeholders using our primary channels of communication.

Yours sincerely,



Dayantha De Silva

Managing Director





INTRODUCTION

INTRODUCTION

S AND D CHEMICALS (PRIVATE) LIMITED was established in November 2014 at the Biyagama Export Processing Zone (BEPZ) as a BOI approved project, with the vision of producing customized chemical solutions at highly competitive prices. The organization conducts in house research, development activities and adopts highly scientific integrated approaches to produce individually tailored solutions.

Over a short period of time the company firmly established themselves as a leading green chemical solutions provider, the group caters textile auxiliaries and garment wet processing aids such as cleaning & sanitation solutions to several sectors, which include hospitality, healthcare and the food processing industries.

In the process of making profits in the business, it has not forgotten the commitment that it has for the environment and the society. Since its inception, the vision of the company has been to be a sustainable business, and the Green Vision Program established illustrated this commitment both through our production processes and in our end products and services offered to industrial partners.

The following areas are the main concerns for majority of our stakeholders:

- | | |
|--------------------------------|---|
| 1 optimized product quality | 6 compliance to international standards |
| 2 environmental compliance | 7 innovative high quality sustainable solutions |
| 3 resource productivity | 8 economic & financial stability |
| 4 occupational health & safety | 9 organizational effectiveness |
| 5 labour standards | |

Major Markets

Operations are managed via our local head offices in Sri Lanka, as well as our own liaison offices situated in Bangladesh, Indonesia, Vietnam and Maldives.

While our major market involves manufacturing facilities in Sri Lanka, our trademark products are exported around the world to countries such as India, Pakistan, UAE, Egypt, Spain, Australia and Singapore.

Keeping in line with our goals, we have now spread our wings to cover some of the other South East Asian Regional markets such as Thailand and Malaysia. Furthermore, we have also started our offices in Indonesia and Vietnam as well as collaborated with international vendors like Levi's and Victoria's Secret.

CONTRIBUTIONS TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)

The SDGs were established in accordance to achieve the 2030 Agenda for Sustainable Development. The 17 Goals and 169 Targets provide a collective blueprint for benefit of the people, planet and prosperity; now and into the future.

The organizations contribution to the fulfillment of all sustainable development goals is discussed below.



To contribute to this S&D ensures all employees are paid adequate wages, conduct training programs for employees and takes steps to avoid discrimination towards vulnerable groups. The corporation stands by equality policies, and commits to paying fair prices to suppliers.



Biodiversity is a key factor for the achievement of food security and improved nutrition; however, textile auxiliaries and fashion industries are known to have detrimental impacts on biodiversity. Thus, the R&D team at S&D aim to develop green formulations and technology which minimize/ eliminate hazardous waste release to the ecosystems.



S&D is committed to provide a healthy and a safer work place, for all its employees, contractors and visitors, through the implementation of our OHS policy. In 2021, the management continued efforts to curb the spread of COVID-19, promoting a healthy lifestyle among employees.



The company offers regular training opportunities to improve the professional skills of existing and potential employees. The training opportunities incorporate knowledge on new and advanced technologies employed within the industry.



The company adopts equality policies, and ensures no gender discrimination occurs within the work place, a zero-tolerance policy is also placed for all forms of violence against women.



One of the key focus areas at S&D, is treatment of raw water, process water and wastewater for any industry. Through the formulation and production of essential chemicals for disinfection, treating and purifying water.



In alliance with the companies Green Vision Program, the manufacturing systems at S&D factories are specially designed to operate with lesser energy, water and raw materials.



The management at S&D is vigilant on good working conditions for employees at the facilities, promotes respect for human rights with stringent HR policies, and complies respectfully with tax laws and regulations and the betterment of the local economy.



The productions at S&D facilities utilize advanced ecofriendly production processes which safeguard the reduced impact on the environment by ensuring minimal emissions that are within stringent limits. Plus, the sustainable alternatives introduced enables other sectors for more open-innovations and manufacturing advancements.



S&D management tolerates no discrimination at its facilities. All employees are provided opportunities based solely on their knowledge, skill and experience; irrespective of race, cast, gender, religion, sexual orientation, age or region of origin. Adequate wages are paid to employees only depending on job role undertaken.



The company satisfied its responsibility by supporting the community by conducting recruitments over the year to mitigate the labor shortages caused during the continued COVID-19 pandemic. Furthermore, strict attention is placed on monitoring and controlling hazardous emissions and waste generated from the factory, to do our part to reduce the adverse per capita environmental impact.



The Green Vision program initiated at S&D reflect our effort to assess not only our sustainable manufacturing process and our products with compliances to the latest Product Safety and Ecological Issues; but also, responsible obtaining of raw materials.



The facilities and production processes are continuously updated to substitute conventional means to more eco-friendly initiatives; hence set to achieve the carbon neutral target by 2030. Reflection with our own environmental policies on climate action are integrated to all business decisions.



The S&D facilities ensure 100% performance on environmental compliance within both the facility and the surroundings. We design a range of sustainable chemicals and products for wastewater treatment; hence, contributing to reduce the impact of wastewater on all marine environments.



The R&D team takes effort to mitigate negative impacts of products on the environment by improving product formulations and designs to accommodate more eco-friendly initiatives. Continuous monitoring of all emissions and waste to the environment and maintained 100% performance on environmental compliance.



The company written policies, procedures and continuous monitoring systems, guide compliance with local and international anti-corruption laws. Strictly discriminating against corruption in any form including bribery and encouraging transparency in dialogue with all stakeholders.



The vision at S&D aligns with the SDG and ESG (environmental, social and governance) criteria and integrates them into its business culture. Taking steps to enter voluntary agreements, produce reports with quantifiable targets, and shares its performance and commitments with all stakeholders.

S AND D ensures compliance with all 17 SDGs, although particular attention is placed onto the following goals, as it strongly aligns with the company vision and mission at present:

- ✚ SDG 1: No Poverty
- ✚ SDG 3: Good Health and Well-Being
- ✚ SDG 4: Quality Education
- ✚ SDG 5: Gender Equality
- ✚ SDG 6: Clean Water and Sanitation
- ✚ SDG 7: Affordable and Clean Energy
- ✚ SDG 8: Decent Work and Economic Growth
- ✚ SDG 9: Industry, Innovation and Infrastructure
- ✚ SDG 10: Reduced Inequalities
- ✚ SDG 12: Responsible Consumption and Production
- ✚ SDG 14: Life below Water
- ✚ SDG 15: Life on Land
- ✚ SDG 16: Peace, Justice, and Strong Institutions



DESCRIPTION OF ACTIONS

A summary of the actions that were undertaken in the year of 2021 and are to be taken, thereby reaffirming our support to the SDGs and correspondingly the Ten Principles under the UNGC in the areas of **Human Rights, Labour, Environment and Anti-Corruption** are discussed in this section.

Human Rights



UNGC Principles

Principle 01: Businesses should support and respect the protection of internationally proclaimed human rights.

Principle 02: Businesses should make sure that they are not complicit in human rights abuses.

OUR SDG CONTRIBUTIONS



SDG 3: GOOD HEALTH AND WELL – BEING

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



SDG 6: CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all.

S AND D CHEMICAL assures their commitment to social responsibilities and respect for human rights, through the compliance with the internal human right policies, actions plans and procedures and regulations both local and international.

Commitments & Actions

01

ISO 45001:2018

Occupational Health and Safety Management Systems. Maintaining the relevant ISO certification.

02

Training Programs

Ensuring staff attend relevant training programs on to improve their safety and well-being; workplace safety, first aid training, emergency evacuation drills and etc.

03

Fire Safe Environment

Maintain a 100% fire safe environment, and obtain annual renewal of the fire certification required by BOI of Sri Lanka.

04

Occupational Health & Safety Policy

Implementation of the OHS Policy to ensure the health and safety of all employees, contractors, and visitors.

05

Factory Ordinance No. 45 of 1942

Staff are provided with certain amenities according to the Factory Ordinance Act to better their experience while working within the company premises.

06

Medical Health Checkups

Maintain a schedule for appropriate health checkups for respective personnel at an annual basis, to ensure the workforce is 100% healthy and able, to extend their services to the organization

07

Reduction of Accidents

Reduction of accidents and near misses by approximately 10%; by conducting root cause analysis and enforcing appropriate corrective measures.

08

Standard Industrial Practices

Implementing and ensuring standard industrial practices are practiced within the premises to, ensure the safety and well-being of all within the factory premises.

OUR COMMITMENTS

We are committed to making our company an enjoyable and harmonious place to work while assisting the employees to achieve their desired career goals. To make this a reality the organization makes the following commitments:

- ✚ Compliance with current human right laws, including international standards and guidelines; along with good corporate governance, internal regulations and code of ethical conduct.
- ✚ Provide both workers and employees the opportunities to improve their living and working conditions if they deem it unfit for working.
- ✚ Provide a quality service in a manner that leads towards healthy working environment for our employees and eliminate and/or minimize the potential impacts on their health and safety.
- ✚ Maintaining the privacy of employee information as well as the confidentiality in employment matters.
- ✚ Provide a healthy and safer work place for all employees, contractors and visitors through the implementation of the Occupational Health & Safety Policy (OHS Policy).

OUR ACTIONS

To comply with our commitments the following actions were maintained from previous years and fresh initiatives were made in the Year 2021.




- ✓ Maintaining certification of the company in accordance with globally approved standards such as ISO 45001:2018.
- ✓ Commissioning an accredited third-party organization on an annual basis to measure and analyze occupational exposure levels, which include:
 - a thermal discomfort (based on humidity and temperature),
 - light intensity
 - noise levels
 - respirable dust levels and
 - Volatile Organic Compound (VOC) emissions
- ✓ Providing the following amenities as appropriate to the employees, which complies with Factory Ordinance No. 45 of 1942:

- a hygienic working environment,
 - ample cubical spacing, which prevents overcrowding,
 - acceptable temperature, ventilation and lighting,
 - adequate sanitary conveniences that include:
 - adequate number of washrooms and changing rooms separately for men and women,
 - a hygienic canteen area,
 - supply of fresh drinking water and
 - supply of all essential PPE at all times.
 - medical supervision which includes supply of all essential first-aid by a responsible trained person and
 - supply of safety provisions in case of a fire.
- ✓ Conducted the following appropriate training programs for respective personnel to promote awareness amongst employees on OHS.
- Responsible Care and Workplace Safety
 - Chemical Waste Management
 - Safe Chemical Handling & General Safety
 - Emergency Evacuations Drill
 - Prevent the Spread of COVID-19
 - Awareness of Risk Assessment and Mitigation
 - Good Laboratory Practices
 - First Aid Training (General Level)
 - In Case of Chemical Spillage
- ✓ Maintain a 100% fire safe environment and complying with annual renewal of the fire certification as required by the Board of Investment (BOI) of Sri Lanka.
- ✓ Maintain a schedule for appropriate health checkups for respective personnel at an annual basis, to ensure the workforce is 100% healthy and able, to extend their services to the organization.
- ✓ Construction of a warehouse to store finished goods, which allowed more space in the factory premises for production activities to be carried out as well as an improved working environment for the employees.
- ✓ Expansion of sample room storage capacity with the construction of new racks to make employees work less tedious while also bettering the working environment.
- ✓ Implemented a standard industrial practice of color-coding pipelines to enhance employee awareness of their surrounding and improve the overall working environment on the production floors.
- ✓ Installation of additional lights on the production floor to increase safety, minimize accidents and increase productivity of work.

- ✓ Attaching a handrail on to the ladder used to access condensate collection tank; minimize accidents and risk employees may face when using the ladder.
- ✓ An additional washroom was constructed for the use of visitors reporting to the factory from external companies; this was done to improve the well-being of all entering the S&D facilities.
- ✓ Maintaining an appropriate collection and disposal schedule for the disposal of waste from the sanitary bins in female washrooms.
- ✓ Implementing a schedule for inspection and monitoring of the earth pit to ensure the safety of all employees from electrocution.
- ✓ Reduction of accidents and near misses by approximately 10%; by conducting a root cause analysis and enforcing appropriate corrective measures.
- ✓ Monitoring the vaccination status all employees and ensuring the received a minimum of two doses of the COVID – 19 vaccines facilitated by the Government of Sri Lanka.

OUR FUTURE PLANS

Actions we intend to take in the following years to better our commitment to the SDGs and the UNGC Principles.

-  Air ventilation systems are to be installed in the office washrooms to remove excess moisture and odor, which would ensure that a clean environment is maintained due to improved air quality.
-  More appropriate training programs are to be conducted for respective personnel to further promote awareness amongst the employees on OHS. These include:
 - Safe Housekeeping & Accident Prevention
 - Hazard Communication & Safety Management
 - Safe Operation & Maintenance of Material Handling Equipment
 - Maintenance of Hydraulic Pumps
 - Maintenance of Diesel Engine
-  100% performance on OHS compliance within both the facility and the surroundings will be ensured to be continuously met with.

Labour



UNGC Principles

Principle 03: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining.

Principle 04: The elimination of all forms of forced and compulsory labour.

Principle 05: The effective abolition of child labour.

Principle 06: The elimination of discrimination in respect of employment and occupation.

OUR SDG CONTRIBUTIONS



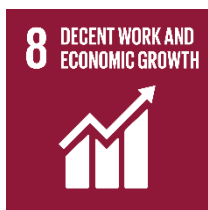
SDG 1: NO POVERTY

End poverty in all its forms everywhere



SDG 5: GENDER EQUALITY

Achieve gender equality and empower all women and girls



SDG 8: DECENT WORK AND ECONOMIC GROWTH

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.



SDG 10: REDUCED INEQUALITIES

Reduce inequality within and among countries

Commitments & Actions

01

Stand Against Discrimination

Shielding employees from discrimination based on race, caste, gender, religion, sexual orientation and age.

02

Combat Child & Forced Labour

Ensure strict security clearances and background checks for all employees to confirm no forced employment or employment of underage children.

03

Wage Board Ordinance No. 27 of 1941

Strict compliance for wages, EPF, ETF, standard hours of employment and standard leave entitlements.

04

Combat Unemployment Rates

Despite the difficulties during the COVID-19 pandemic; interviews and recruitment were still taking place to help the unexpected rise of unemployment in Sri Lanka.

OUR COMMITMENTS

The following commitments from the organization allow us to comply with the relevant labour regulations both locally in Sri Lanka and international standards:

- ✚ Shielding employees from discrimination based on race, caste, gender, religion, sexual orientation and age.
- ✚ Protect the rights of freedom of association and employee interests including negotiating salaries, benefits and other conditions at work.
- ✚ Eliminate child labor exploitations and ensuring there is no use of forced labor including forms of slavery, debt bondage and human trafficking.
- ✚ Maintaining the privacy of employee information as well as the confidentiality in employment matters.
- ✚ Prioritizing on maintaining a good equity in payments and take initiatives in providing effective welfare as well as non-salary related benefits.
- ✚ Enhancing employee knowledge and skills while promoting a positive work-related attitude for employees and assist them in upgrading their potentials.

OUR ACTIONS

To comply with our commitments the following actions were maintained from previous years and fresh initiatives were made in the Year 2021.

- ✓ Ensure strict security clearances are conducted together with background checks for all employees in order to confirm whether there are any employees forced into employment or underage.
- ✓ Ensure compliance with Shop & Office Employees Act No. 19 of 1954:
 - ❖ Payment of wages, which are well above the minimum wage standards that complies with the National Minimum Wage of Workers Act, No. 3 of 2016 and the Budgetary Relief Allowance of Workers Act, No. 4 of 2016.
 - ❖ Payment of Employees' Provident Fund (EPF) and Employees' Trust Fund (ETF) which complies with the EPF Act, No. 15 of 1958 and the ETF Act, No. 46 of 1980 respectively.
 - ❖ Standard hours of employment.
 - ❖ Payment of attractive remunerations for overtime employment and those carried out on holidays.

- ❖ Standard leave entitlements (annual, casual, medical and maternity).
- ❖ All mercantile holidays.
- ✓ Despite the difficulties during the COVID-19 pandemic, we conducted interviewing, recruiting and training for new employees to combat the unexpected rise of unemployment rates in Sri Lanka.
- ✓ Employees were selected purely based on their knowledge, skills and attitudes, irrespective of race, caste, gender, religion, sexual orientation, age or region from where they are coming from.

OUR FUTURE PLANS

Measures will be taken to continuously monitor our compliance with existing laws and regulations. Moreover, newly laid laws and regulations that should be complied with in relation to employee rights will be investigated and implemented.

Environment



UNGC Principles

Principle 07: Businesses should support a precautionary approach to environmental challenges.

Principle 08: Undertake initiatives to promote greater environmental responsibility.

Principle 09: Encourage the development and diffusion of environmentally friendly technologies.

OUR SDG CONTRIBUTIONS



SDG 3: GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages.



SDG 6: CLEAN WATER AND SANITATION

Ensure availability and sustainable management of water and sanitation for all.



SDG 7: AFFORDABLE AND CLEAN ENERGY

Ensure access to affordable, reliable, sustainable and modern energy for all.



SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.



SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption and production patterns.



SDG 14: LIFE BELOW WATER

Conserve and sustainably use the oceans, seas and marine resources for sustainable development.



SDG 15: LIFE ON LAND

Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.

Climate change has been recognized as a global emergency over the past few years. More and more nations, organizations and citizens have extended their support to curb its impact, over the past decade or so.

At S AND D CHEMICALS, we are fully aligned with this fight to achieve a carbon neutral target by the year 2030. In addition, our advanced eco-friendly production processes ensure minimal emissions and reduced impact on the environment.

The actions that were taken in this category are divided into five subcategories:



The innovations which contribute significantly to the SDGs are discussed in detail at the end of the environmental section.

Commitments & Actions

01

ISO 14000:2015

Environmental Management Systems.

Maintaining the relevant ISO certification.

02

National Environment Act

Compliance with the regulations enforced by the National Environmental Act, No. 47 of 1980, and the BOI.

03

Carbon Footprint Report

We produce an annual carbon footprint report which provides a transparent record of greenhouse gas (GHG) emissions.

04

Water Footprint Report

We produce an annual water footprint report which provides a transparent record of the consumption of water throughout all business operations.

05

Analyze & Monitor Emissions

Commissioning an accredited third-party organization to analyze emissions into the environment from the production facility premises.

06

Standard Industrial Practices

Implementing and ensuring standard industrial practices are followed within the premises to, ensure the control and prevention of noxious emissions within the production facilities.

07

Bluesign® System Partner

Obtaining Bluesign® approval for a number of individual products manufactured at S AND D CHEMICALS, sets and controls standards for an environmentally friendly and safe production.

OUR COMMITMENTS

The following commitments from the organization allow us to remedy potential damages to the environment and showcase our ambitious objectives that further current legislation.

- ✚ Obedience to company written policies, procedures and continuous monitoring systems, which comply with applicable local and international laws and regulations.
- ✚ Compliance with the regulations enforced by the National Environmental Act, No. 47 of 1980 and the BOI.
- ✚ Maintaining certification of the company in accordance with globally approved standards such as ISO 14001:2015.
- ✚ Producing an annual water footprint report which provides a transparent record of the consumption of water throughout all business operations.
- ✚ Producing an annual carbon footprint report which provides a transparent record of the greenhouse gas (GHG) emissions.
- ✚ Conduct initiatives to minimize hazardous waste produced at the production facilities.
- ✚ Prevent and control the release of on-site emissions to the environment.
- ✚ Maintain the Bluesign® and GOTS approval for all presently identified individual products manufactured at S AND D CHEMICALS.

OUR ACTIONS

To comply with our commitments the following actions were maintained from previous years and fresh initiatives were made in the Year 2021.

- ✓ Commissioning an accredited third-party organization on an annual basis to measure and analyze emissions to the environment, which include:
 - wastewater quality,
 - ambient air quality,
 - NMVOC
 - stack emissions and
 - boundary noise levels.
- ✓ Reduction of the specific carbon emissions (tCO₂e/ MT of product) by 5%.

- ✓ Maintaining specific water footprint (m³/MT of product) at the same level as 2020, which is within the approved ranges specified by the local environmental regulations.
- ✓ Installation of an additional filter press within the effluent treatment plant to remove impurities, and suspended solids from industrial wastewater; thus, introducing a control on amount of hazardous waste produced at the facility.
- ✓ Installation of submersible aeration pumps within the effluent treatment plant to remove dissolved gases and to oxidize dissolved metals, including iron, hydrogen sulfide, and volatile organic chemicals (VOCs); thus, introducing a control on amount of hazardous wastes product at the facility.
- ✓ Annually renewing Environmental Protection License (EPL) and Schedule Waste Management License (SWML) for the site.
- ✓ Disposal of chemically contaminated waste only through approved parties who has their own schedule waste management license & Environmental Protection License for their operations.

INNOVATIONS

Innovation and technology are the key drivers in the successful growth of a business, which enhances the efficiency of the manufacturing processes and hence the finished products, while maintaining the highest levels of environmental and social sustainability.

S & D is a proven partner for customers involved in the textile value chain and is constantly developing sustainable solutions for the future that are flexible, cost-efficient and eco-friendly. We are particular when complying with regulatory requirements and also the target markets for the prevailing trends relating to health, safety and sustainability; through process optimization, eco-efficient products and solutions, quality assurance and by the introduction of innovative effects and functions.

The conventional processes traditionally employed pose measurable negative impacts on the environment as a result of increased consumption of water and energy. Therefore, it is evident that production processes require considerable improvements to meet the energy and environmental demands of today.

Hence, we at S&D Chemicals (Pvt) Ltd innovate specially developed formulations, which are listed below in Table 1 that emerge as the best alternatives to the otherwise lesser eco-friendly conventional processes.

Table 1: Specially developed from eco-friendly formulations

Product Name	Application
L Pro Guard TOTAL	A total solution of severe lycra breakage issue.
Biological Bleaching System a) Biobleach ANC100 b) Biobleach TCB	Ecological bleaching system which eliminates the requirement of using chlorine bleach.
Photon LB800	Laser effect enhancer which eliminates the PP application and manual hand whiskering.
Greenox 120	Potassium Permanganate replacement.
Lanzene MAXI – OV7	Revolutionary water less enzyme for gaining abrasion in denim garments.
Antistain PCO – 1	Powder anti-back staining to use with waterless enzyme process.
Daysoft COCO SL	Natural softener made from coconut oils.


L Pro Guard TOTAL







L Pro Guard TOTAL was formulated by S AND D CHEMICALS, as a solution for the **critical** lycra bubbling issues.


Stretchability especially in women's wear is achieved by using fibre with elastane content. However, the elastane can easily be damaged as a result of heavy stone wash, harsh chemicals and heavy bleach processes. Hence, the L Pro Guard TOTAL acts to prevent direct contact with harsh treatment by creating a polymer layer on top of fibre.

Biological Bleaching System




ECO LOGICAL BLEACHING SYSTEM

-  **Replace Chlorine Bleach**
-  **Non Hazardous**
-  **Totally Biodegradable**
-  **Lowest Impact to WTP**



- 1 Desizing
- 2 Enzymatic abrasion
- 3 Bio Bleach ANC100
- 4 Bio Bleach TCB
- 5 Colourfade SN-10
- 6 Tubi OZ TOC




ECO FRIENDLY

Biobleach ANC100 and Biobleach TCB are products formulated by S AND D, to provide sustainable bleaching systems using specially developed formulations. This Eco-bleaching process is a total solution to the present-day bleach alternative options; for the following reasons.

- ✚ Eliminate garment damages due to over bleach.
- ✚ Lycra damage is very minimum completely avoid catalytic damage.
- ✚ Can be used in nebulizing systems.
- ✚ Exact color matching is possible.
- ✚ This system is more time efficient, as the usual bleach preparation process is heavily time consuming.
- ✚ Avoids the use and release of chlorine smells which are harmful in closed environments.


ADVANTAGES


of the Ecological Bleaching System



REPLACE CHLORINE BLEACH
Traditional Sodium and Calcium Hypochlorite bleaching is completely replaced.


IMPACT TO WTP
The Hypochlorite is having high COD. The complete removal of Hypochlorite reduces load to WTP.






TOTALLY BIODEGRADABLE
Total chemical system is 100% biodegradable and not persistent in environment. H_2O_2 is easily decomposed.


NON - HAZARDOUS
Aquatic toxicity of Eco Bleach system is very less compared to its counter hypochlorite and AOX values of Cotton are very less.





REDUCE STONES
Cleaning property of this system ensures that salt and pepper effect is prominent after bleaching.

ENERGY SAVING
Total process conducts in ambient temperature, therefore steam requirements is zero.



Photon LB800 and Photon HAL

LASER SMOOTHER

LASER BOOSTER

S&D CHEMICALS

- 1 Desizing
- 2 Enzymatic abrasion
- 3 Photob LB800 / HAL
- 4 Drying
- 5 Laser Application
- 6 Wash with Scavin N60
- 7 Tubi OZ TOC

Fully conformed

The fashion industry historically employed manual operations such as; hand whiskering, hand sand and Potassium Permanganate Spraying (PP Spraying) as popular garment destruction methods.

These operations were later automated, through the revolutionary introduction of laser technology; however, the drawbacks associated with laser technology meant the conventional procedures were still favored. Apart from the initial investment involved in switching to laser technology and the lower productivity; lasered garments often appeared flat and artificial.

The Photon LB800 and Photon HAL technology formulated at S AND D CHEMICALS, challenges the aforementioned shortcomings to laser technology. The dynamic laser enhancing technology in Photon LB800 facilitates a high whiteness degree along with a powerful natural effect even on stretch fabrics.

Similarly, Photon HAL boosts the laser effect and operator reduces the laser intensity, in order to retain the strength of the fabric.

Greenox 120



PP REPLACEMENT GREENOX 120



Zero Chlorine

Mn Zero Manganese

Non toxic to aquatic life









- 1 Desizing
- 2 Enzymatic abrasion
- 3 Greenox 120
- 4 Avcron SC
- 5 Sodium metabisulfite
- 6 Tubi OZ TOC

Fully conformed

Greenox 120, a product formulated by S AND D, emerges as the best eco-friendly alternative to the conventional inorganic chemical compound Potassium Permanganate (PP).

PP is heavily used in the textile industry as an oxidizing agent to get the fading effect especially in localized areas on denim garments. Despite the frequent use of PP in the garment industry, it has significant unfavorable impacts to health and the environment. Greenox 120 is compared to PP in Table 2.

Table 2: Comparison of features between PP and Greenox 120

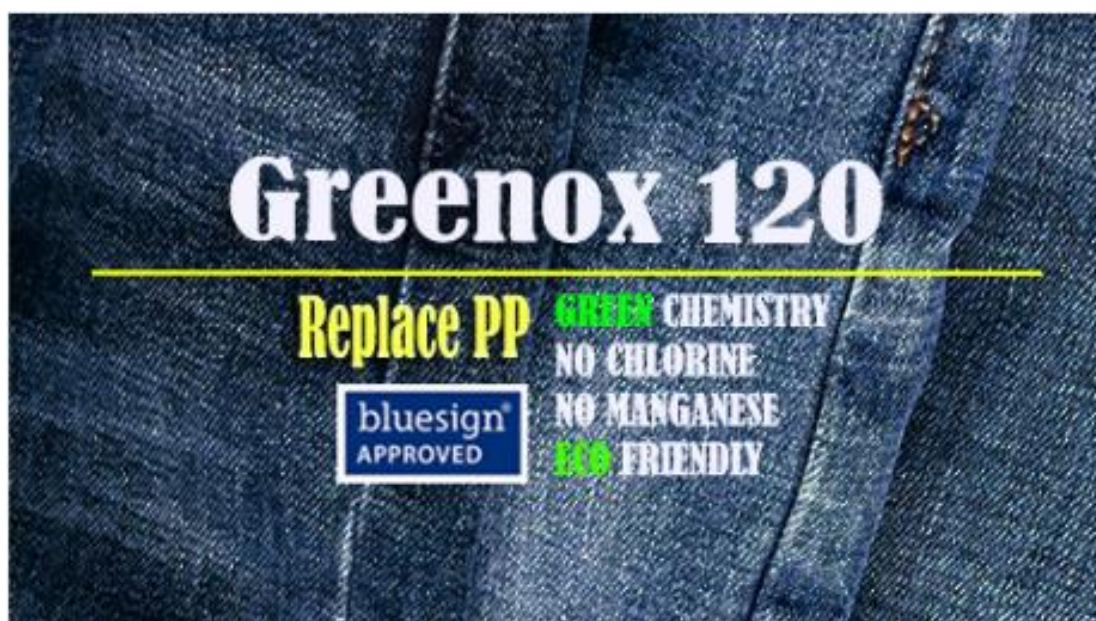
	Potassium Permanganate	Greenox 120
GHS Pictogram	    	
Hazards	H272: May intensify fire; oxidizer. H302: Harmful if swallowed. H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage. H361: Suspected of damaging fertility or the unborn child.	H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage.

	H373: May cause damage to organs. H400: Very toxic to aquatic life. H401: Very toxic to aquatic life with long lasting effects.	
Oral Toxicity	LD50: 1090 mg/kg (rat); Harmful if swallowed.	LD50: > 2000 mg/kg (rat)
Aquatic Toxicity	Very toxic to aquatic life with long lasting effects. EC50 / 48h: 0.06 mg/l (Daphnia) LC50 / 96h: 0.47 mg/l (fish)	Not toxic to aquatic environment. EC50 / 48h: > 100 mg/l (Daphnia magna)

A comparison of the conventional methods used for the localized fading process and the process using Greenox 120 is compared in Table 3.

Table 3: Conventional methods compared to sustainable method using Greenox 120

Current methods for localized fading	Greenox 120
<ul style="list-style-type: none"> No visual indication of applied amount 	<ul style="list-style-type: none"> Colour of the chemical gives an indication of applied PP level
<ul style="list-style-type: none"> Manganese oxide deposits on garment 	<ul style="list-style-type: none"> Manganese free so that no worry of MnO₂ discoloration
<ul style="list-style-type: none"> Very toxic to aquatic life 	<ul style="list-style-type: none"> Not toxic to aquatic life
<ul style="list-style-type: none"> Toxic to reproduction 	<ul style="list-style-type: none"> Chlorine free
<ul style="list-style-type: none"> PP replacement required curing 	<ul style="list-style-type: none"> Energy saving



Lanzene MAXI – OV7



Denim industry is one of the major contributions of water pollution in the world. It is estimated, 2900 gallons of water is required for the production of one pair of jeans from the cotton manufacturing process to the finishing stage.

As responsible stake holders in the industry, we at S AND D consider it our responsibility to conduct research and development not only to limit harmful chemicals in recipes, but also to increase resource productivity by reducing water, energy and time.

Lanzene MAXI – OV7 is one such novel innovation which add value to the textile industry as it allows to achieve abrasion without the need for any water addition to the enzyme bath. It further minimizes issues with elastane slippages which take place during the enzyme baths.

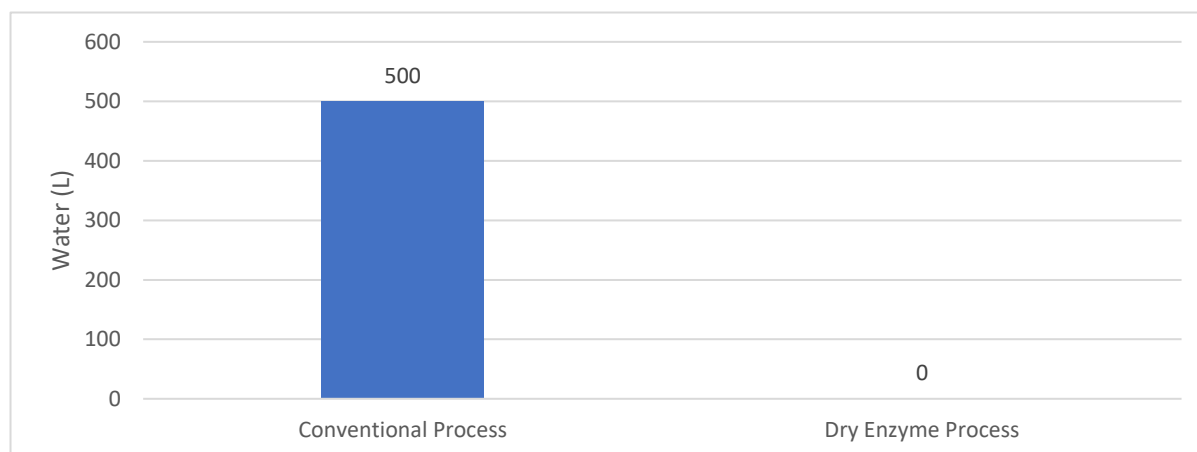
Furthermore, the strength of the fabric is protected as the process only acts on the fabric surface, thus, limiting penetration and weakening of the fibre. Moreover, the need for additional chemicals such as lycra protectors and pH regulators are also eliminated in the process by utilizing Lanzene MAXI – OV7.

The Lanzene MAXI – OV7 dry enzyme process stands out for its waterless property in comparison to the conventional process as shown in Table 4 and Figure 1.

Table 4: Comparison of features between the conventional process and the dry enzyme process

Parameter	Unit	Conventional Process	Dry Enzyme Process	Saving	
Water	L	500	0	500	100%

Figure 1: Water requirement of the conventional process compared to the dry enzyme process



Lanzene MAXI-OV7

Dry enzyme Process



Zero Water

Application of enzyme is totally water free



Powerful Abrasion

Gives high contrast salt and pepper effect



Less Back staining

Back staining is minimum and no additional washes required.

Antistain PCO - 1

Antistain PCO-1 is a highly concentrated anti-deposition agent engineered in S&D Labs blending nonionic surfactant and polyester co polymers which can be used as RTU or used as diluted product.

Traditionally, denim jeans and other denim garments are subjected to a wash treatment to give them a slightly worn look. This treatment involves removal of sizes, using cellulase enzyme for abrasion and surface smoothness and further bleaching in which mostly hypochlorite is used to oxidize indigo dyes.

In the desizing process, sizes along with indigo dyes are released to the bath surface, hence care must be taken to avoid redeposition of dye on fabric surface itself and other pocketing areas.

The cellulase present in enzyme baths break the cellulose structure causing indigo dyes held inside the fibre to also rise with this breakage. Intended salt and pepper effect also is covered with redeposited particles where it gives a stained look. However, this redeposition in time causes unwanted affects during the wash and rubbing fastness properties and ozone fastness. Hence, the high dispersing power of Antistain PCO-1 provides the ability to hold loose indigo form and prevents deposition the again it on fabric.



Daysoft COCO SL

NATURAL SOFTENER

DAYSOFT COCO SL

- Vegetable fatty acid source
- 100% biodegradable
- Value addition to a local crop

S&D CHEMICALS

- 1 Pre wash
- 2 Dyeing
- 3 After Treatment
- 4 Daysoft COCO SL

ECO FRIENDLY

Sri Lanka was deemed the fourth largest coconut products exporter in the world, by the Export Development Board (EDB). The country produces value-added coconut-based products to the global market.






Since coconut is an essential part of Sri Lanka's daily staple nearly $\frac{3}{4}$ of the harvest is consumed locally and the rest is exported as value-added ingredients, food and beverages, and products for home and industries.

According to the existing demand for coconuts in Sri Lanka, the coconut industry here requires around 4.0 billion nuts but the level of production is only between 2.8 to 3.0 billion. However, the limitations in land allocation and the crop are reduced due to the coconut mite damage.

Therefore S&D with its sister concern Nexpo Conversion Pvt. Ltd. looks for the options to increase the value addition and export the products for the foreign demands. Nexpo conversion Pvt. Ltd add value to Coconut crop by producing spray dried coconut powder. Hence, S&D Chemicals' R&D team has put a one step forward to produce pure coconut oil-based fabric softener, which is a current organic textile demand in the world.

OUR FUTURE PLANS

Actions we intend to take in the following years to better our commitment to the SDGs and the UNGC Principles.

-  Solar projects are proposed in the journey to working towards becoming a carbon neutral company by the year 2030. A new roof-mounted solar electrical system is proposed to be set up at the factory. In addition, an expansion of the existing roof mounted solar electrical unit is proposed for the head office.
-  Sustainable solutions will be constantly developed, which are flexible, cost-efficient and eco-friendly for customers involved in the textile value chain.
-  Installation of an exhaust system at the weight point of the raw material storage area to prevent release of noxious emissions to the environment at the ground level.
-  To obtain Bluesign® and GOTS approval for more products manufactured at the S AND D CHEMICALS facilities.
-  100% performance on environmental compliance within both the facility and the surroundings will be ensured to be continuously met with.

Anti-Corruption



UNGC Principles

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

OUR SDG CONTRIBUTIONS



SDG 16: PEACE, JUSTICE & STRONG INSTITUTIONS

Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

Commitments & Actions

01

Anti - Corruption Laws

Compliance with applicable local and international anti-corruption laws, to ensure that corruption in any form is avoided.

02

Zero Tolerance Policy

Uphold a zero-tolerance policy on bribery and corruption of all forms including offering, giving, promising, receiving and accepting.



Legal & Disciplinary Action

Strict legal and disciplinary action against all employees and third parties who violate anti-corruption laws.



Transparent Records

Maintain a clear record of all transaction within the organization with all stakeholders to ensure transparency in all organizational matters.

OUR COMMITMENTS

The following commitments from the organization origin through company written policies, procedures and continuous monitoring systems.

- ✚ Compliance with applicable local and international anti-corruption laws, to ensure that corruption in any form including bribery is avoided.
- ✚ Conduct businesses professionally, honestly and with accountability, trustworthiness and integrity in all dealings wherever we operate.
- ✚ Observe and uphold the zero-tolerance position on bribery and corruption. Ensures that bribery and corruption in any form (offering, giving, promising, asking, agreeing, receiving, accepting, or soliciting something of value or of an advantage so as to induce or influence an action or decision) is eradicated.
- ✚ Take strict legal and disciplinary action against all employees and third parties who attempt to violate or violate the anti-bribery and anti-corruption policy.
- ✚ To abide by the local National Action Plan for Combating Bribery and Corruption (2019 - 2023).

OUR ACTIONS

To comply with our commitments the following actions were maintained from previous years:

- ✓ Ensure to maintain records of all payments and transactions with stakeholders, to ensure transparency in all matters.
- ✓ Voluntary conduction of independent impartial third-party financial audits with the objective to assess all financial transactions within the organization and their level of conformity to certain audit criteria.

OUR FUTURE PLANS

Actions we intend to take in the following years to better our commitment to the SDGs and the UNGC Principles.

- 🌱 Develop and introduce a new specific "Anti-Corruption Policy" within the organization.
- 🌱 Incorporate an anti-corruption clause into our latest Employment Letter format for all new recruits.
- 🌱 Provide all existing employees with a written declaration letter to be signed by each of the respective personnel, agreeing that they are committed to abide by the organizations anti-corruption policies.
- 🌱 Conduct more training programs like the following to educate relevant personnel on *Anti-Corruption* rules and regulations:
 - Anti-Corruption Regulations
 - Communications and Transparency
- 🌱 Protect the rights of freedom of association and employee interests including negotiating salaries, benefits and other conditions at work.

The background of the slide is a composite image. On the left, there is a close-up, low-angle shot of laboratory equipment. In the foreground, two small glass vials with blue screw caps are visible; the one on the left contains a clear liquid, while the one on the right contains a dark orange liquid. Behind them, a larger piece of equipment, possibly a centrifuge or a scale, is partially visible with some blurred components. On the right side of the slide, there is a vertical blue gradient overlay. The text 'MEASURES OF OUTCOMES' is printed in large, bold, white capital letters across the middle of this blue section.

MEASURES OF OUTCOMES

HUMAN RIGHTS

Training

The training programs that were conducted for respective personnel to promote awareness amongst the employees on OHS are shown below in Table 5.

Table 5: List of training programs conducted at S AND D CHEMICALS in 2021.

Types of Training	Employee Category	Duration	Conducted on	Conducted
Internal Auditing of Laboratory Management System as per ISO/IEC 17025:2017	Lab Staff	6.5 hours	8 th Feb	Internal
Emergency Evacuation Drill	All Staff	1 hour	4 th Mar	Internal
Documentation of laboratory of Quality Management System as per ISO/IEC 17025:2017	Lab Staff	2 hours	28 th Apr	Internal
Laboratory Quality Management System Procedures	Lab Staff	3 hours	25 th May	Internal
Environmental Sustainability for a Better Future	All Staff	1 hour	7 th Jul	Internal
Safe Chemical Handling & General Safety	All Staff	1.5 hours	15 th Jul	Online - Internal
Workshop on internal auditing for ISO 9001:2015 – Quality Management System	Store/ Production/ Purchasing Staff	2 days	17 th Jul 18 th Jul	Online- Internal
Responsible Care & Workplace Safety	All Staff	1.5 hours	29 th Jul	Online- External
Chemical Waste Management	Production/ RM Stores Staff	1.5 hours	26 th Aug	Online- External
Prevent the Spread of COVID-19	All Staff	30 mins	1 st Sep	Internal
Awareness of Risk Assessment and Mitigation	Lab Staff	2 hours	14 th Sep	Internal
Good Laboratory Practices	Lab Staff	4 hours	6 th Oct	Internal
Occupational Health and Safety	All Staff	1.5 hours	22 nd Oct	Internal
First Aid Training (General Level)	Lab Staff	3.5 hours	25 th Oct	Internal
In Case of Chemical Spillage	Maintenance/ Store/ Production Staff	1.5 hours	15 th Nov	Internal

Incidents & Accidents

Safeguarding the health and safety of employees and others who visit the facilities is the most fundamental of our beliefs at S AND D CHEMICALS. However, despite employment of safeguards incidents and accidents are bound to occur in a workplace. At S AND D Chemicals we have three categories in place for reporting accidents; Major Accidents, Minor Accidents and Incidents.

Table 6: Total No. of accidents over the years from 2015 to 2021.

Year	2015	2016	2017	2018	2019	2020	2021
Minor Accidents	-	-	-	4	13	8	5
Reportable Accidents	1	-	1	-	1	-	-
Incidents	4	12	15	7	3	3	2
Total	5	12	16	11	17	11	7

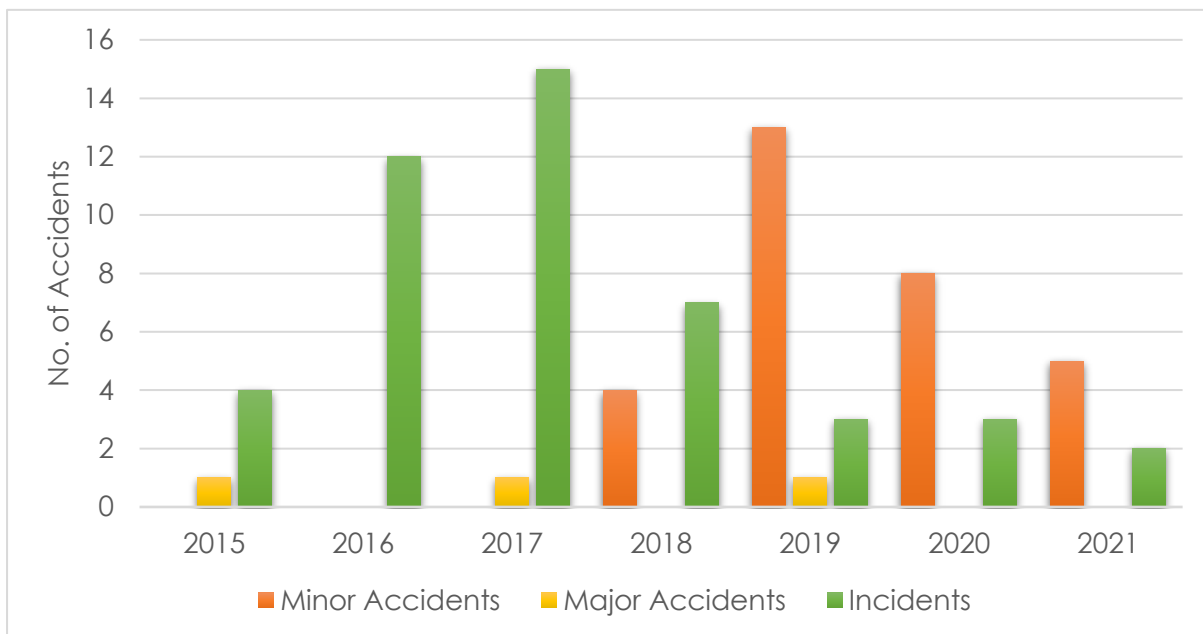


Figure 2: Accidents Over the Years

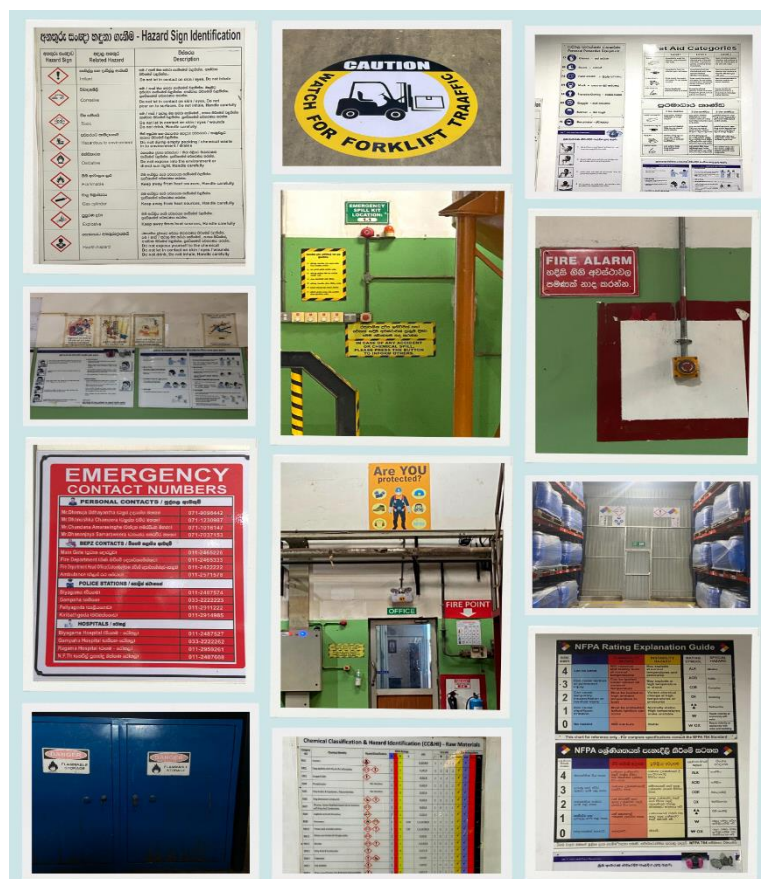
Table 7: Details on all accidents in 2021.

Type of Accident	Staff Category	Gender	Accident Detail	Immediate Action
Minor Accident	Maintenance	Male	Cut on hand and external bleeding	In- house first – aid treatment
Incident	Forklift Driver	Male	Forklift scratch against production floor walls	No first-aid required
Incident	Forklift Driver	Male	Forklift crashes with toxic substances containing barrel	Contain spills no first-aid treatment was required.
Minor Accident	Production	Male	Chemical splash to eyes	In- house first – aid treatment

Minor Accident	Maintenance	Male	Minor cut on hand	In- house first – aid treatment
Minor Accident	Production	Male	Cut on scalp against locker room windows	In- house first – aid treatment
Minor Accident	Forklift Driver	Male	Bruising of the arm against forklift	In- house first – aid treatment

- ⊕ The total number of accidents in 2021 has decreased by 41.7% compared the overage over the last six years, and it has fallen by 36.4% compared 2020.
- ⊕ In 2021, the accident frequency rate among women working at S AND D CHEMICALS was zero; however, it should be noted that the presence of women is a minority in the manual workers and service personnel category, which has the highest accident rates.
- ⊕ For all accidents in 2021, the severity was low and no employee required absence over the accidents.
- ⊕ Similar to previous years, all incidents that take places were reported in the native language Sinhala to maintain a clear record.
- ⊕ Following all reports inquiry on the incident/ accident commences, to assert new controls if needed; to avoid the reoccurrence of the same accident. The inquiries revealed majority of the accidents was due to carelessness on the part of those involved in accidents.

The safety protocols are available all over the factory premises in both the native language Sinhala and in English to inform the staff of safety protocols in place.



LABOUR

The total workforce in accordance with age is shown below in Table 8.

Table 8: Staff breakdown by age (as at 31st December 2021)

Section	Gender	Total No. of Employees	Age Group			
			18 < 25	25 < 40	40 < 55	> 55
Directors	Male	1				1
	Female	1				1
	Total	2	0	0	0	2
Marketing	Male	4		3	1	
	Female	2		1	1	
	Total	6	0	4	2	0
Administration	Male	2		2		
	Female	1		1		
	Total	3	0	3	0	0
Accounts	Male	12	2	7	2	1
	Female	8	1	7		
	Total	20	3	14	2	1
EHS	Male	0				
	Female	2		2		
	Total	2	0	2	0	0
Production	Male	53	17	35	1	
	Female	3			2	1
	Total	56	17	35	3	1
Laboratory	Male	6		6		
	Female	4		4		
	Total	10	0	10	0	0
Stores	Male	23		17	6	
	Female	0				
	Total	23	0	17	6	0
Maintenance	Male	16	5	9	1	1
	Female	0				
	Total	16	5	9	1	1
Transport	Male	19	1	12	6	
	Female	0				
	Total	19	1	12	6	0
Total	Male	136	25	91	17	3
	Female	21	1	15	3	2
	Total	157	26	106	20	5

ENVIRONMENT

Treated Wastewater

The test results of treated wastewater (ww), obtained from an accredited laboratory of a third-party organization is shown below in Table 9.

Table 9: Test results of treated wastewater in 2021.

Test		Unit	Treated ww		Maximum Tolerance Limits
Colour (Spectral Absorption Coefficient), wavelength range	436 nm (Yellow)	per m	0.3	-	7
	525 nm (Red)	per m	0.2	-	5
	620 nm (Blue)	per m	0.2	-	3
Chemical Oxygen Demand (COD)		mg/L	44	-	600
Oil & Grease		mg/L	n.d.	LOD: 1	30
pH			8.3	at 27.9°C	6.0 – 8.5
Total Dissolved Solids (TDS)		mg/L	44	-	2100
Total Suspended Solids (TSS)		mg/L	n.d.	LOD: 2	500
Total Phosphorus (as P)		mg/L	0.07	-	-
Total Nitrogen (as N)		mg/L	n.d.	LOD: 5	-
	Kieldhal Nitrogen (as N)	mg/L	n.d.	LOD: 5	-
	Nitrate (as N)	mg/L	0.36	-	-
	Nitrite (as N)	mg/L	n.d.	LOQ: 0.01	-
Ammoniacal Nitrogen (as N)		mg/L	n.d.	LOD: 5	50
Biochemical Oxygen Demand (BOD)		mg/L	6	5 days	200
Chloride (as Cl)		mg/L	8	-	900
Phenolic Compounds (as C ₆ H ₅ OH)		mg/L	n.d.	LOQ: 0.05	5.0
Free Residual Chlorine (as Cl ₂)		mg/L	n.d.	LOQ: 0.07	Nil
Sulphate (as SO ₄)		mg/L	8.2	-	1000
Sulphide (as S)		mg/L	n.d.	LOD: 1	2
Temperature		°C	29.2	-	40
Cyanide (as CN)		mg/L	n.d.	LOD: 0.04	0.2
Copper (as Cu)		mg/L	n.d.	LOQ: 0.007	3.0
Lead (as Pb)		mg/L	n.d.	LOQ: 0.007	1.0
Arsenic (as As)		mg/L	n.d.	LOQ: 0.009	0.2
Boron (as B)		mg/L	0.03	-	2.0
Cadmium (as Cd)		mg/L	n.d.	LOQ: 0.005	-
Chromium (as Cr)		mg/L	n.d.	LOQ: 0.005	2.0
Mercury (as Hg)		mg/L	n.d.	LOQ: 0.001	0.001
Nickel (as Ni)		mg/L	n.d.	LOQ: 0.005	3.0
Tin (as Sn)		mg/L	n.d.	LOQ: 0.005	-
Zinc (as Zn)		mg/L	n.d.	LOQ: 0.007	10
Hexavalent Chromium (as Cr ⁶⁺)		mg/L	n.d.	LOQ: 0.09	0.5
Abbreviations					
LOD: Limit of Detection					
LOQ: Limit of Quantification					
n.d.: not detected					

Carbon Footprint

The carbon footprint report is produced annually, to account for all GHG emitting activities associated with S AND D CHEMICALS.

Table 10: The boundaries of the carbon footprint report

Scope No.	Definition	Activities
Scope 01	Direct emissions from owned or controlled sources.	<ul style="list-style-type: none"> Generator Operation Transportation of raw materials and finished goods Transportation of staff Business travel within the country Forklift Operation Grasscutter Operation Fuel for regular transportation of top management Boiler Operation LPG Usage
Scope 02	Indirect emissions from the generation of purchased energy.	<ul style="list-style-type: none"> Grid Electricity
Scope 03	Indirect emissions* that occur in the value chain of the company, including both upstream and downstream emissions.	<ul style="list-style-type: none"> Outsourced Transportation Water Supply Air Travel (Overseas)

*All excluded from Scope 02

Of the six Kyoto Gases (CO₂, CH₄, N₂O, HFCs, PFCs, SF₆), only the first three gases relevant to S AND D CHEMICALS will be considered. In addition, the report focuses on the total CO₂ equivalence in tonnes (tCO₂e) and not the individual GHG gas.

Extracts from the "Carbon Footprint Report - 2021" are shown below in Table 11 & Figure 3 and 4.

Table 11: Summary of GHG Emissions under each Scope

Summary of GHG Emissions Data for Scope 1 Activities	
Activity	GHG Emissions (tCO ₂ e/yr.)
Generator Operation	5.56
Transportation of Raw Materials and Finished Goods	84.77
Transportation of Staff	22.50
Business Travel within the Country	8.90
Forklift Operation	27.44
Grasscutter Operation	0.11
Fuel for Regular Transportation of Top Management	44.40
Boiler Operation	186.92
LPG Usage	0.00
Total	380.60

Summary of GHG Emissions Data for Scope 2 Activities	
Activity	GHG Emissions (tCO ₂ e/yr.)
Electricity Consumption	121.24
Summary of GHG Emissions Data for Scope 3 Activities	
Activity	GHG Emissions (tCO ₂ e/yr.)
Outsourced Transportation	23.07
Water Supply	4.00
Air Travel (Overseas)	6.00
Total	33.07

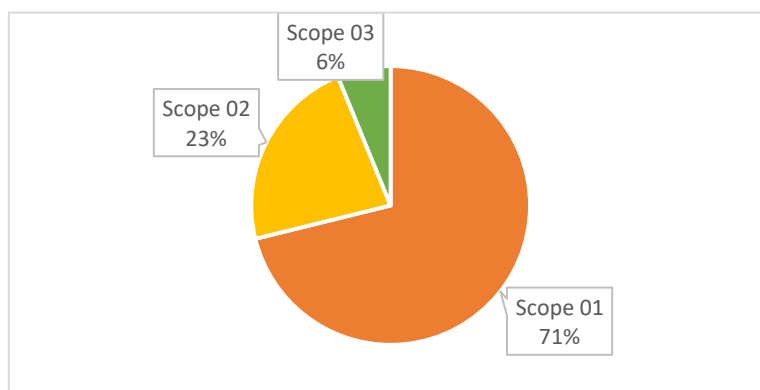


Figure 3: Total GHG Emissions Breakdown by Scope for 2021

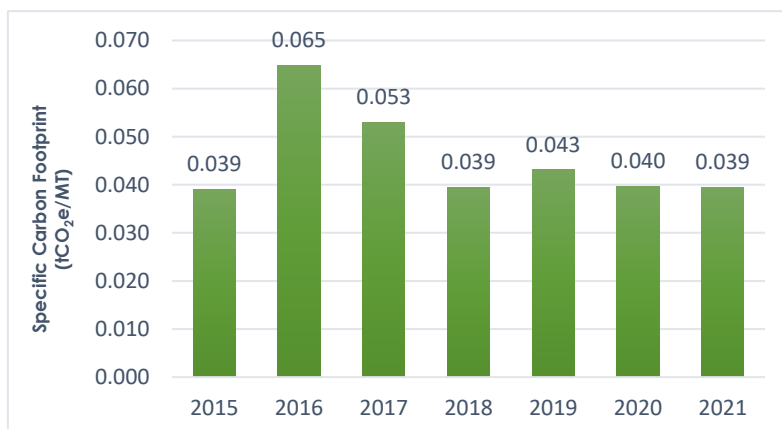


Figure 4: Specific Carbon Footprint in tCO₂e/MT from 2015 to 2021.

S AND D CHEMICALS is a relatively new company that is still growing; therefore, an increase in total GHG emissions is expected. Hence, the performance ratio (i.e., total GHG emissions over the total product quantity) is employed to reflect the efforts made to control and reduce GHG emissions. The performance ratio has decreased by 2.50% compared to 2020, and decreased by 17.02% compared to the average from 2015 to 2020.

Water Footprint

The water footprint report is produced annually, to account for blue and grey water required activities associated with S AND D CHEMICALS. This report is prepared in accordance with the *Water Footprint Assessment Manual: Setting the Global Standard*.

Extracts from the "Water Footprint Report - 2021" are shown below in Table 12, 13 and 14 and Figure 5.

Table 12: Specific Blue Water Footprint from 2015 to 2021.

Activity	Specific Blue Water Footprint (m ³ /MT)						
	2015	2016	2017	2018	2019	2020	2021
Process	0.62	0.62	0.72	0.53	0.41	0.41	0.47
Product	0.46	0.47	0.54	0.40	0.31	0.31	0.35
Human	0.23	0.23	0.27	0.20	0.15	0.15	0.18
Other	0.23	0.23	0.27	0.20	0.15	0.15	0.18
Total	1.54	1.56	1.81	1.33	1.03	1.02	1.17

The total blue water footprint has increase by 14.71% from 2020 to 2021. The increase can be accounted by these following reasons:

- Water consumed by employees increased as number of employees increased.
- Increased water consumption to maintain cleanliness required as per COVID-19 regulations.
- Increased water consumption in production as company expands its list of produced chemicals to introduce more liquid based chemicals which contain water in the formulations.

Table 13: Specific Grey Water Footprint from 2015 to 2021.

Year	2015	2016	2017	2018	2019	2020	2021
Specific Grey Water Footprint (m ³ /MT)	0.40	0.30	0.37	0.27	0.13	0.15	0.11

Table 14: Total Specific Water Footprint from 2015 to 2021.

Type	2015	2016	2017	2018	2019	2020	2021
Specific Blue Water Footprint (m ³ /MT)	1.54	1.56	1.81	1.33	1.03	1.02	1.17
Grey Water Footprint (m ³ /MT)	0.40	0.30	0.37	0.27	0.13	0.15	0.11
Total (m ³ /MT)	1.95	1.86	2.17	1.61	1.16	1.17	1.28

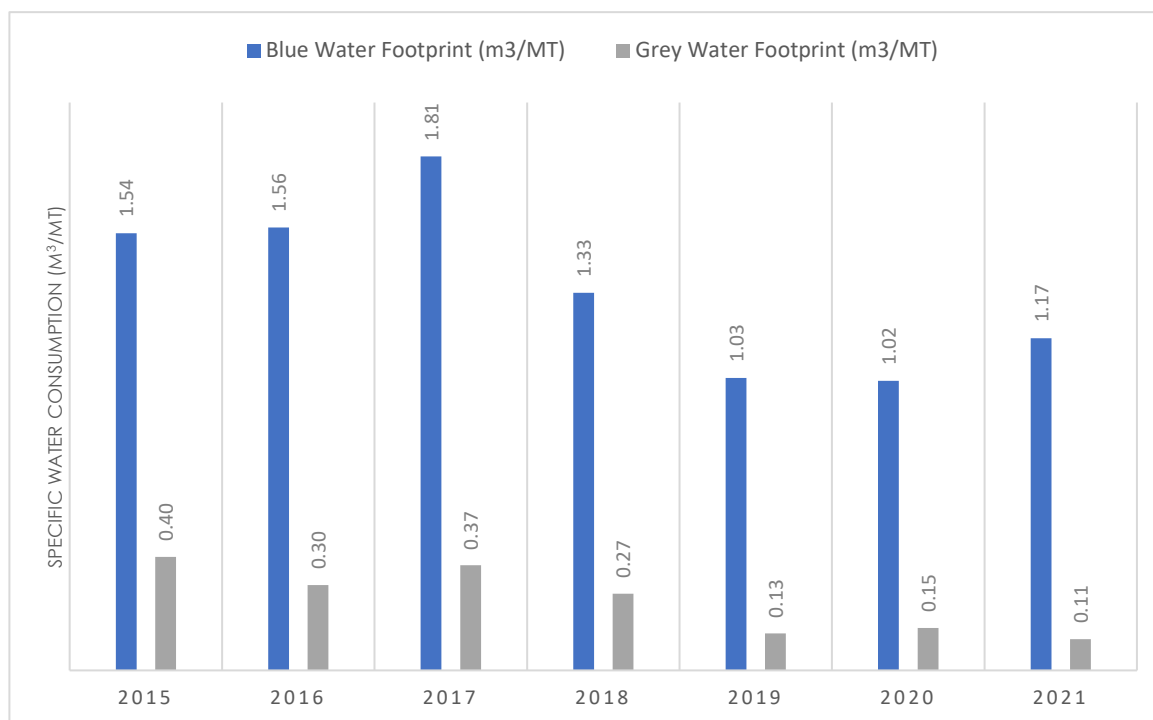


Figure 5: Specific Water Footprint by Type from 2015 to 2021.

The total water footprint per metric tonne of product had increased by 9.40% in 2021 compared to 2020, however had decreased by 22.42% compared to the average from 2015 to 2020. This reflects the organizations conscious efforts in monitoring the use of freshwater within S AND D CHEMICALS. However, S AND D continues further research and re-designing of the production processes that is required to further to reduce the water footprint of the facility.