UNGC COMMUNICATION ON PROGRESS REPORT

2020

AUGUST 19, 2021

S AND D CHEMICALS (PRIVATE) LIMITED

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

STATEMENT BY CEO

19th August 2021

To our stakeholders,

Our company, S AND D CHEMICALS (PRIVATE) LIMITED is the first in Sri Lanka to manufacture the full range of products needed for textile processing and wet processing of garments. This greatly benefits the local textile industry and contributes to Sri Lankan garments to be more competitive. The company exports to Bangladesh, Indonesia, Vietnam, Pakistan, Egypt and also to buyers in India, Oman and Dubai. We are also excited about the possibility of exporting our products to other countries in the region and our target is to become a leading manufacturer of textile auxiliaries and wet processing aids in the region.

S AND D CHEMICALS 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. Our focus is for a sustainable future and we always consider process optimization and the use of sustainable energy.

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 beginning in 2013, one vision of the company has been to be a sustainable business. In each and every step of designing and developing our product profiles we always make sure 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). Therefore, we were able 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 in both 2019 and 2020, together with the Top Ten Award in 2020 for Industrial Excellence, in the National Level Manufacturing Sector under the Extra-Large Category, at the Ceylon National Chamber of Industries - CNCI Achiever Awards ceremony. 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 in 2019.

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.

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

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

Yours sincerely,

Dayantha De Silva
Managing Director

DESCRIPTION OF ACTIONS

A summary of the actions that were undertaken 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 shown below in Table 1:

Table 1: Summary of the commitments made and plans that are to be made by S AND D CHEMICALS.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
HUMAN RIGHTS	 **SDG 3: GOOD HEALTH AND WELL-BEING** Ensure healthy lives and promote well-being for all at all ages	✓ A 100% healthy workforce and a safer environment were ensured to be maintained. Appropriate training programs and health checkups for each personnel were conducted. This was to promote the awareness amongst the employees on OHS as well as to monitor the health and well-being of all employees. ✓ Accidents and near misses were ensured to be minimized. ✓ A new building was constructed within the factory premises, as a rest room area for the employees, which would improve the overall physical and mental well-being of the employees.	✓ A 100% healthy workforce and a safer environment is further ensured to be maintained. More appropriate training programs as well as appropriate health checkups for each of the respective personnel are to be conducted on an annual basis. ✓ Implementation of standard industrial practices such as the colour coding of pipelines are to be considered. ✓ A Cardiac Monitor is to be donated to the divisional hospital at Biyagama, for their new treatment room constructed for the COVID-19 outbreak. ✓ Air ventilation systems are to be installed in the office washrooms to

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
		✓ To aid in the prevention of mosquito breeding, a liquid chemical mystic treatment was arranged to be conducted at a pre-identified time interval. ✓ 100% performance on OHS compliance within both the facility and the surroundings was ensured.	remove excess moisture and odour, which would ensure that a clean environment is maintained due to improved air quality. ✓ To further aid in the prevention of mosquito breeding, asphalt sheets are to be placed on the rooftop of the canteen. ✓ Continue to meet 100% performance on OHS compliance within both the facility and the surroundings.
HUMAN RIGHTS	 **SDG 6: CLEAN WATER AND SANITATION** Ensure availability and sustainable management of water and sanitation for all	✓ Numerous amenities were provided to employees such as all necessary sanitary conveniences, which includes adequate number of washrooms and changing rooms separately for men and women as well as the supply of fresh drinking water. ✓ An additional washroom was constructed for those workers reporting to the factory from external companies	✓ An additional washroom is to be constructed for visitors reporting to the factory from external companies.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
		to carry out relevant work at the factory premises. ✓ Sanitary bins were placed in female washrooms and the waste was arranged to be collected by the relevant service provider on a monthly basis.	
LABOUR	 **SDG 5: GENDER EQUALITY** Achieve gender equality and empower all women and girls	✓ All employees are secured and shielded from discrimination based on gender. ✓ All amenities provided are for all employees may they be men or women.	
	 **SDG 8: DECENT WORK AND ECONOMIC GROWTH** Promote sustained, inclusive and sustainable economic growth,	✓ Through company written policies, employee rights of individuals are ensured to be respected and protected in the highest possible way. ✓ We protect the rights of freedom of association and employee interests	✓ 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.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
	full and productive employment and decent work for all	including negotiating salaries, benefits and other conditions of work. ✓ We are committed to eliminating child labour exploitation and we ensure there is no use of forced labour including forms of slavery, debt bondage and human trafficking.	
ENVIRON-MENT	 **SDG 3: GOOD HEALTH AND WELL-BEING** Ensure healthy lives and promote well-being for all at all ages	✓ The lock and key mechanism was implemented at the entrance of the Susceptible Material store, to ensure that only authorized personnel are allowed to enter and hence to prevent unwanted accidents from occurring due to the improper handling of hazardous chemicals available in the facility. ✓ A roof was constructed at the loading and unloading area, which would allow the respective personnel to carry out their tasks with ease, even during the rainy season.	✓ Appropriate training programs are to be conducted on an annual basis to further promote awareness amongst the employees on environment.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
ENVIRON-MENT	 **SDG 6: CLEAN WATER AND SANITATION** Ensure availability and sustainable management of water and sanitation for all	✓ Treated wastewater was recycled for flushing purposes to reduce the volume of fresh water consumption at the facility. ✓ Administrative controls were proposed and developed on the proper usage of fresh water.	
	 **SDG 7: AFFORDABLE AND CLEAN ENERGY** Ensure access to affordable, reliable, sustainable and modern energy for all	✓ Solar garden lights were installed to reduce the total number of energy units.	✓ 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 unit 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.
	 **SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE**	✓ Constantly developed sustainable solutions, which are flexible, cost-efficient and eco-friendly for customers involved in the textile value chain.	✓ Continue to constantly develop sustainable solutions, which are flexible, cost-efficient and eco-friendly for

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
	Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	✓ Takes care of both the regulatory requirements in their target markets and also the prevailing trends relating to health, safety and sustainability, through process optimization, eco-efficient products and solutions, quality assurance and introducing innovative effects and functions. ✓ A Liquid Chromatograph Mass Spectrometer (LC-MS) was set up at the in-house laboratory, which aids in the testing of target compounds (analytes). ✓ Upgradation of the in-house laboratory certification in accordance with ISO/IEC 17025:2017 was obtained.	customers involved in the textile value chain.
ENVIRON-MENT	 **SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION** Ensure sustainable	✓ Several measures were taken to reduce the cost of electricity consumption at the facility. ✓ Several measures were taken to reduce hazardous waste produced at the facility.	✓ Several measures are to be taken to control and monitor air emissions to the environment and within the facility and also to reduce the hazardous waste produced at the facility.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
	consumption and production patterns	✓ 100% performance on environmental compliance within both the facility and the surroundings was ensured.	✓ An additional clarifier is to be constructed at the Effluent Treatment Plant (ETP) for improving the quality of the effluent. ✓ An expansion of the storage area for chemically contaminated packaging waste material is to be considered to ensure all material are kept in a suitable place, prior to disposal. ✓ Disposal procedures of chemically contaminated packaging waste material are to be improved. ✓ Chemically contaminated packaging waste material such as plastic drums are to be washed and cut to pieces within the factory premises, before it is dispatched for disposal. ✓ Continue to meet 100% performance on environmental compliance within both the facility and the surroundings.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
ENVIRON-MENT	 **SDG 14: LIFE BELOW WATER** Conserve and sustainably use the oceans, seas and marine resources for sustainable development	✓ 100% performance on environmental compliance within both the facility and the surroundings was ensured.	✓ At the production floor, the drainage line for chemical wastewater is to be renovated, hence, ensuring that no water seeps into the ground and gets contaminated. ✓ Continue to meet 100% performance on environmental compliance within both the facility and the surroundings.
	 **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	✓ 100% performance on environmental compliance within both the facility and the surroundings was ensured.	✓ Trees are to be planted in front of the factory main gate, which would improve the air quality in the surroundings that may be polluted with hazardous gaseous substances emitted from surrounding factories. ✓ Continue to meet 100% performance on environmental compliance within both the facility and the surroundings.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
ANTI-CORRUPTION	 **SDG 16: PEACE, JUSTICE AND STRONG INSTITUITIONS** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	✓ Through company written policies, procedures and continuous monitoring systems, which comply with applicable local and international anti-corruption laws, corruption in any form including bribery was ensured to be avoided.	✓ We will ensure that all our employees are committed to observe and uphold the zero-tolerance position on bribery and corruption.

HUMAN RIGHTS

UNGC PRINCIPLES

Principle 1:

Businesses should support and respect the protection of internationally proclaimed human rights

Principle 2:

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

OUR COMMITMENTS

We maintain a 100% healthy workforce and a safer environment without violating any locally and internationally proclaimed human rights.

Appropriate training programs were conducted for respective personnel to promote awareness amongst the employees on OHS. These include:

- Usage of Personal Protective Equipment (PPE)
- Advance Firefighting
- Emergency Evacuation Drill
- Emergency Evacuation Night Drill
- Safe Operation & Maintenance of Diesel Generators
- Safe Operation & Maintenance of Forklift Trucks
- Management Practices to Minimize Overall Risk
- Preventive Measures to Minimize Spread of Covid-19

Moreover, to monitor the health and well-being of all, appropriate health checkups for each personnel were conducted.

A 100% fire safe environment was ensured to be maintained by enhancing in-house fire protection. An additional 10,000 litres tank to store water, was connected to the existing interconnected tank system, which increased the existing onsite water storage capacity of 90,000 litres to a total of 100,000 litres. The fire certification is also renewed on an annual basis by the Board of Investment (BOI) of Sri Lanka.

Accidents and near misses were ensured to be minimized or prevented by recording, analyzing and taking appropriate corrective measures for past incidents.

A new building was constructed within the factory premises, as a rest room area for the employees. This would further improve the overall physical and mental well-being of the employees, which would enhance their performance as well as the quality of work.

To aid in the prevention of mosquito breeding, a liquid chemical mystic treatment was arranged to be conducted at a pre-identified time interval. Similarly, a spot treatment against subterranean termites was also arranged.

Moreover, a warehouse was constructed to store raw materials, which would allow more space in the factory premises for production activities to be carried out as well as an improved working environment for the employees.

Furthermore, an additional security personnel was employed so as to further enhance the security of the employees working within the facility.

An additional washroom was also constructed for those workers reporting to the factory from external companies to carry out relevant work at the factory premises.

Sanitary bins were placed in female washrooms and the waste was arranged to be collected by the relevant service provider on a monthly basis.

Through company written policies, procedures and continuous monitoring systems, which comply with applicable local and international laws and regulations, we ensure that 100% performance on OHS compliance within both the facility and the surroundings are met with.

100% performance on OHS compliance within both the facility and the surroundings were ensured to be maintained by:

1. Commissioning an accredited third-party organization on an annual basis to measure and analyze occupational exposure levels, which include:
    - thermal discomfort (based on humidity and temperature),
    - light intensity,
    - noise levels,
    - respirable dust levels and
    - Volatile Organic Compound (VOC) emissions.
2. 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.
3. Maintaining certification of the company in accordance with globally approved standards such as ISO 45001:2018.

OUR FUTURE SDG CONTRIBUTION PLANS

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

OUR FUTURE PLANS

We further aim to maintain a 100% healthy workforce and a safer environment without violating any locally and internationally proclaimed human rights.

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

Moreover, to ensure the well-being of all, appropriate health checkups for each personnel are to be carried out on an annual basis.

The implementation of standard industrial practices such as the colour coding of pipelines are to be evaluated.

A Cardiac Monitor is to be donated to the divisional hospital at Biyagama, for their new treatment room constructed for the COVID-19 outbreak.

Moreover, air ventilation systems are to be installed in the office washrooms to remove excess moisture and odour, which would ensure that a clean environment is maintained due to improved air quality.

To further aid in the prevention of mosquito breeding, asphalt sheets are to be placed on the rooftop of the canteen.

Furthermore, the need for an extra cylinder for the Self-Contained Breathing Apparatus (SCBA) kit is to be evaluated.

An additional washroom is to be constructed for visitors reporting to the factory from external companies.

100% performance on OHS compliance within both the facility and the surroundings will be ensured to be continuously met with.

LABOUR

UNGC PRINCIPLES

Principle 3:

Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining

Principle 4:

Businesses should uphold the elimination of all forms of forced and compulsory labour

Principle 5:

Businesses should uphold the effective abolition of child labour

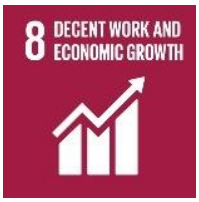
Principle 6:

Businesses should uphold the elimination of discrimination in respect of employment and occupation

OUR SDG CONTRIBUTIONS

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

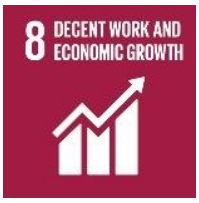
OUR COMMITMENTS

Through company written policies, procedures and continuous monitoring systems, employee rights of individuals are ensured to be respected and protected in the highest possible way. To begin with, employees are secured and shielded from discrimination based on race, caste, gender, religion, sexual orientation and age. We protect the rights of freedom of association and employee interests including negotiating salaries, benefits and other conditions of work. We are committed to eliminating child labour exploitation and ensuring there is no use of forced labour including forms of slavery, debt bondage and human trafficking.

The following amenities are ensured to be provided as appropriate to all employees, which complies with Wage Board Ordinance No. 27 of 1941:

- 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.

OUR FUTURE SDG CONTRIBUTION PLANS



SDG 8: DECENT WORK AND ECONOMIC GROWTH

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

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 7:

Businesses should support a precautionary approach to environmental challenges

Principle 8:

Businesses should undertake initiatives to promote greater environmental responsibility

Principle 9:

Businesses should 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

OUR COMMITMENTS

The actions that were undertaken in this category are further divided into subcategories namely, energy, water, emissions, general and innovations. The details of the actions undertaken are described in detail in each of these individual subcategories.

ENERGY

To begin with several measures were taken to reduce the cost of electricity consumption by:

1. Reducing the total number of energy units used by the installation of solar garden lights.
2. Improving the cooling efficiency of the rotary drum flaker in the production site. When investigating the cooling inefficiency of the rotary drum flaker, an installation/design error was identified. Lukewarm water was collecting inside the drum and lowering the

cooling efficiency. The pipe orientations were changed and a pump was installed to drain the lukewarm water from the drum.

3. Reducing peak demands by proposing and developing administrative instructions to precisely schedule the usage of the general electrical units such as lights, fans, air conditioning units and photocopiers in the facility according to a predetermined time interval.

WATER

Measures were taken to reduce the total volume of fresh water consumption such as the recycling of treated wastewater for flushing and gardening purposes. Moreover, administrative controls were proposed and developed on the proper usage of fresh water.

EMISSIONS

Measures were taken to reduce the hazardous waste produced at the facility by minimizing the amount of PPE waste generated at the facility through promoting awareness amongst the employees by conducting appropriate training programs, to educate them on the re-use of relevant materials that could be re-used over an extended period of time.

GENERAL

A separate room was constructed to store license items (raw materials) and the lock and key mechanism was implemented at the entrance of the Susceptible Material store, which would ensure that only authorized personnel are allowed to enter to these respective areas. Thus, this would ensure unwanted accidents do not occur due to the improper handling of hazardous chemicals available in the facility.

A roof was constructed at the loading and unloading area, which would allow the relevant tasks to be carried out by the respective personnel with ease, even during the rainy season.

Research and development were carried out on filtration improvement techniques of the filter press to minimize the amount of time taken to perform the filtration.

A Liquid Chromatograph Mass Spectrometer (LC-MS) was set up at the in-house laboratory, which aids in the testing of target compounds (analytes).

Upgradation of the in-house laboratory certification in accordance with globally approved standards such as ISO/IEC 17025:2017 was obtained.

Through company written policies, procedures and continuous monitoring systems, which comply with applicable local and international laws and regulations, we ensure that 100% performance on environmental compliance within both the facility and the surroundings are met with.

100% performance on environmental compliance within both the facility and the surroundings was ensured to be maintained by:

1. 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,
    - stack emissions and
    - boundary noise levels.

2. Complying to the regulations enforced by the National Environmental Act, No. 47 of 1980 and the BOI.

3. Maintaining certification of the company in accordance with globally approved standards such as ISO 14001:2015. We were also able to achieve bluesign® approval for 183 identified individual products and GOTS approval for 59 identified individual products, manufactured at S AND D CHEMICALS.

OUR INNOVATIONS

S AND 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 always take care of both the regulatory requirements in their target markets and also 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.

Though conventional processes are extremely used nowadays, they pose a measurable negative impact on the environment due to the increased consumption of water and energy. Therefore, it is clear that these processes need to be improved considerably in order to meet today's energy and environmental demands. Therefore, we, S AND D CHEMICALS (PRIVATE) LIMITED innovate specially developed formulations, which are listed below in Table 2 that emerge as the best alternatives to the otherwise lesser ecofriendly conventional processes.

Table 2: Specially developed eco-friendly formulations by S AND D.

Product Name	Application
Scourzyme TXP	Biological Enzymatic Scouring Process
Lanzene Cellu Cross N	Sustainable Enzyme Process
Biozep Combi L	Sustainable Dyebath Enzyme Process
Lanzene Maxi OV2	Stone Free Enzyme Process
Turbo Bleach H5	Sustainable Bleaching Process
Sapanol LP7	Low Temperature Soaping Process
Biopolimer PC1	Hazard Free Neutralizer
Greenox 120	PP Replacement
Lanzene Maxi OV7	Dry Enzyme Process
Turbo Bleach H3	Bleach Booster for Sulphur Dyed Denims
Vichithra	Sustainable Reactive Dye System


SCOURZYME TXP
Enzymatic scouring process

SCOURZYME TXP - BIOLOGICAL ENZYMATIC SCOURING PROCESS

The bioscouring process emerges as the best ecofriendly alternative to the conventional, polluting caustic scouring process.

Scourzyme TXP, a product formulated by S AND D, is a bioscouring system that uses a specially developed enzyme formulation, based on pectinase to removes waxes, pectins, sizes and other impurities on the surface of the fabric. Pectate lyase degrades the pectin from the primary cell wall of cotton without degrading the cotton itself. Research has shown that pectin acts like glue between the fibre core and the waxes, but that it can be removed by an alkaline pectate lyase, making the residual waxes easy to eradicate in the subsequent hot rinse.

As shown below in Figure 1, the conventional process is a 6-stage process where the scouring and the acid biopolishing process take place separately in 2 stages. However, as shown in Figure 2, the bioscouring process is a 4-stage process, where the scouring and the acid biopolishing process is now combined into one single stage. Alkaline scouring is a process that uses high concentrations of NaOH and also requires the neutralization of wastewater. Even though alkaline scouring is effective and the costs of NaOH are low, this conventional scouring process is rather inefficient as it consumes large quantities of water and energy.

The Scourzyme TXP system has many advantages in comparison to the conventional process and these are shown in Table 3 and Figure 3.

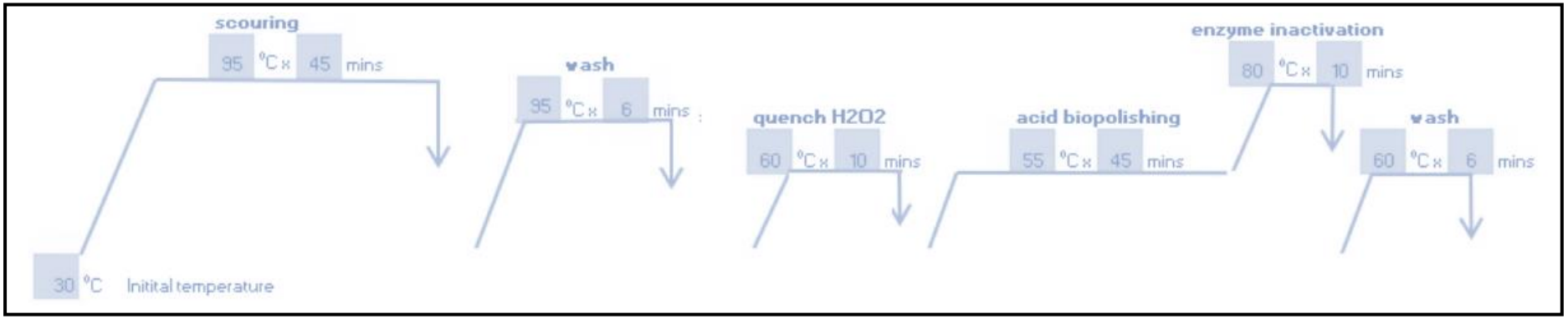


Figure 1: Working mechanism of the conventional process.

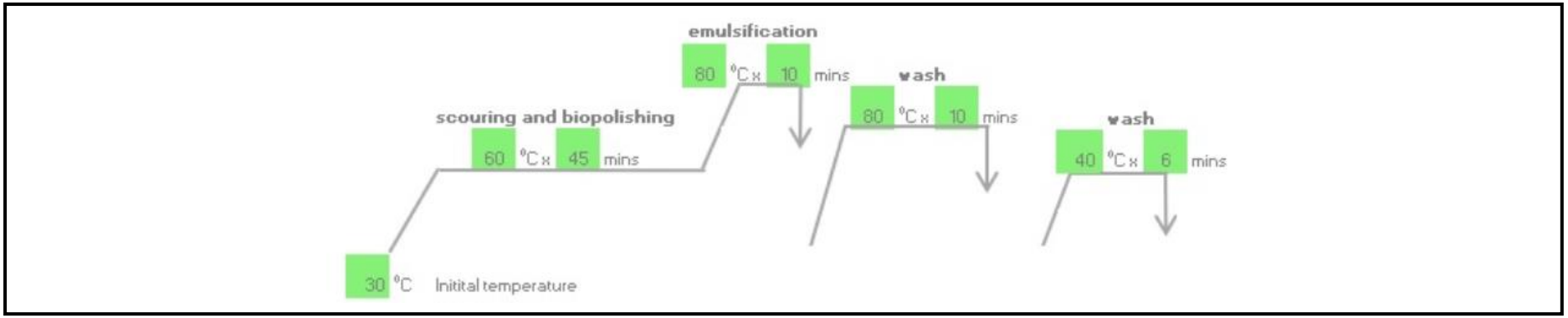


Figure 2: Working mechanism of the bioscouring process.

Table 3: Comparison of features between the conventional process and the bioscouring process.

Parameter	Unit	Conventional Process	Bioscouring Process	Saving (%)
BOD, COD and TDS of Effluent	-	High (due to use of many harsh chemicals)	Low	30 - 45
Loss of Fabric Strength	-	High (due to use of many harsh chemicals)	Significantly Less	
Weight Loss	-	Significantly High	Less	atleast 2
Surface	-	Less Smooth	Smooth due to presence of pectin in fibres	
Addition of Final Softener	-	High	Low	25 - 40
Running Temperature	°C	95 - 100	60	
Water Consumption	m^3	0.05	0.01	80
Energy Consumption	kWh	2.78	1.64	41
Labour	h	2.78	1.64	41
Chemicals	kg	6.57	1.85	72
Process Time	min	180	50	72

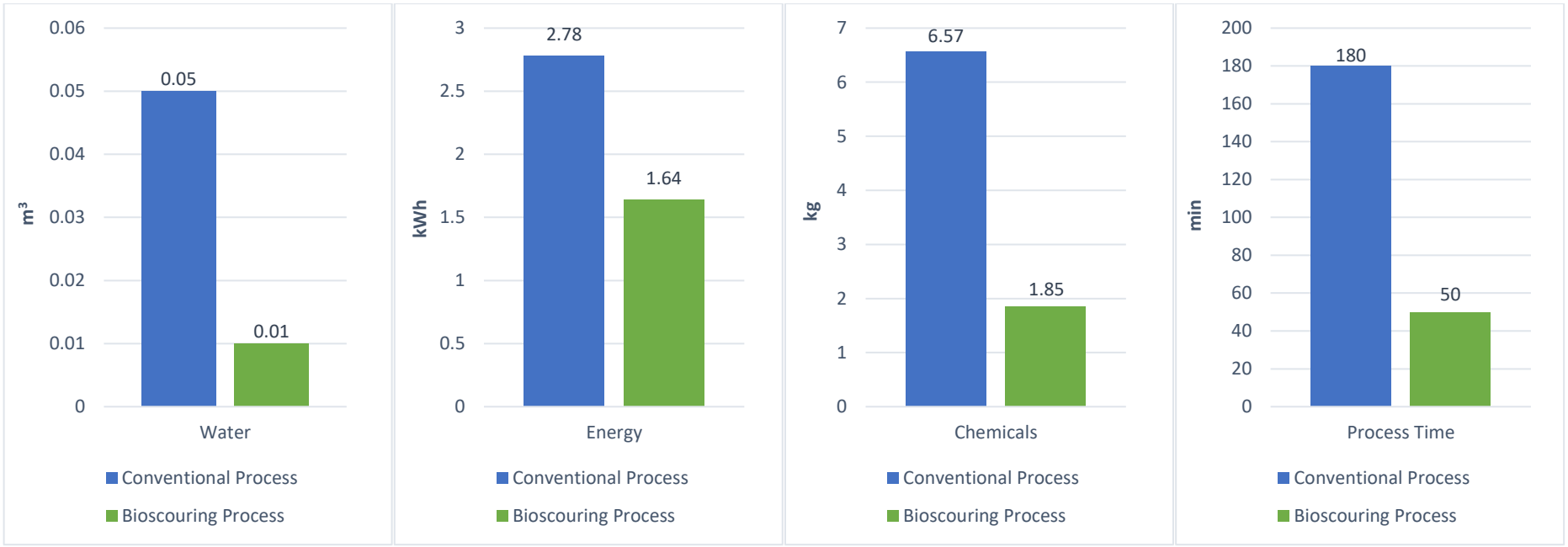
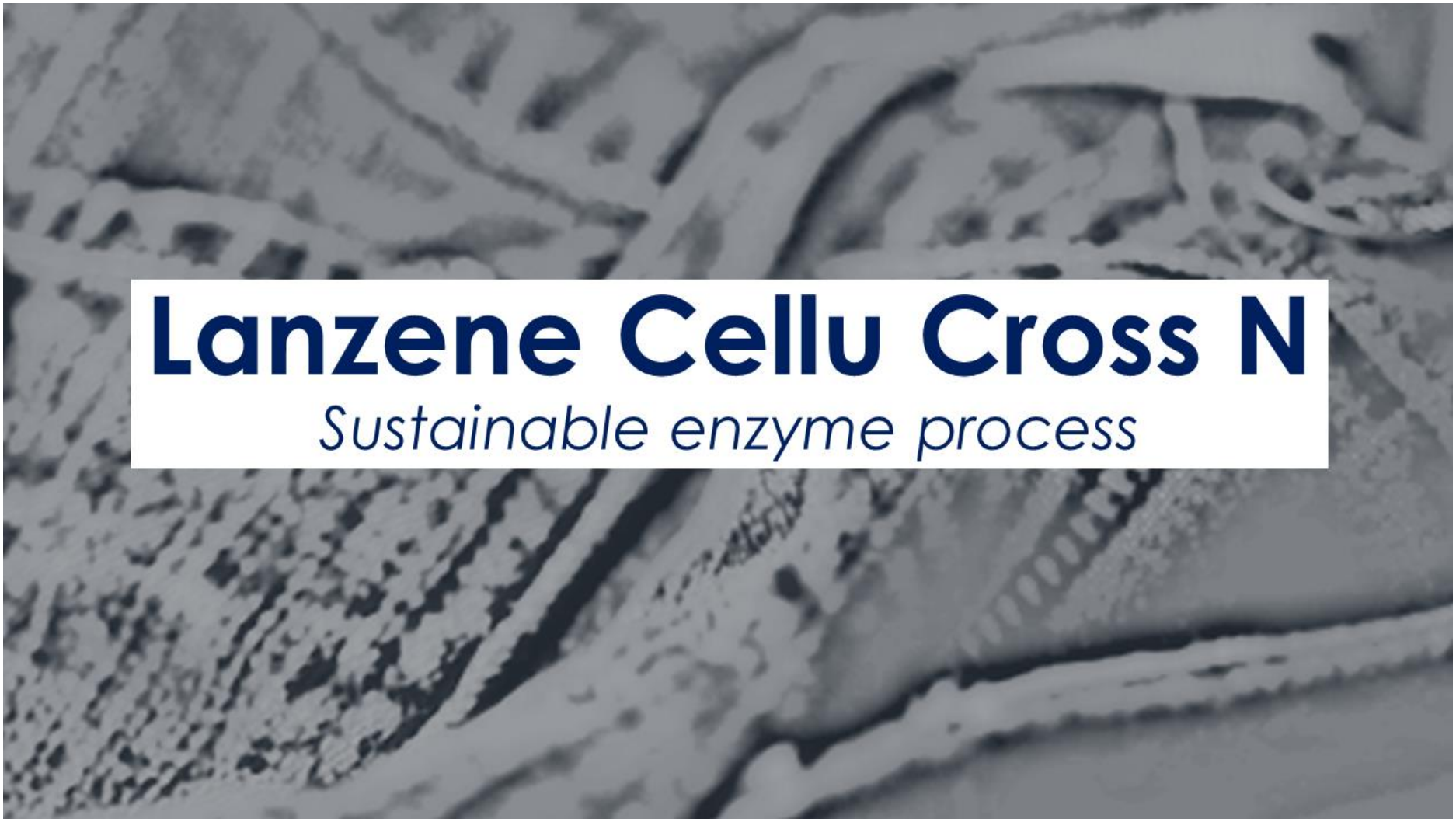


Figure 3: Graphical comparison of features between the conventional process and the bioscouring process.


Lanzene Cellu Cross N
Sustainable enzyme process

LANZENE CELLU CROSS N - SUSTAINABLE ENZYME PROCESS

This combination process is a sustainable enzyme process that emerges as the best ecofriendly alternative to the conventional process.

Lanzene Cellu Cross N, a product formulated by S AND D, is a combination process, which is a sustainable enzyme system that uses a specially developed enzyme formulation.

As shown below in Figure 4, the conventional process is a 4-stage process where the desizing and the enzyme processes take place separately in 2 stages followed by rinsing in both these individual stages. However, as shown below in Figure 5, the combination process is a 2-stage process, where the desizing and the enzyme process is now combined into one single stage followed by rinsing. Even though the conventional process is effective, it is rather inefficient as it consumes large quantities of water and energy.

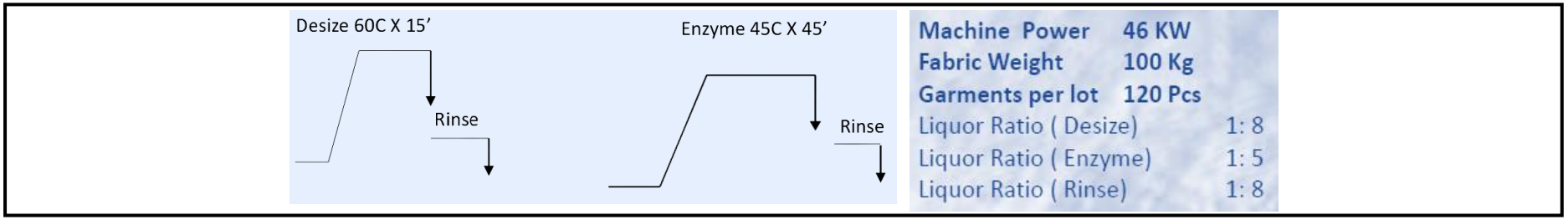


Figure 4: Working mechanism of the conventional process.

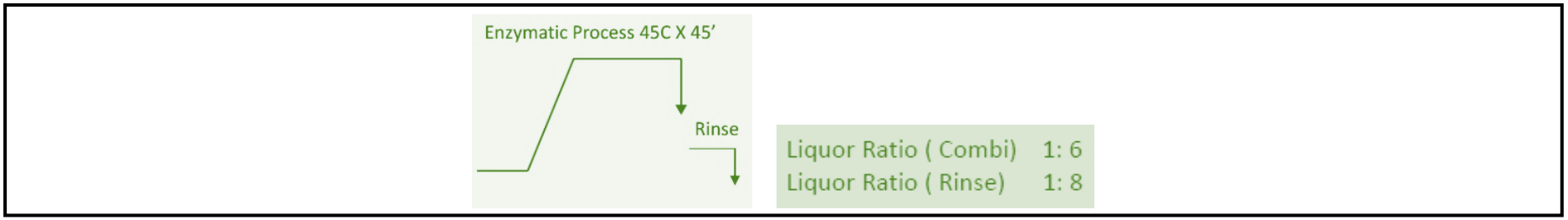


Figure 5: Working mechanism of the combination process.

The Lanzene Cellu Cross N enzyme system has many advantages in comparison to the conventional process and these are shown below in Table 4 and Figure 6.

Table 4: Comparison of features between the conventional process and the combination process.

Parameter	Unit	Conventional Process	Combination Process	Saving	
Time	min	83	55	28	33.73 %
Water	m^3	2.9	1.4	1.5	51.72 %
Electricity	kWh	63.63	42.17	21.47	33.73 %
Steam	ton	0.085	0.032	0.052	61.74 %

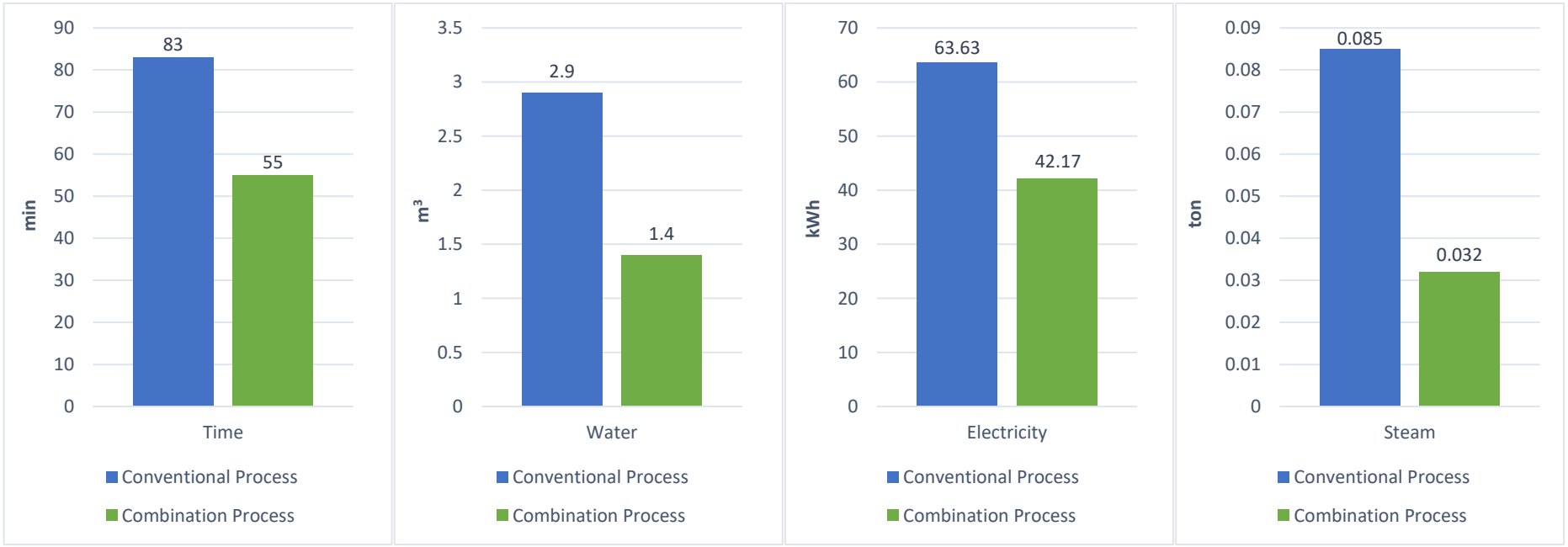


Figure 6: Graphical comparison of features between the conventional process and the combination process.


BIOZEP COMBI L
Sustainable dyebath enzyme process

BIOZEP COMBI L - SUSTAINABLE DYEBATH ENZYME PROCESS

This combination process is a sustainable dyebath enzyme process that emerges as the best ecofriendly alternative to the conventional process.

Biozep Combi L, a product formulated by S AND D, is a combination process, which is a sustainable dyebath enzyme system that uses a specially developed enzyme formulation.

As shown below in Figure 7, the conventional process is a 5-stage process. However, as shown below in Figure 8 the combination process is a single stage process, where the dyeing and the biopolishing processes are now combined into a single stage. Even though the conventional process is effective, it is rather inefficient as it consumes large quantities of water and energy.

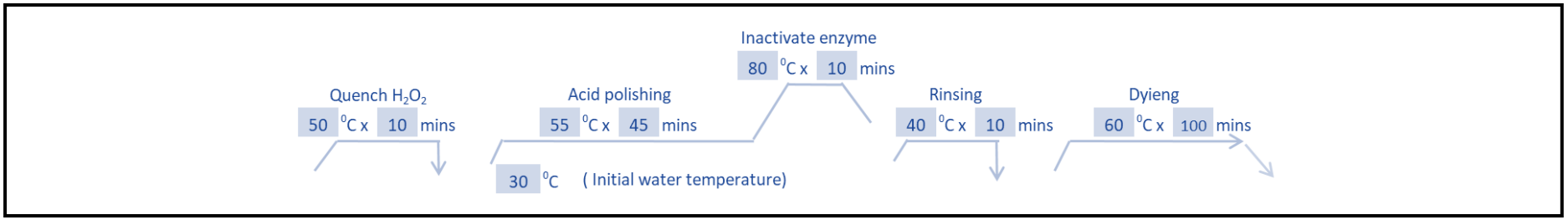


Figure 7: Working mechanism of the conventional process.

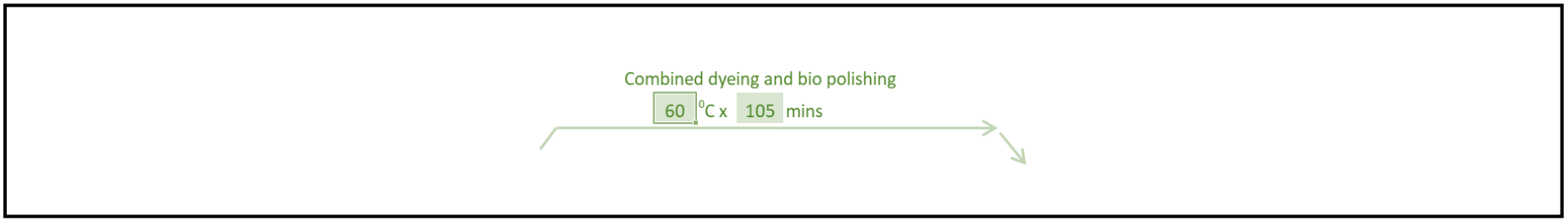


Figure 8: Working mechanism of the combination process.

The Biozep Combi L dyebath enzyme system has many advantages in comparison to the conventional process and these are shown below in Table 5 and Figure 9.

Table 5: Comparison of features between the conventional process and the combination process.

Parameter	Unit	Conventional Process	Combination Process	Saving	
Water	m^3	4.0	1.0	3.0	75 %
Electricity	kWh	2.92	1.75	1.17	40 %
Steam	ton	0.77	0.29	0.48	62 %
Catalase	kg	0.50	0.00	0.50	100 %

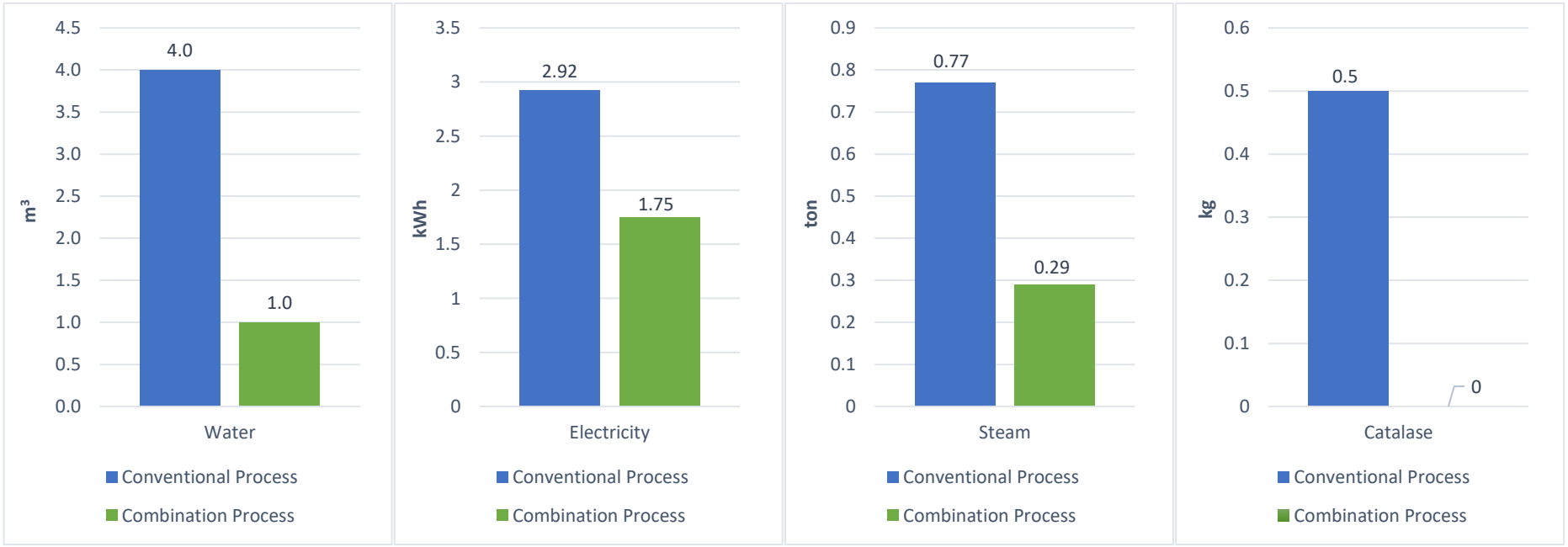


Figure 9: Graphical comparison of features between the conventional process and the combination process.


Lanzene MAXI OV2
Stone free enzyme process

LANZENE MAXI OV2 - STONE FREE ENZYME PROCESS

This is a sustainable stone free enzyme process that emerges as the best ecofriendly alternative to the conventional process.

Lanzene Maxi OV2, a product formulated by S AND D, is a sustainable stone free enzyme system that uses a specially developed enzyme formulation.

The Lanzene Maxi OV2 stone free enzyme system has many advantages in comparison to the conventional process and the differences are shown below in Figure 10 and Figure 11.

Figure 10: Drawbacks of the conventional process.

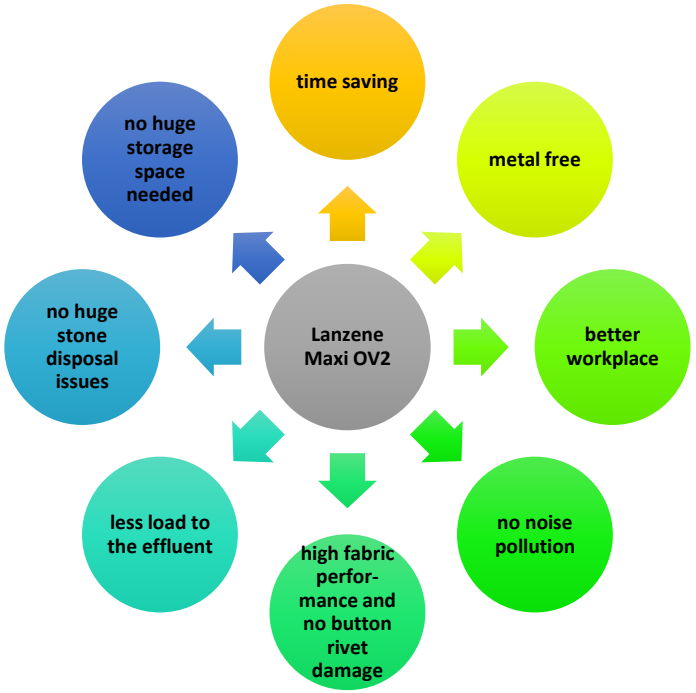


Figure 11: Advantages of the stone free enzyme process.


TURBO BLEACH
H5
Sustainable bleaching process

TURBO BLEACH H5 - SUSTAINABLE BLEACHING PROCESS

This is a sustainable bleaching process that emerges as the best ecofriendly alternative to the conventional process.

Turbo Bleach H5, a product formulated by S AND D, is a sustainable bleaching system that uses a specially developed formulation.

As shown below in Figure 12, the conventional process is compared to the sustainable bleaching process. Even though the conventional process is effective, it is rather inefficient as it consumes large quantities of energy and caustic.

The Turbo Bleach H5 bleaching system has many advantages in comparison to the conventional process and these are shown below in Figure 13.

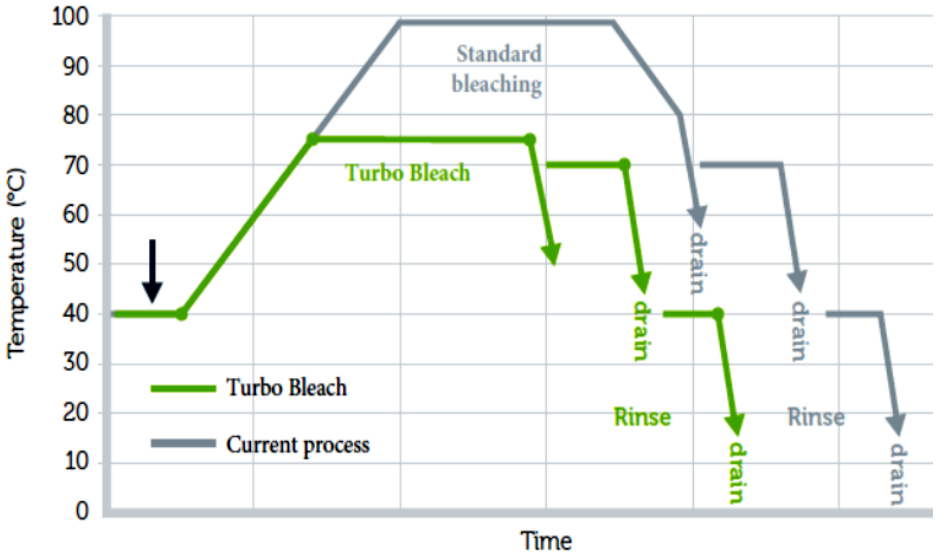


Figure 12: Working mechanism of the conventional and the sustainable bleaching processes.

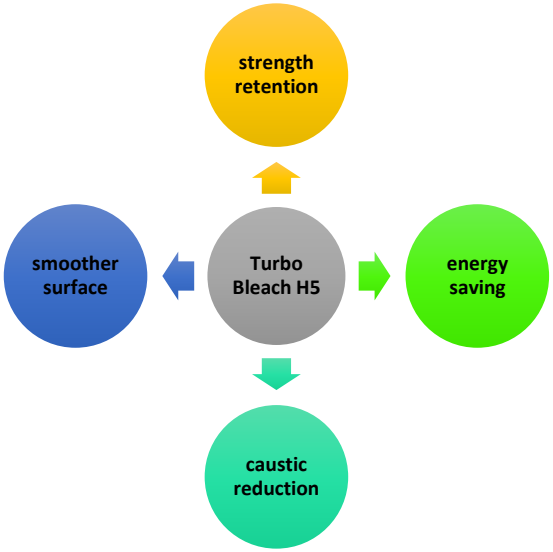


Figure 13: Advantages of the sustainable bleaching process.


SAPANOL LP7
Low temperature soaping process

SAPANOL LP7 - LOW TEMPERATURE SOAPING PROCESS

This is a sustainable low temperature soaping process that emerges as the best ecofriendly alternative to the conventional process.

Sapanol LP7, a product formulated by S AND D, is a sustainable low temperature soaping system that uses a specially developed formulation.

As shown below in Figure 14, the conventional process is a 6-stage process in comparison to the low temperature soaping process shown below in Figure 15, which is a 4-stage process.

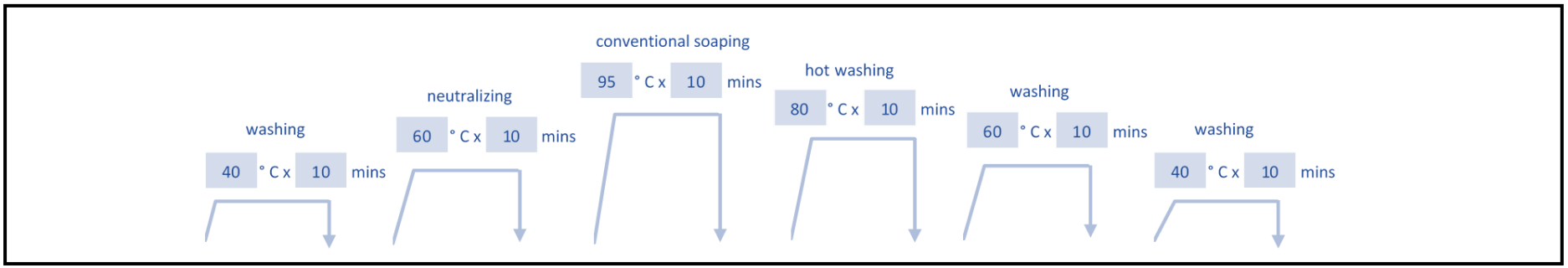


Figure 14: Working mechanism of the conventional process.

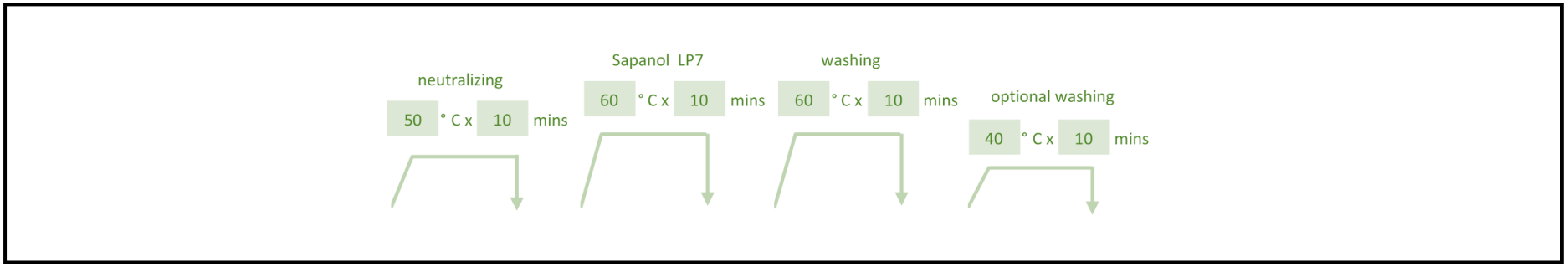


Figure 15: Working mechanism of the low temperature soaping process.

The Sapanol LP7 low temperature soaping system has many advantages in comparison to the conventional process and these are shown below in Figure 16.

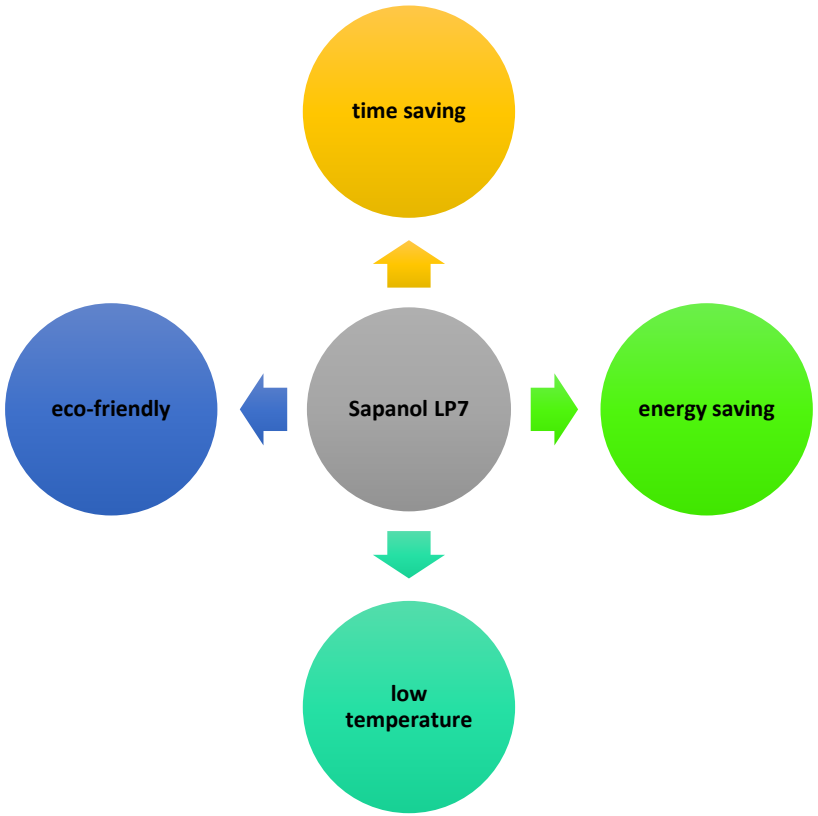
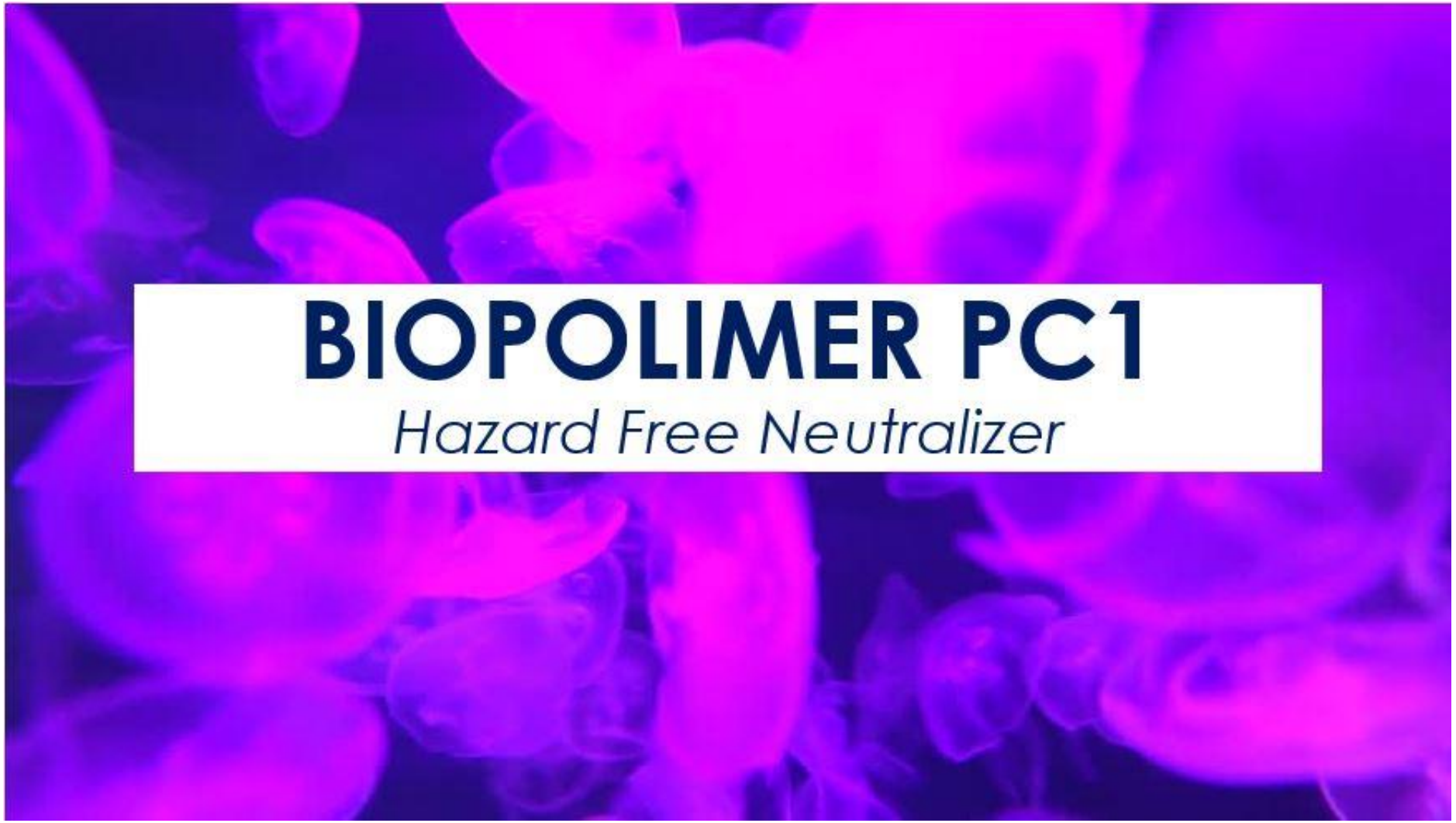


Figure 16: Advantages of the low temperature soaping process.

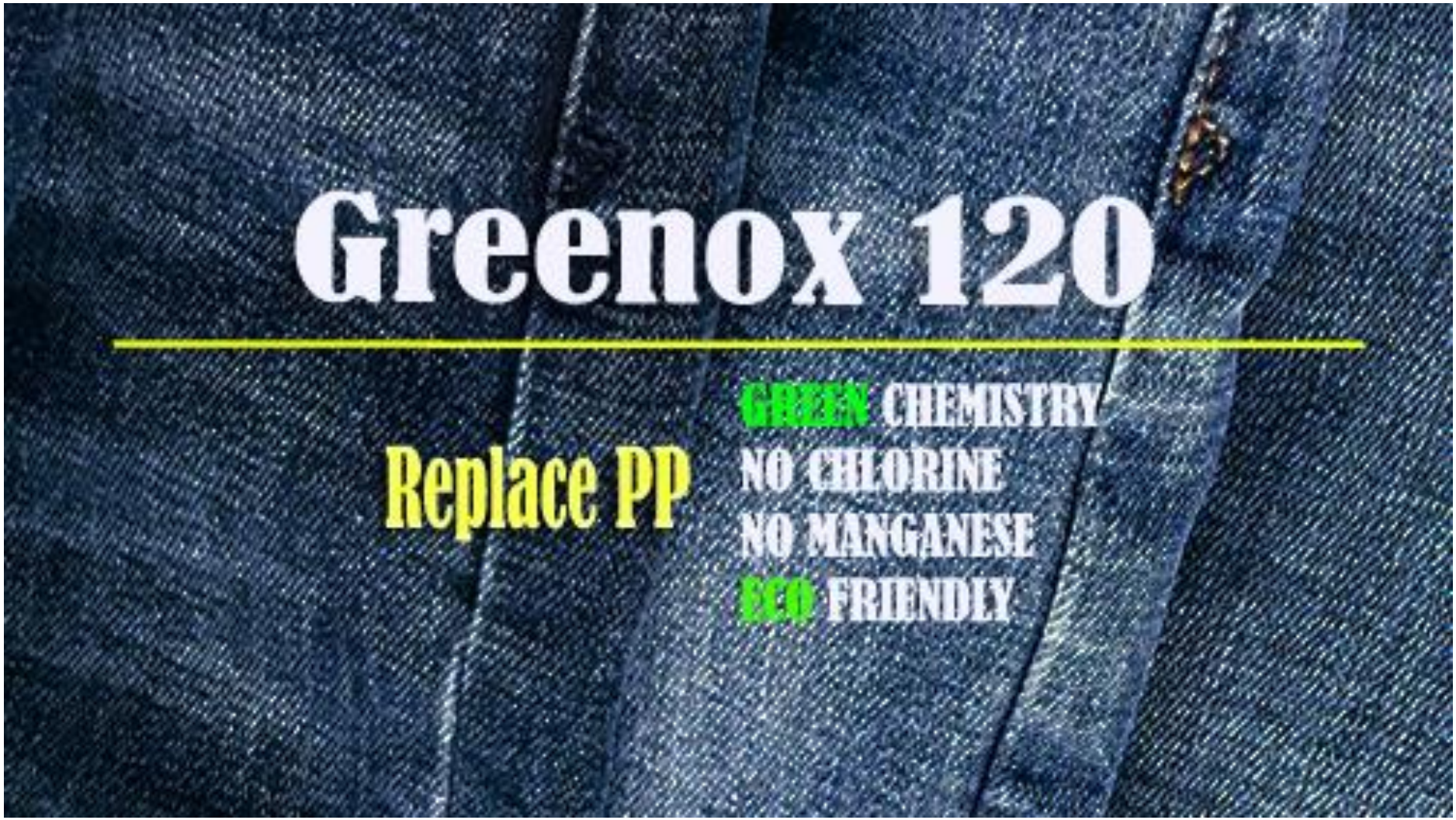

BIOPOLIMER PC1
Hazard Free Neutralizer

BIOPOLIMER PC1 - HAZARD FREE NEUTRALIZER

Biopolimer PC1, a product formulated by S AND D, is a hazard free neutralizer. As shown below in Table 6, the product has many advantages including being non-hazardous and completely biodegradable in comparison to the conventional neutralizers.

Table 6: Comparison of features between the conventional neutralizers and Biopolimer PC1.

	Metabisulfite	**Hydroxyl Amine**	**Biopolimer PC1**
Hazards			Non-hazardous
Biodegradability	Readily biodegradable	Not readily biodegradable	100% biodegradable
Odour	Pungent	Odourless	Odourless
PP Neutralization	✓	✓	✓
Chlorite Bleach Neutralization	✓	✓	✓
Surface Cleanliness	++	+++	+++


Greenox 120
Replace PP
GREEN CHEMISTRY
NO CHLORINE
NO MANGANESE
ECO FRIENDLY

GREENOX 120 - PP REPLACEMENT

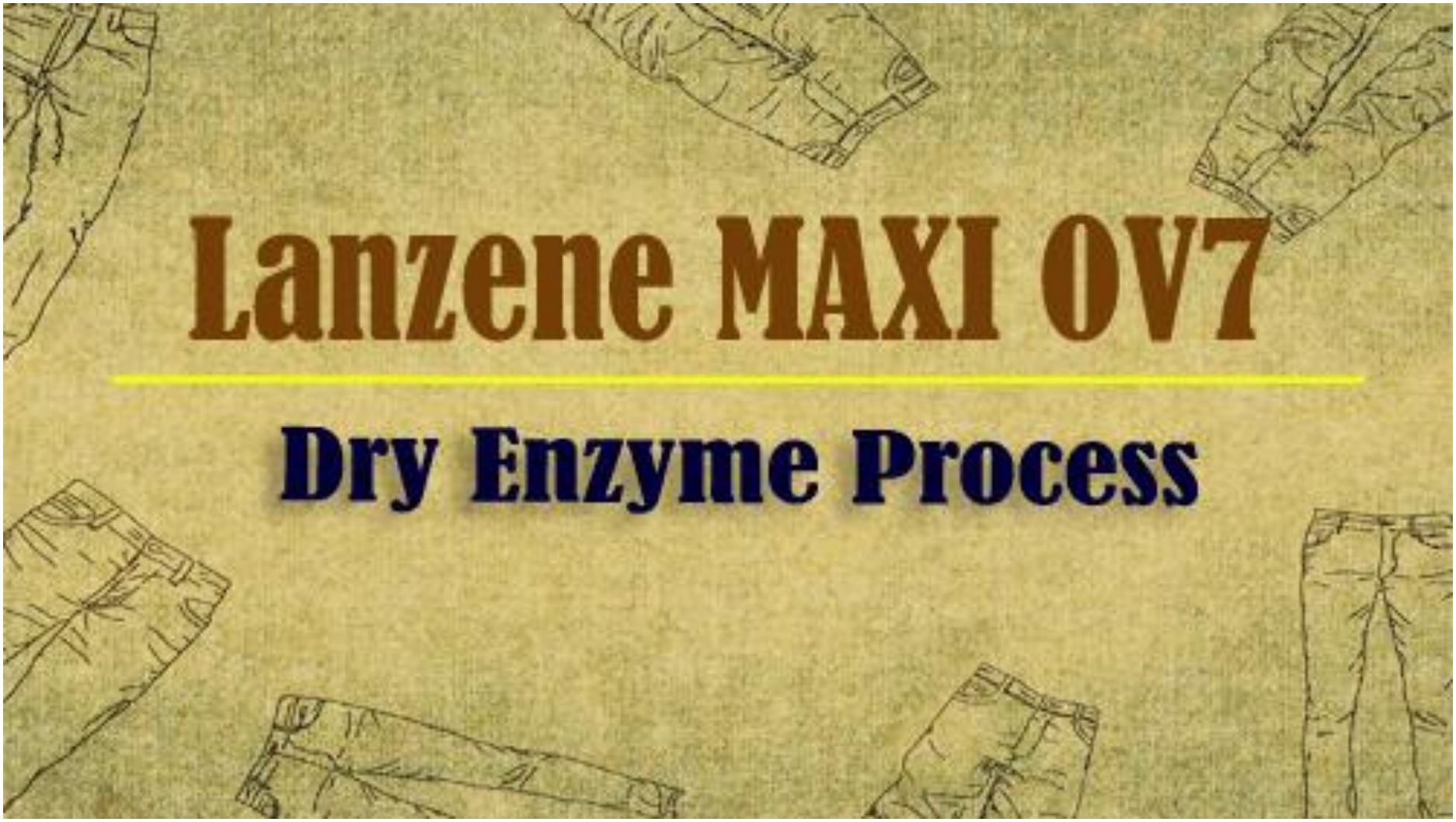
Greenox 120, a product formulated by S AND D, emerges as the best ecofriendly alternative to the conventional inorganic chemical compound, Potassium Permanganate (PP).

PP is heavily used in the textile industry as an oxidizing agent, to obtain the fading effect especially in localized areas on denim garments. Although PP was used for a long time in the garment industry, it has a powerful impact on both health and the environment.

Greenox 120 has many advantages in comparison to PP and these are shown below in Table 7.

Table 7: Comparison of features between Potassium Permanganate 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. H373: May cause damage to organs. H400: Very toxic to aquatic life. H401: Very toxic to aquatic life with long lasting effects.	H314: Causes severe skin burns and eye damage. H318: Causes serious eye damage.
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)


Lanzene MAXI OV7
Dry Enzyme Process

LANZENE MAXI OV7 - DRY ENZYME PROCESS

The denim industry is one of the major contributors of water pollution in the world. To produce one pair of jeans, it has been estimated that 2900 gallons are required from the cotton manufacturing process to the finishing stage.

Lanzene Maxi OV7, a product formulated by S AND D, is a sustainable dry enzyme system that emerges as an ecofriendly innovation, **to obtain abrasion, without the addition of water to the enzyme bath**. This adds many values to garment processing including a drastic reduction of the use of stones and high anti-back staining properties.

The Lanzene Maxi OV7 dry enzyme process stands out for its waterless property in comparison to the conventional process (Table 8 & Figure 17).

Table 8: 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 %

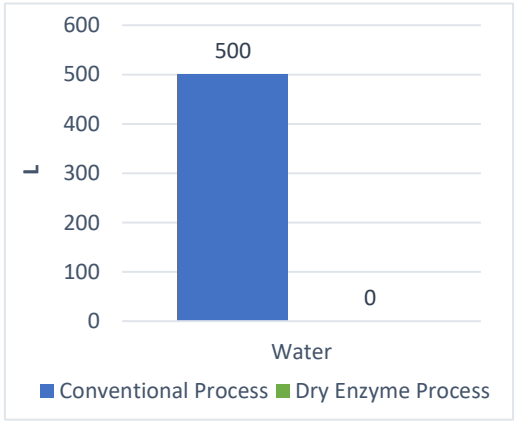
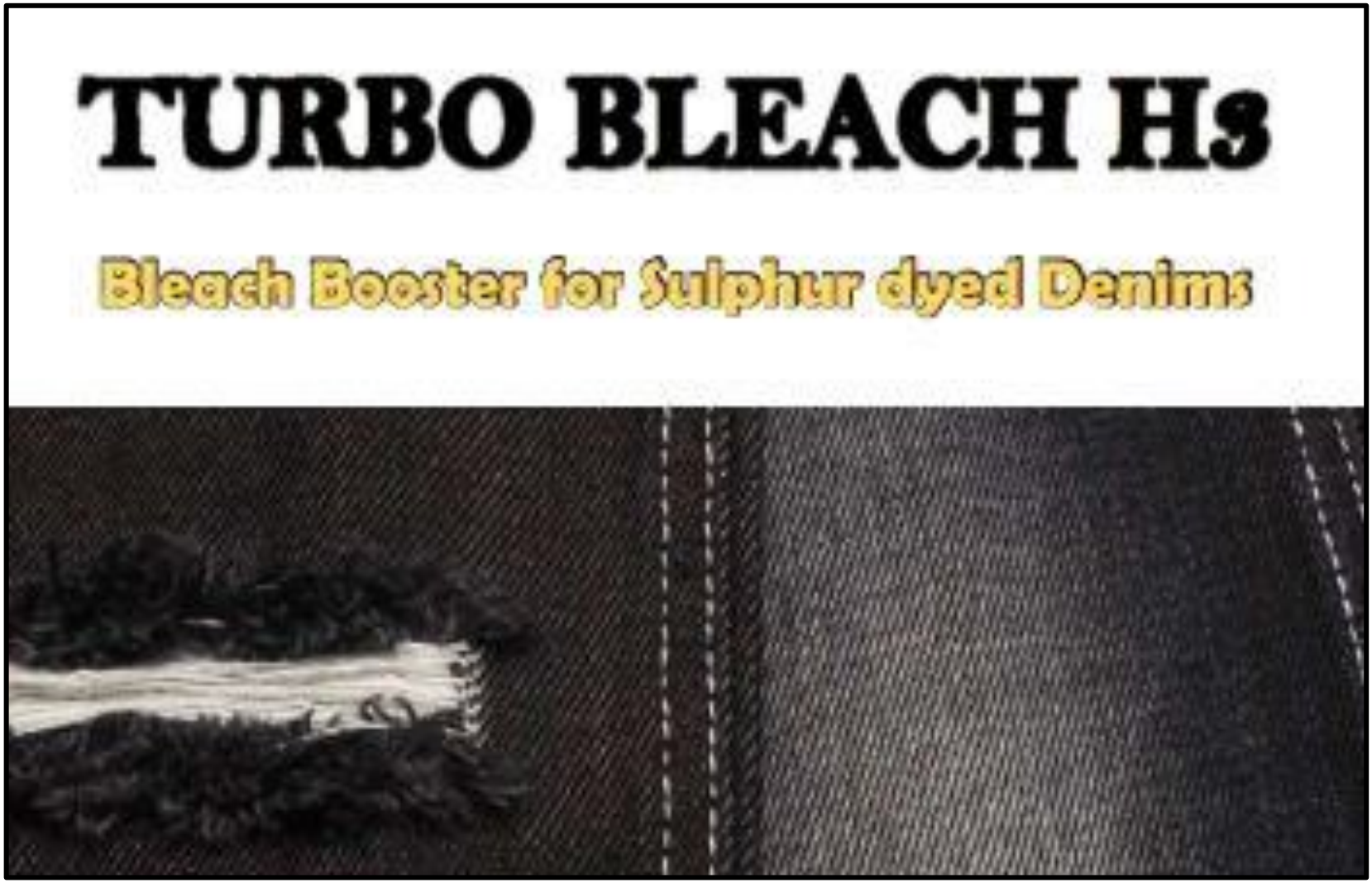


Figure 17: Graphical comparison of features between the conventional process and the dry enzyme process.


TURBO BLEACH H3
Bleach Booster for Sulphur dyed Denims

TURBO BLEACH H3 - BLEACH BOOSTER FOR SULPHUR DYED DENIMS

Denims processed with Sulphur dyes are common now in the denim industry. Sulphur dyes are used as complete Sulphur dyeing or in bottoming/topping processes in which indigo is combined with an additional dye in different dyebaths.

Sulphur bottoming is done mostly to give the finished denim a dirty or vintage look, while Sulphur topping mostly gives different shades due the mixing of indigo and Sulphur dye. Sulphur yellow gives a greenish shade finally when topped on indigo.

Warp dyeing with black Sulphur dyestuffs and without indigo has become popular at the same time as the introduction of combination of indigo and Sulphur dyestuffs.

Sulphur dyes are water insoluble dyes which is brought to a reduced leuco form, dyed and then oxidized to an insoluble form (Figure 18).

The fading of Sulphur blacked denim is critical with general hypochlorite bleaching, since it gives a burned effect and is not easy to be controlled.

The difficulty of caustic soda and hydrogen peroxide takes a longer time and requires more chemicals to obtain the desired shade.

Turbo Bleach H3, a product formulated by S AND D, is a bleach booster for sulphur dyed denims. The product boosts the release of the perhydroxyl ion to the bath and directs the breakage of the chromophore effectively, hence **speeding up the fading process by 50 - 60 %.**

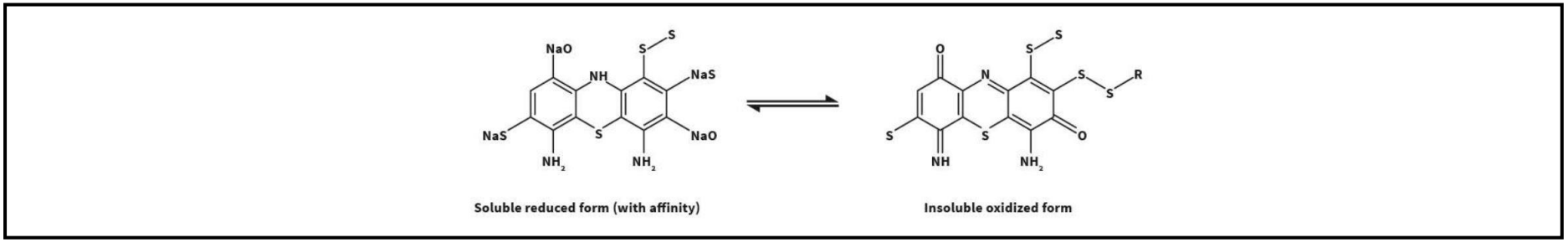


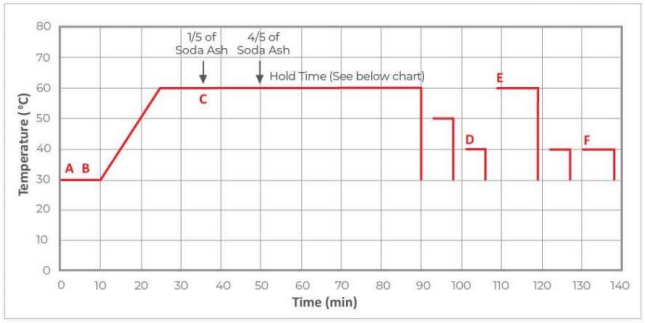
Figure 18: Working mechanism of the sulphur denim fading process.


VICHITHRA
Reactive Dye System

VICHITHRA - SUSTAINABLE REACTIVE DYE SYSTEM

Vichithra, an intensive, sustainable reactive dyeing system developed by S AND D, introduces a new dyeing technology, which enables an even low temperature during both dyeing and rinsing (Figure 19).

Vichithra Exhaust Process for Dyeing



Recipe

#	Item	Dosage	Unit
A	Vichithra Reactive Dyes	X	%
B	Glauber Salt Pillever DBC Rubine OS	8 - 100 1 -2 1	g/l g/l g/l
C	Soda Ash	4 - 28	g/l
D	Acetic Acid	0.5 -1	g/l
E	Sapanol LP7	1 - 2	g/l
F	Sapanol FFT	0.5	g/l

Salt and Soda Chart

Dye Concentration (%)	Salt (g/l)			Soda Ash (g/l)			Alkali Hold Time (Min)
	1:5 MLR	1:10 MLR	1:15 MLR	1:5 MLR	1:10 MLR	1:15 MLR	
< 0.1	8	10	15	7	5	4	30
0.1 – 0.5	15	20	25	13	10	7	45
0.5 – 1.0	25	30	35	20	15	10	45
1.0 – 2.0	35	40	50	20	15	10	60
2.0 – 3.0	40	50	60	25	20	14	60
3.0 – 4.0	50	60	70	25	20	14	60
4.0 – 5.0	60	70	80	25	25	18	75
5.0 – 6.0	70	80	90	28	25	20	75
6.0 <	80	90	100	28	25	20	90

Figure 19: Working mechanism of the sustainable reactive dye process.

Vichithra consists of an innovative polyfunctional reactive dyestuff series, which offers a sustainable and high-performance solution with an attractive reduction of the process cost, while giving outstanding fastness properties.

Shorter wash off cycles enhances productivity by lowering overall water consumption, energy and processing time.

The Vichithra, sustainable reactive dye system has many advantages in comparison to the conventional dyeing process, which consumes a vast amount of water and energy and these are shown in Table 9 and Figure 20.

The savings shown are approximate and refers to the values for 1 kilogram of fabric.

Table 9: Comparison of features between the conventional process and the sustainable process.

Parameter	Unit	Conventional Process	Sustainable Process	Saving	
Water	L	180 - 190	70 - 80	110	57 - 61 %
Steam	kg	6 - 7	2 - 3	4	57 - 66 %
Electricity	kWh	0.30	0.27	0.03	10 %
Time	h	10 - 11	5 - 6	5	45 - 50 %

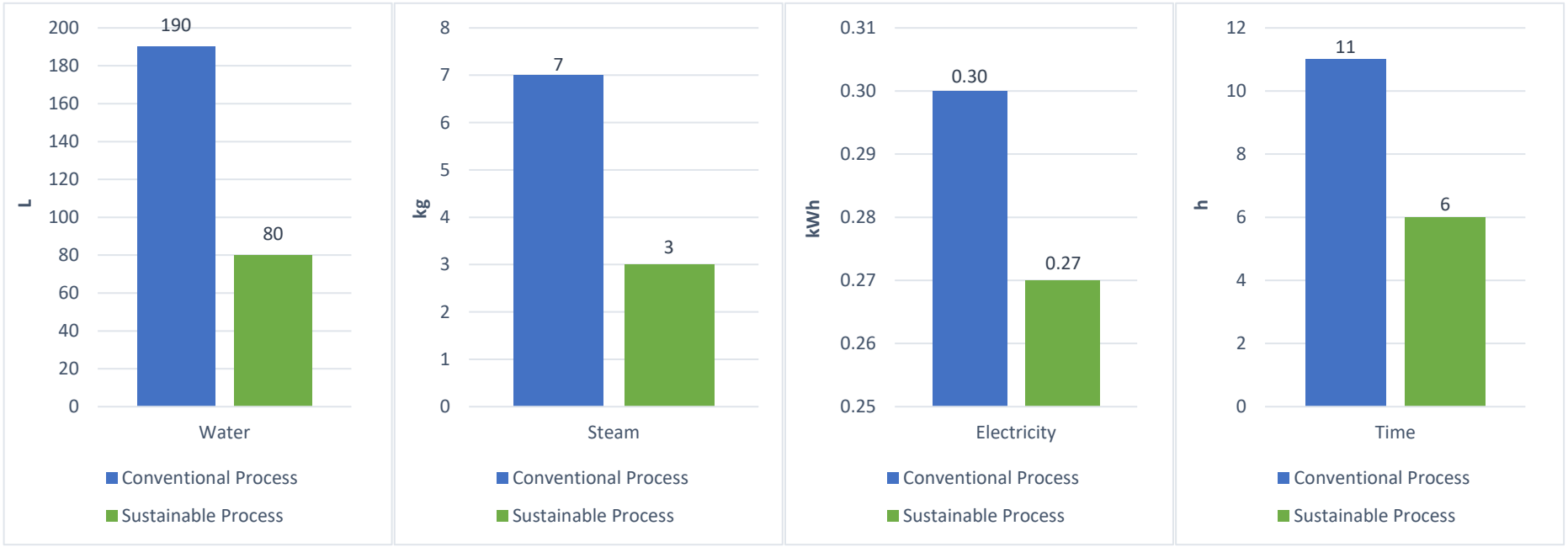


Figure 20: Graphical comparison of features between the conventional process and the sustainable process.

Additional features of the Vichithra, sustainable reactive dye system are shown below in Figure 21.

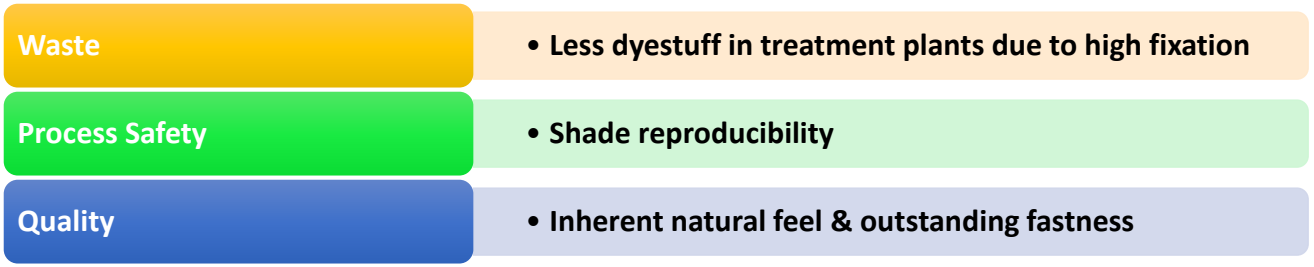


Figure 21: Additional features of the sustainable reactive dye process.

For further reference, please view the video shown in the following link: https://sdcheme.com/featured_products/vichithra-reactive-dye-system/

OUR FUTURE SDG CONTRIBUTION PLANS

SDG 3: GOOD HEALTH AND WELL-BEING

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

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

OUR FUTURE PLANS

Appropriate training programs are to be conducted for respective personnel to further promote awareness amongst the employees on Environment. These include:

- Environment Sustainability for a Better Future

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 unit 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.

Various measures were undertaken to carefully control and monitor air emissions to the environment and within the facility, which is mandatory to maintain a clean and pollution-free environment, thereby ensuring the sustainable operation of the facility. An exhaust system is to be installed for the weighing point at the Raw Material Storage Area, to further aid in the prevention of the release of noxious emissions to the environment (ground level) and therefore, to prevent the employees from being exposed to such noxious emissions at the workplace.

A third filter press is to be installed at the effluent treatment plant (ETP), to further minimize the amount of chemical sludge generated at the facility.

An additional clarifier is to be constructed at the Effluent Treatment Plant (ETP) for improving the quality of the effluent.

An expansion of the storage area is to be considered to ensure all chemically contaminated packaging waste material are kept in a suitable place, prior to disposal. In addition, the disposal procedures of these packaging waste material are to be improved. Chemically contaminated packaging waste material such as plastic drums are to be washed and cut to pieces within the factory premises, before it is dispatched for disposal.

At the production floor, the drainage line for chemical wastewater is to be renovated, hence, ensuring that no water seeps into the ground and gets contaminated.

Trees are to be planted in front of the factory main gate, which would improve the air quality in the surroundings that may be polluted with hazardous gaseous substances emitted from surrounding factories.

100% performance on environmental compliance within both the facility and the surroundings will be ensured to be continuously met with.

Sustainable solutions will be constantly developed, which are flexible, cost-efficient and eco-friendly for customers involved in the textile value chain.

By the end of next year, we aim to obtain bluesign® approval for a total of 225 identified individual products and GOTS approval for a total of 70 identified individual products, manufactured at S AND D CHEMICALS.

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 AND STRONG INSTITUITIONS

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

OUR COMMITMENTS

Through company written policies, procedures and continuous monitoring systems, which comply with applicable local and international anti-corruption laws, we ensure that corruption in any form including bribery is avoided.

S AND D CHEMICALS is committed to conduct its businesses professionally, honestly and with accountability, trustworthiness and integrity in all dealings wherever we operate. Our policy exists to set out the responsibilities of S AND D CHEMICALS and those who work for us to observe and uphold the zero-tolerance position on bribery and corruption. S AND D CHEMICALS 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. In addition, we ensure to keep records of all payments to reflect transparency in all transactions.

This policy applies equally to employees at all levels. S AND D CHEMICALS will take proper legal and disciplinary action against all employees and third parties who violate the anti-bribery and anti-corruption policy.

OUR FUTURE SDG CONTRIBUTION PLANS

SDG 16: PEACE, JUSTICE AND STRONG INSTITUITIONS

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

OUR FUTURE PLANS

We will ensure that all our employees are committed to observe and uphold the zero-tolerance position on bribery and corruption.

The anti-bribery and anti-corruption clause will be incorporated into our latest Employment Letter format for all new recruits.

For existing employees, a written declaration letter will be signed by each of the respective personnel, agreeing that they are committed to abide to our anti-bribery and anti-corruption policy.

MEASUREMENT OF OUTCOMES

HUMAN RIGHTS

The training programs that were conducted for respective personnel to promote awareness amongst the employees on OHS are shown below in Table 10.

Table 10: List of training programs participated by respective personnel in 2020.

Type of Training	Employee Category	Duration	Conducted on	Conducted by
Usage of Personal Protective Equipment (PPE)	All staff	1 h 30 mins	25th Feb	External
Advance Firefighting	Fire team members	3 h	07th Sep	External
Emergency Evacuation Drill	All staff	30 mins	10th Jan	External
Emergency Evacuation Night Drill	All staff	30 mins	07th Sep	External
Safe Operation & Maintenance of Diesel Generators	Maintenance staff and workers	1 day	12th Mar	External
Safe Operation & Maintenance of Forklift Trucks	Drivers and Maintenance staff	1 day	15th Mar	External
Management Practices to Minimize Overall Risk	Staff members from stores, production, maintenance, laboratory and office departments	1 h 30 mins	14th Aug	Internal
Preventive Measures to Minimize Spread of Covid-19	All staff	1 h	04th May	Internal
	All staff	1 h	13th May	
	All staff	1 h	01st Jun	
	Workers	45 mins	15th Jul	
	All staff	45 mins	07th Oct	

LABOUR

The total workforce in accordance with age is shown below in Table 11:

Table 11: Staff breakdown by age (as at 31st December 2020).

Section	Gender	Total No. of Employees	Age Group			
			18 < 25	25 < 40	40 < 55	> 55
Directors	Male	1	-	-	-	1
	Female	1	-	-	-	1
	Total	2	-	-	-	2
Marketing	Male	5	-	4	1	-
	Female	2	-	1	1	-
	Total	7	-	5	2	-
Administration	Male	1	-	1	-	-
	Female	1	-	1	-	-
	Total	2	-	2	-	-
Accounts	Male	6	1	5	-	-
	Female	6	2	4	-	-
	Total	12	3	9	-	-
EHS	Male	-	-	-	-	-
	Female	3	-	3	-	-
	Total	3	-	3	-	-
Production	Male	48	9	30	8	1
	Female	3	-	2	1	-
	Total	51	9	32	9	1
Laboratory	Male	5	-	5	-	-
	Female	4	-	4	-	-
	Total	9	-	9	-	-
Stores	Male	8	2	3	3	-
	Female	-	-	-	-	-
	Total	8	2	3	3	-
Maintenance	Male	5	-	5	-	-
	Female	-	-	-	-	-
	Total	5	-	5	-	-
Transport	Male	18	1	12	5	-
	Female	-	-	-	-	-
	Total	18	1	12	5	-
Total	Male	97	13	65	17	2
	Female	20	2	15	2	1
	Total	**117**	15	80	19	3

ENVIRONMENT

The test results of treated wastewater, which are obtained from an accredited laboratory of a third-party organization are shown below in Table 12:

Table 12: Test results of treated wastewater in 2020.

Test		Unit	Treated Wastewater		Maximum Tolerance Limits
Colour (Spectral Absorption Coefficient), wavelength range	436 nm (Yellow Range)	per m	0.3	-	7
	525 nm (Red Range)	per m	0.2	-	5
	620 nm (Blue Range)	per m	0.1	-	3
Chemical Oxygen Demand (COD)		mg/L	93	-	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	136	-	2100
Total Suspended Solids (TSS)		mg/L	8	-	500
Total Phosphorus (as P)		mg/L	0.16	-	-
Total Nitrogen (as N)		mg/L	n.d.	LOD: 5	-
	Kjeldhal Nitrogen (as N)	mg/L	n.d.	LOD: 5	-
	Nitrate (as N)	mg/L	0.62	-	-
	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	56	5 days	200
Chloride (as Cl)		mg/L	89	-	900

Test	Unit	Treated Wastewater		Maximum Tolerance Limits
Phenolic Compounds (as C_6H_5OH)	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	3.6	-	1000
Sulphide (as S)	mg/L	n.d.	LOD: 1	2
Temperature	°C	27.9	-	40
Cyanide (as CN)	mg/L	n.d.	LOD: 0.04	0.2
Copper (as Cu)	mg/L	0.008	-	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	n.d.	LOQ: 0.005	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	0.02	-	3.0
Tin (as Sn)	mg/L	n.d.	LOQ: 0.005	-
Zinc (as Zn)	mg/L	0.29	-	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				