UNGC COMMUNICATION ON PROGRESS REPORT

2019

AUGUST 20, 2020

S & D CHEMICALS (PVT) LTD

Block A, Biyagama Export Processing Zone (BEPZ), Walgama, Malwana, Sri Lanka

STATEMENT BY CEO

20th August 2020

To our stakeholders,

Our company, S & D CHEMICALS (PVT) LTD 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 & 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 & D Material Restricted Substance List (S & 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 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 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 & D CHEMICALS (PVT) LTD 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 third 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 & 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. ✓ A 100% fire safe environment was ensured to be maintained by implementing an earth pit monitoring system. ✓ Accidents and near misses were ensured to be minimized.	✓ 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. ✓ Installation of a water sprinkle system in the flammable material storage section is to be considered to ensure a 100% fire safe environment. ✓ A new building is to be constructed within the factory premises, as a rest

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
		✓ 100% performance on OHS compliance within both the facility and the surroundings was ensured.	room area for the employees, which would improve the overall physical and hence the mental well-being of the employees. ✓ 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 is to be constructed for those workers reporting to the factory from external companies to carry out relevant work at the factory premises.
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.	

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
		✓ All amenities provided are for all employees may they be men or women.	
LABOUR	 **SDG 8: DECENT WORK AND ECONOMIC GROWTH** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	✓ 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 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.	✓ 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.
ENVIRON-MENT	 **SDG 3: GOOD HEALTH AND WELL-BEING** Ensure healthy lives and promote well-	✓ Appropriate training programs were conducted, to promote awareness amongst the employees on environment.	✓ More appropriate training programs are to be conducted on an annual basis to further promote awareness

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
	being for all at all ages		amongst the employees on environment. ✓ The lock and key mechanism is to be 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 is to be 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.
ENVIRON-MENT	 **SDG 6: CLEAN WATER AND SANITATION** Ensure availability and sustainable management of	✓ Administrative controls were proposed and developed on the proper usage of fresh water. ✓ Treated wastewater was recycled for flushing purposes to reduce the volume	

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
	water and sanitation for all	of fresh water consumption at the facility.	
ENVIRON-MENT	 **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.	
	 **SDG 9: INDUSTRY, INNOVATION AND INFRASTRUCTURE** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation	✓ Constantly developed sustainable solutions, which are flexible, cost-efficient and eco-friendly for customers involved in the textile value chain. ✓ 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	✓ Continue to constantly develop sustainable solutions, which are flexible, cost-efficient and eco-friendly for customers involved in the textile value chain. ✓ Preparations are to be made for upgradation of the in-house laboratory certification in accordance with ISO/IEC 17025:2017.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
		assurance and introducing innovative effects and functions. ✓ Certification of the in-house laboratory in accordance with ISO/IEC 17025:2005 was obtained.	
ENVIRON-MENT	 **SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION** Ensure sustainable consumption and production patterns	✓ Several measures were taken to reduce the cost of electricity consumption at the facility. ✓ Various measures were also taken to control and monitor air emissions to the environment and within the facility. ✓ Several measures were taken to reduce hazardous waste produced at the facility. ✓ 100% performance on environmental compliance within both the facility and the surroundings was ensured.	✓ Several measures are to be taken to further control and monitor air emissions to the environment and within the facility and also to reduce the hazardous waste produced at the facility. ✓ 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.	✓ Continue to meet 100% performance on environmental compliance within both the facility and the surroundings.
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	✓ 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.

CATEGORY	CONTRIBUTING SDG	COMMITMENTS	FUTURE PLANS
	inclusive institutions at all levels		

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:

- Chemical Safety & PPE (Personal Protective Equipment) Usage
- Proper Usage of Breathing Apparatus
- Advance Firefighting
- Emergency Evacuation Drill
- Emergency Evacuation Night Drill
- Preliminary First-aid Course Phase 1
- Occupational Health & Safety
- Food Safety & Personal Hygiene
- Boiler Safety Operation & Maintenance
- Safe Operation & Maintenance of Forklifts
- Chemical Transportation & Road Safety

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 implementing an earth pit monitoring system, to monitor lightning protection and whether the earth systems work in accordance with the specifications. Hence, this would also safeguard the employees from getting electrocuted by machineries, due to earth leakages.

Moreover, an additional 10,000 litres tank to store water, was connected to the existing interconnected tank system to enhance in-house fire protection. Hence, the existing onsite water storage capacity of 80,000 litres was increased to a total of 90,000 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.

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 includes:
        - 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
- Safe Operation & Maintenance of Diesel Generators
- Safe Operation & Maintenance of Forklift Trucks

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 100% fire safe environment is further ensured to be maintained by the installation of a water sprinkle system, in the flammable material storage section of the facility.

In addition, a 10,000 litres tank to store water, is to be connected to the existing interconnected tank system to enhance in-house fire protection. This would then increase the existing onsite water storage capacity of 90,000 litres to a total of 100,000 litres.

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

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

Moreover, a warehouse is to be 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 is to be employed so as to further enhance the security of the employees working within the facility.

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

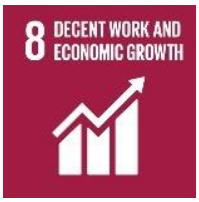
Principle 6:

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

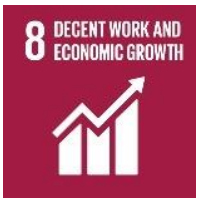
OUR COMMITMENTS

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

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. 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

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 air scrubbing mechanism was implemented in the laboratory, to 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.

Several measures were taken to reduce the hazardous waste produced at the facility by:

1. Installing a second filter press to minimize the amount of chemical sludge generated at the facility.
2. 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

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

- Sustainable Environment Management

Certification of the in-house laboratory in accordance with globally approved standards such as ISO/IEC 17025:2005 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 150 identified individual products and GOTS approval for 40 identified individual products, manufactured at S & D Chemicals.

OUR INNOVATIONS

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 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 & D Chemicals (Pvt) Ltd innovate specially developed formulations, which are listed below in Table 2 that emerges as the best alternatives to the otherwise lesser ecofriendly conventional processes.

Table 2: Specially developed eco-friendly formulations.

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


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 & 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 below 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.

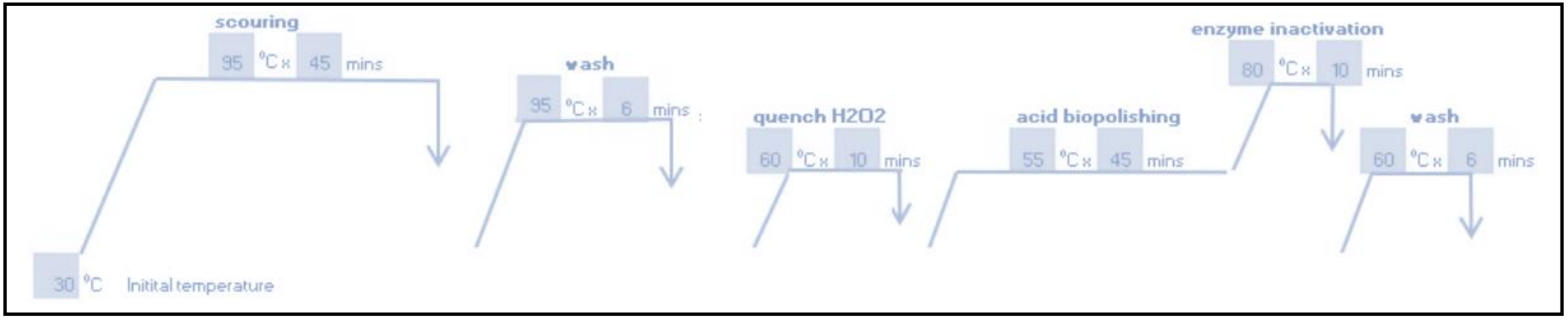


Figure 1: Working mechanism of the conventional process.

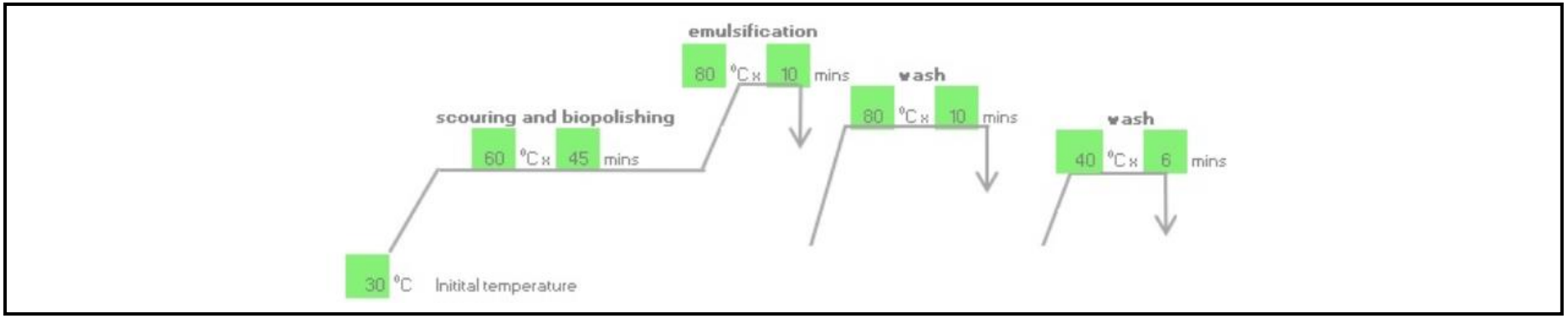


Figure 2: Working mechanism of the bioscouring process.

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

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

Parameter	Conventional Alkaline Scouring Process	Scourzyme TXP 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

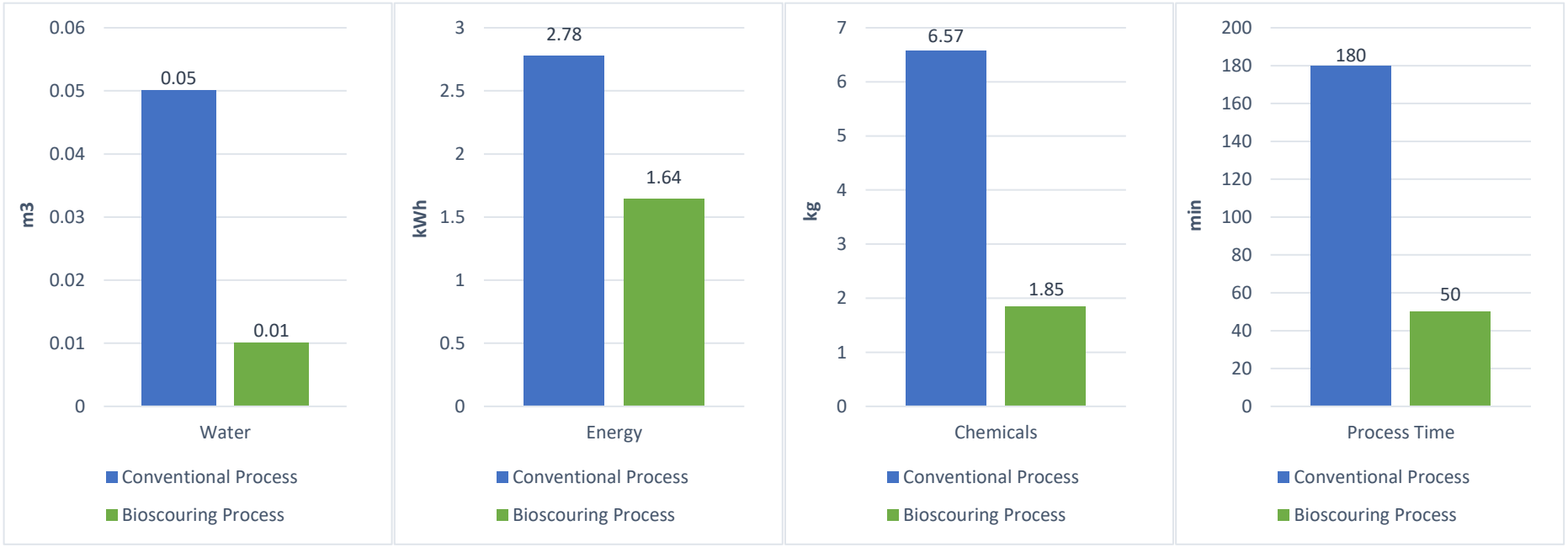
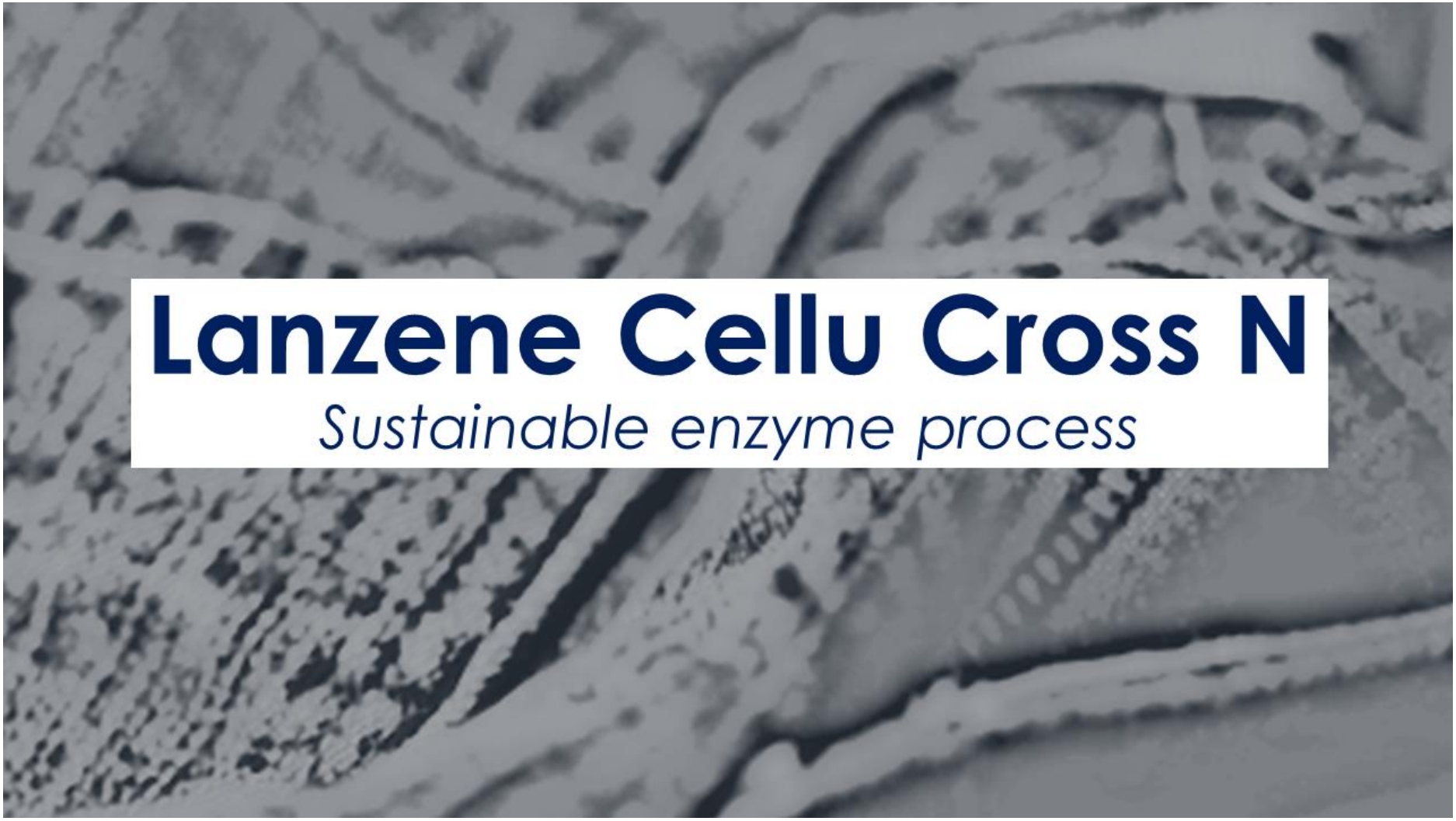


Figure 3: Graphical comparison of features between the conventional process and the bioscouring process.


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 & 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.

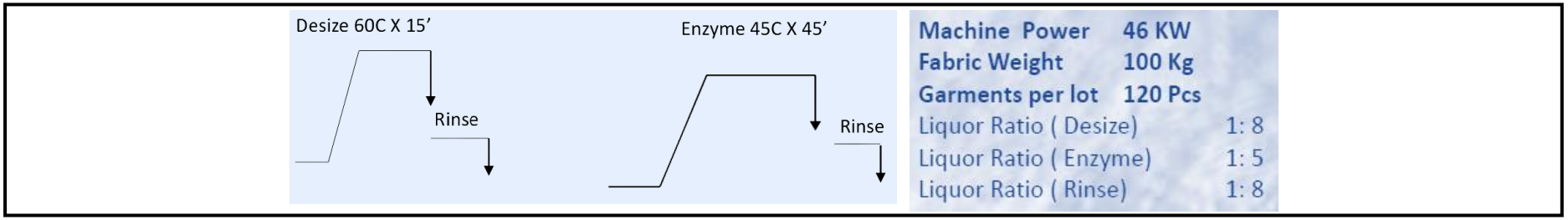


Figure 4: Working mechanism of the conventional process.

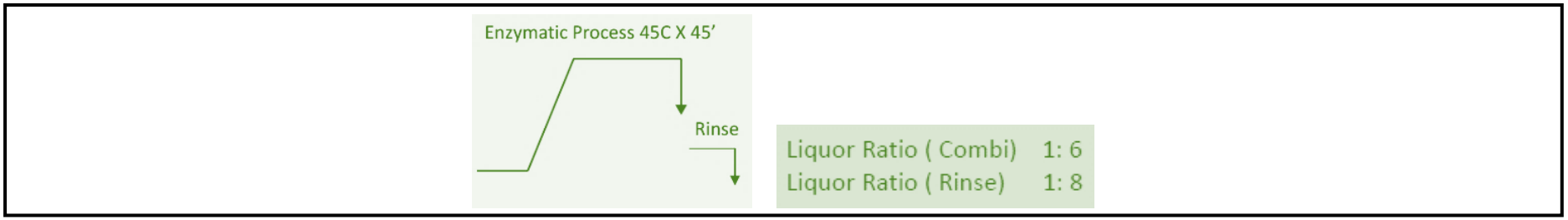


Figure 5: Working mechanism of the combination process.

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	Conventional Process	Lanzene Cellu Cross N 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

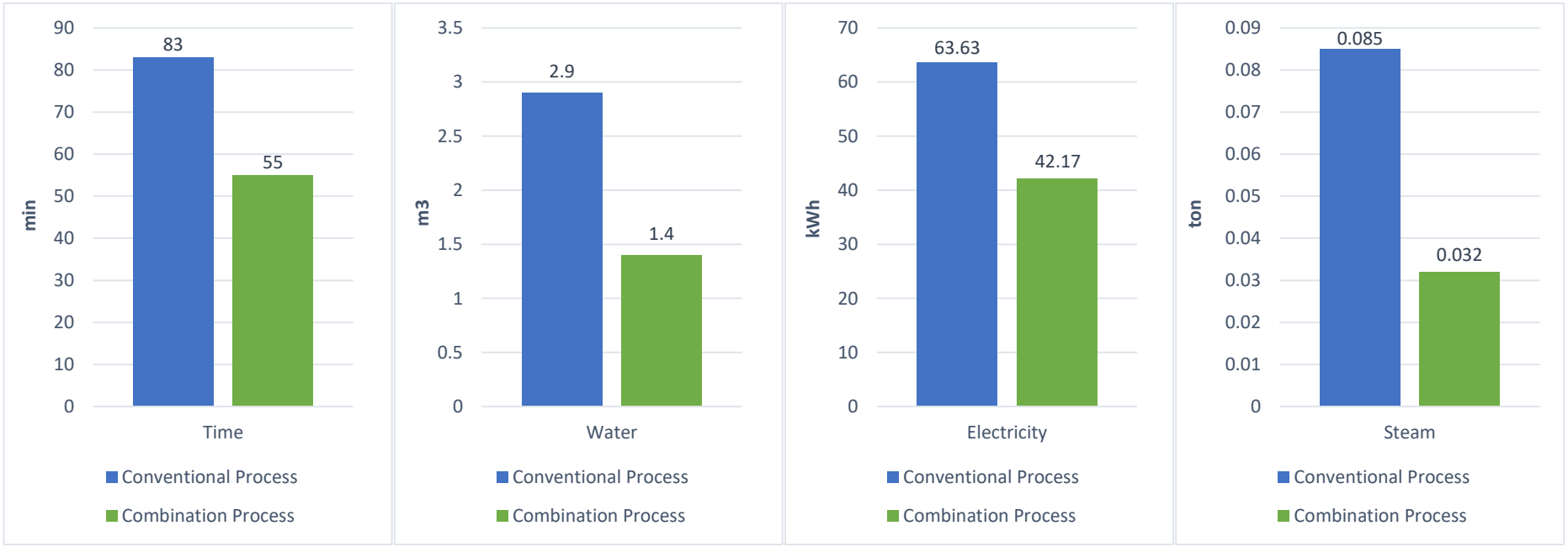


Figure 6: Graphical comparison of features between the conventional process and the combination process.


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 & 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.

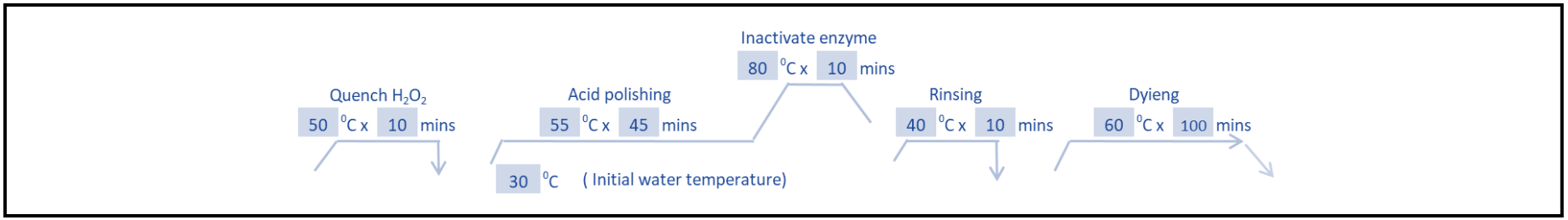


Figure 7: Working mechanism of the conventional dyebath enzyme process.

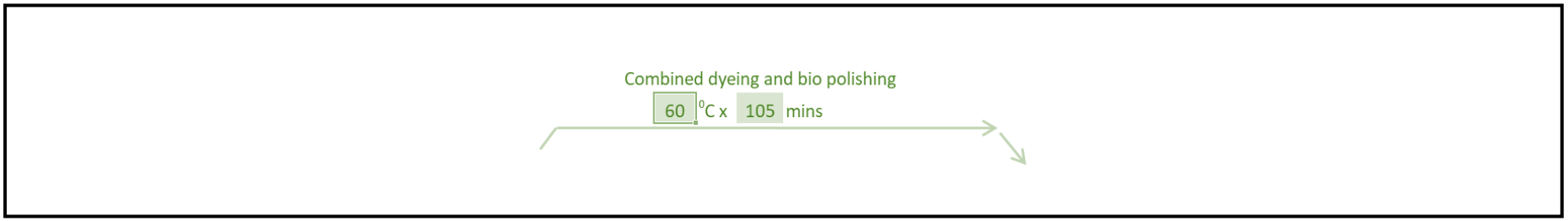


Figure 8: Working mechanism of the combination process.

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	Conventional Process	Biozep Combi L Combination Process	Saving	%
Water (m³)	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

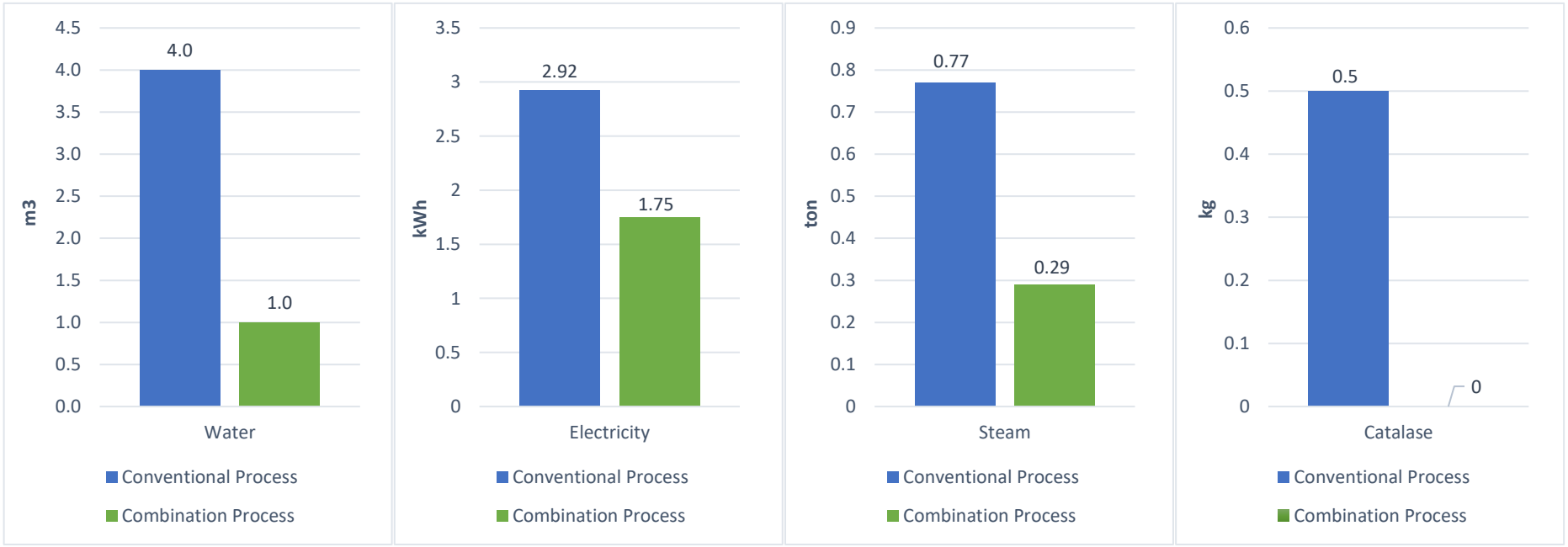


Figure 9: Graphical comparison of features between the conventional process and the combination process.


Lanzene MAXI OV2
Stone free enzyme process

LANZENE MAXI OV2 – STONE FREE ENZYME PROCESS

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

Lanzene Maxi OV2, a product formulated by S & 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.

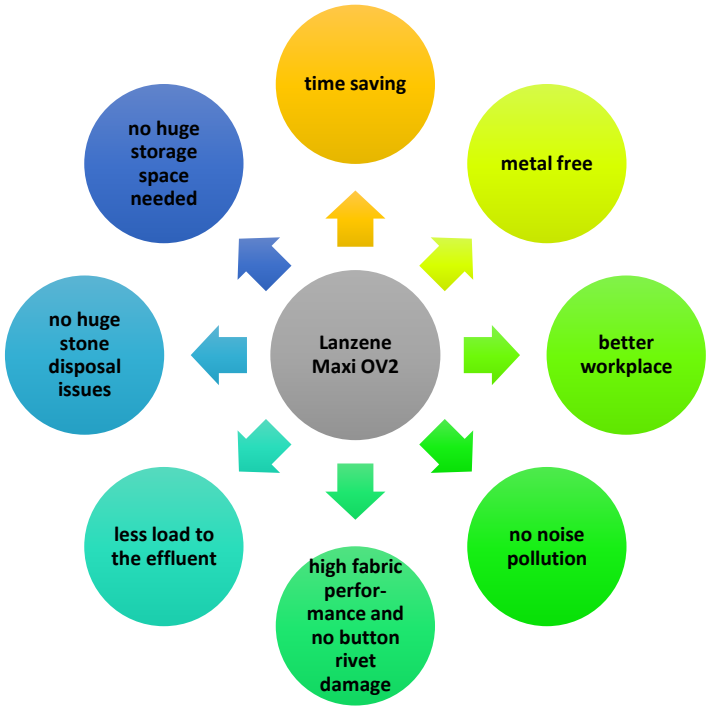


Figure 11: Advantages of the Lanzene Maxi OV2 process.


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 & 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 turbo bleach 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.

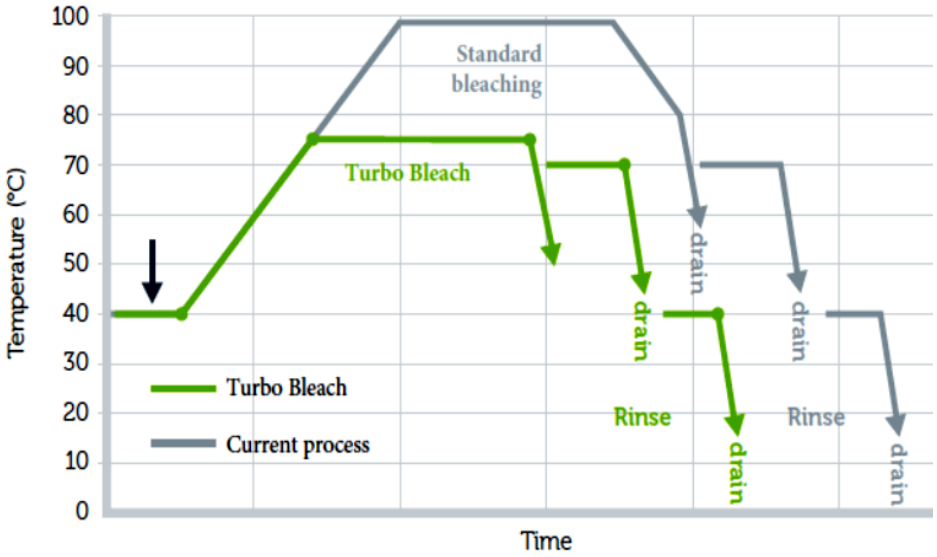


Figure 12: Working mechanism of the conventional and the sustainable bleaching processes.

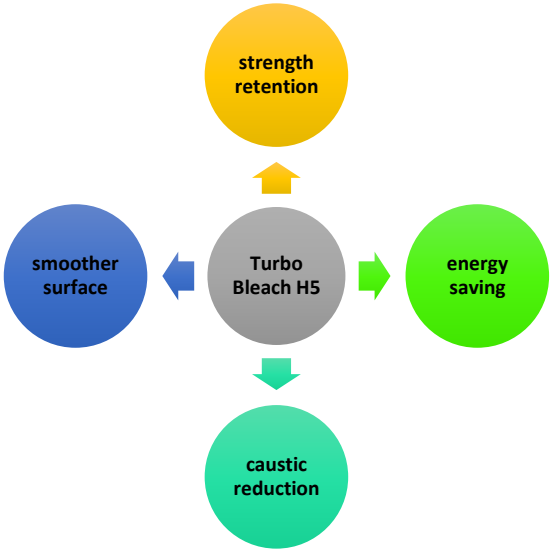


Figure 13: Advantages of the Turbo Bleach H5 sustainable bleaching process.


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 & 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 sustainable low temperature soaping process shown in Figure 15, which is a 4-stage process.

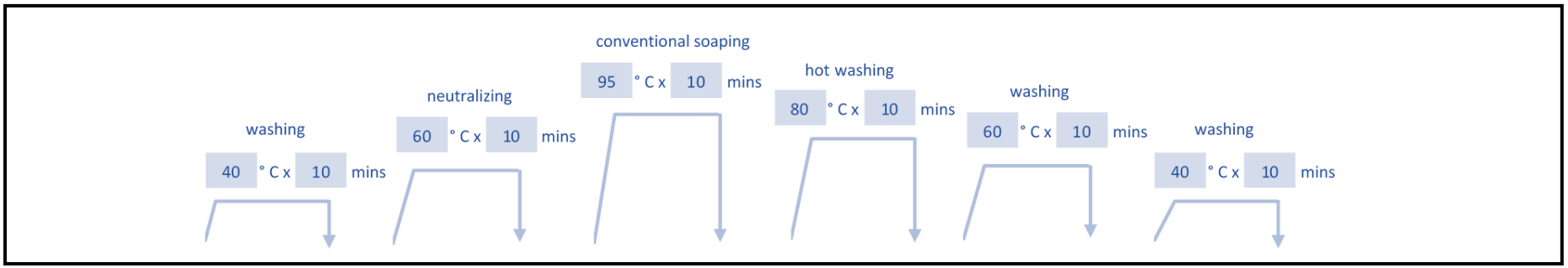


Figure 14: Working mechanism of the conventional soaping process.

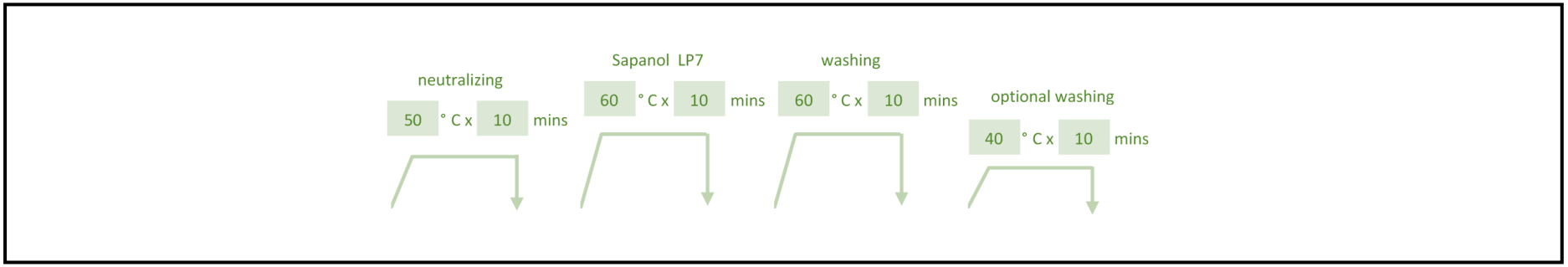


Figure 15: Working mechanism of the Sapanol LP7 sustainable low temperature soaping process.

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

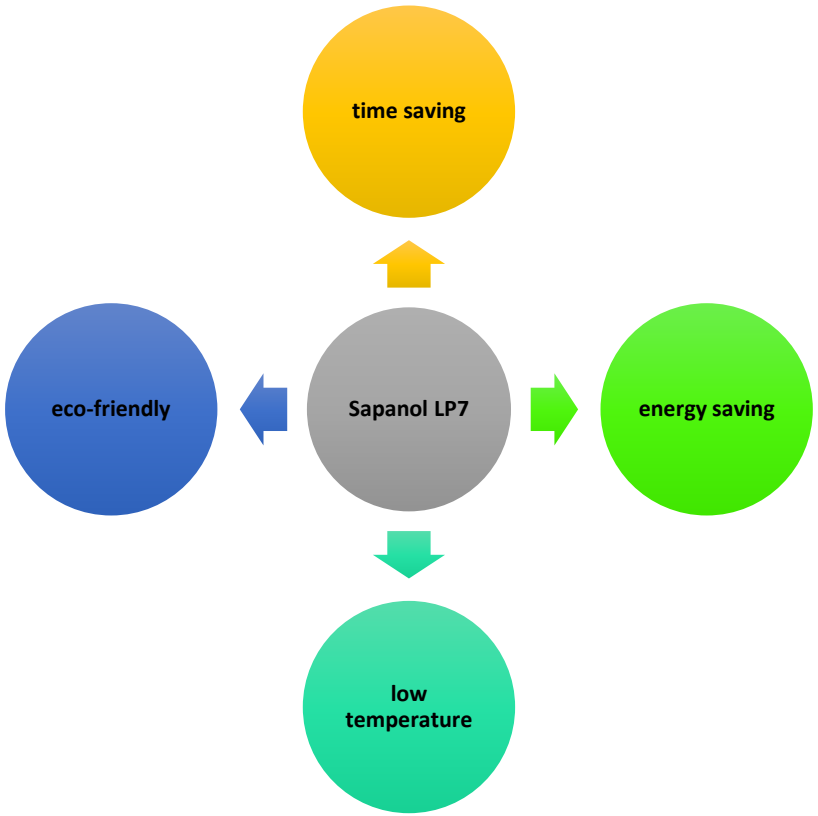
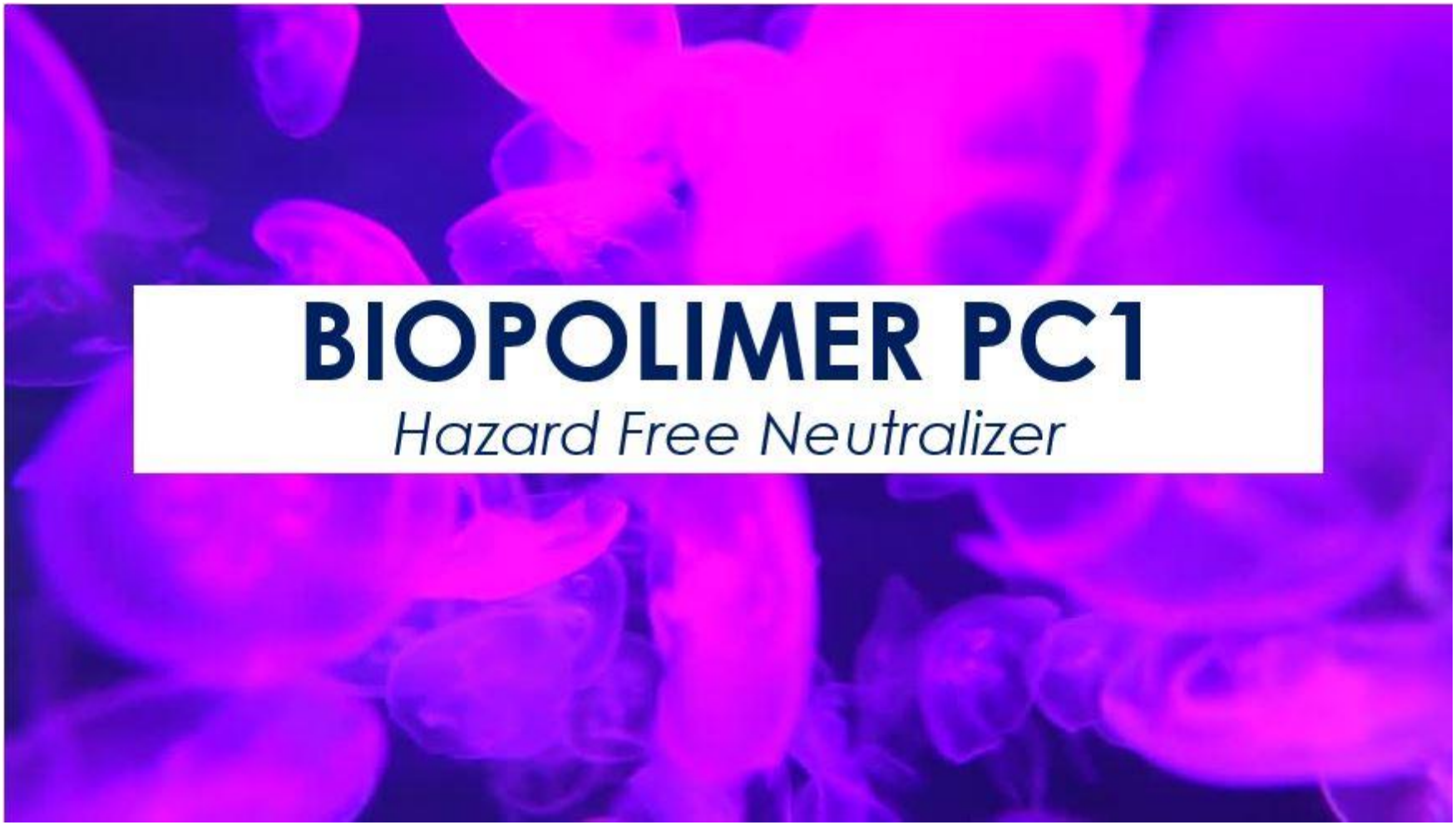


Figure 16: Advantages of the Sapanol LP7 sustainable low temperature soaping process.


BIOPOLIMER PC1
Hazard Free Neutralizer

BIOPOLIMER PC1 – HAZARD FREE NEUTRALIZER

Biopolimer PC1 has many advantages including being non-hazardous and completely biodegradable, in comparison to the conventional neutralizers and these are shown below in Table 6.

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	++	+++	+++

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 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

OUR FUTURE PLANS

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

- Operation of the Effluent Treatment Plant (ETP) for a Sustainable Environment

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).

A third filter press is to be installed, to further minimize the amount of chemical sludge generated at the facility.

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

An under-lock steel room is to be constructed to store license items (raw materials) and the lock and key mechanism is to be 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 is to be 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.

Preparations are to be made for upgradation of the in-house laboratory certification in accordance with ISO/IEC 17025:2017.

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 160 identified individual products and GOTS approval for a total of 50 identified individual products, manufactured at S & 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 & 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 & D Chemicals and those who work for us to observe and uphold the zero-tolerance position on bribery and corruption. S & 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 & 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 7.

Table 7: List of training programs participated by respective personnel in 2019.

Type of Training	Employee Category	Duration	Conducted on	Conducted by
Chemical Safety & PPE (Personal Protective Equipment) Usage	All staff	3 hours	11h March	External
Proper Usage of Breathing Apparatus	All staff	1 hour 15 minutes	29th January	External
Advance Firefighting	Fire team members	4 hours	19th March	External
Emergency Evacuation Drill	All staff	3 minutes	19th March	External
Emergency Evacuation Night Drill	All staff	25 minutes	23rd October	Internal
Preliminary First-aid Course Phase 1	Staff members from stores, production, transport and office departments	1 day	31st August	External
Occupational Health & Safety	All staff	1.5 hours	29th May	External
Food Safety & Personal Hygiene	Staff members from stores, production and transport departments	3 hours	17th June	External
Boiler Safety Operation & Maintenance	Maintenance staff	1 day	2nd March	External
Safe Operation & Maintenance of Forklifts	Drivers	1 day	30th June	External
Chemical Transportation & Road Safety	Drivers and helpers	3 hours	26th October	External
Sustainable Environment Management	All staff	1.5 hours	13th August	Internal

LABOUR

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

Table 8: Staff breakdown by age (as at 31st December 2019).

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	2	-	-	2	-
	Female	-	-	-	-	-
	Total	2	-	-	2	-
Administration	Male	1	-	1	-	-
	Female	1	-	1	-	-
	Total	2	-	2	-	-
Accounts	Male	10	3	7	-	-
	Female	5	2	3	-	-
	Total	15	5	10	-	-
EHS	Male	-	-	-	-	-
	Female	2	-	2	-	-
	Total	2	-	2	-	-
Production	Male	60	23	29	8	-
	Female	3	1	-	2	-
	Total	63	24	29	10	-
Laboratory	Male	3	-	3	-	-
	Female	4	-	4	-	-
	Total	7	-	7	-	-
Stores	Male	8	2	3	3	-
	Female	-	-	-	-	-
	Total	8	2	3	3	-
Maintenance	Male	4	-	4	-	-
	Female	-	-	-	-	-
	Total	4	-	4	-	-
Transport	Male	12	2	7	3	-
	Female	-	-	-	-	-
	Total	12	2	7	3	-
Total	Male	101	30	54	16	1
	Female	16	3	10	2	1
	Total	**117**	33	64	18	2

ENVIRONMENT

The test results of treated wastewater, which are obtained from an accredited laboratory of a third-party organization are shown below in Table 9:

Table 9: Test results of treated wastewater in 2019.

Test		Unit	Treated Wastewater		Maximum Tolerance Limits
Colour (Spectral Absorption Coefficient), wavelength range	436 nm (Yellow Range)	per m	1.4	-	7
	525 nm (Red Range)	per m	0.9	-	5
	620 nm (Blue Range)	per m	0.6	-	3
Chemical Oxygen Demand (COD)		mg/L	468	-	600
Oil & Grease		mg/L	n.d.	LOD: 1	30
pH			6.52	at 28.2 °C	6.0 - 8.5
Total Dissolved Solids (TDS)		mg/L	713	-	2100
Total Suspended Solids (TSS)		mg/L	13	-	500
Total Phosphorus (as P)		mg/L	0.09	-	-
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	2.4	-	-
	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	150	5 days	200
Chloride (as Cl)		mg/L	276	-	900

Test	Unit	Treated Wastewater		Maximum Tolerance Limits
Phenolic Compounds (as C_6H_5OH)	mg/L	n.d.	LOQ: 0.05	5.0
Total Residual Chlorine (as Cl_2)	mg/L	n.d.	LOQ: 0.07	Nil
Sulphate (as SO_4)	mg/L	2.5	-	1000
Sulphide (as S)	mg/L	n.d.	LOD: 1	2
Temperature	°C	28.2	-	40
Cyanide (as CN)	mg/L	n.d.	LOD: 0.04	0.2
Copper (as Cu)	mg/L	0.01	-	3.0
Lead (as Pb)	mg/L	0.009	-	1.0
Arsenic (as As)	mg/L	0.02	-	0.2
Boron (as B)	mg/L	0.04	-	2.0
Cadmium (as Cd)	mg/L	n.d.	LOQ: 0.005	-
Chromium, Total (as Cr)	mg/L	0.02	-	2.0
Mercury (as Hg)	mg/L	n.d.	LOQ: 0.001	0.001
Nickel (as Ni)	mg/L	0.008	-	3.0
Tin (as Sn)	mg/L	0.02	-	-
Zinc (as Zn)	mg/L	0.37	-	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				