Infinita
Biotech Private Limited

BIOVOICE

KNOW, SHARE & GROW

ANNUAL 2023
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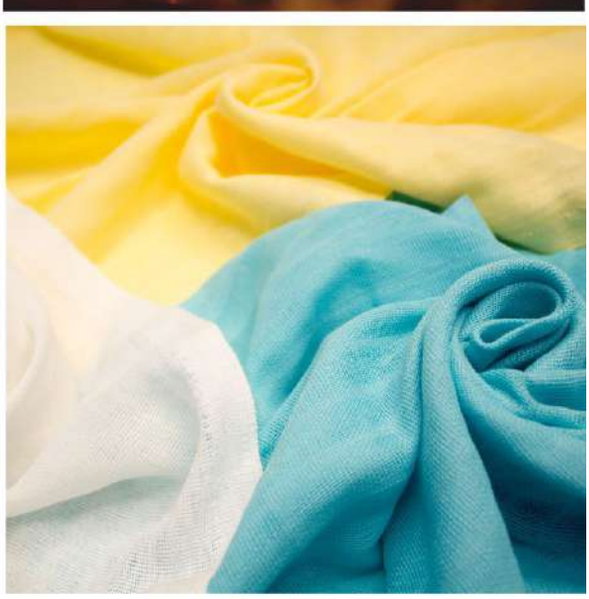


Our Mission

To continue to set the bar high as an industry leader in creating unique, eco-friendly enzymes formulations for industrial applications. We are committed to providing high-quality products with international standards to our esteemed clients and prioritising environmental concerns while carrying out our business and manufacturing activities.

Our Vision

To be the leading biotechnology company in the world in the field of eco-friendly enzymes formulations for industrial applications.

Our Values

These are the guiding force behind every action we take.

- **I** INNOVATION
- **N** NATURE
- **F** FOCUS
- **I** INTEGRITY
- **N** NOVEL
- **I** INCLUSION
- **T** TEAMWORK
- **A** AGILITY

Corporate Profile

Infinita Biotech Pvt. Ltd., founded in 2015, is a leading Indian multidivisional biotechnology company engaged in manufacturing eco-friendly enzymatic solutions for a variety of industrial applications in India as well as overseas.

Our company comes with technical experience professionals of over 30 years in the field of industrial enzymes. Our leadership and extensive expertise in the domain of biotechnology has enabled us to grow with continued success. This can be attributed to our policy of providing innovative, effective and high-quality products and solutions to meet specific customer needs with continuous research and development. The desire for cutting-edge innovation is defined by our best-in-class research laboratories and state-of-the-art manufacturing facilities. Our production mechanisms are handled by well-qualified and highly motivated personnel and follow stringent control protocols and in-process quality assurance procedures. Our distinctive delivery processes are backed by a strong marketing and distribution network, which is strengthened by the relationship we share with our suppliers and dealers.

We strive to continuously improve our practices and as a part of this process we have acquired certifications and licenses like ISO 9001:2015 through TUV India, FSSAI central license, ISO 22000:2018, HALAL, Kosher and our Research and Development Centre has been recognized by the Department of Scientific and Industrial Research (DSIR), Ministry of Science and Technology, Government of India.

Our concern for the environment is at the centre of everything we do. As a result, our products provide multiple benefits that cannot be obtained through traditional chemicals and processes such as superior quality, lower production cost, less wastage and reduced energy consumption.

As of today, our clients belong to a wide range of sectors like

DISINFECTANT
OIL FIELDS
AGRICULTURE
BREWERY AND WINE
DETERGENT
SECOND GENERATION BIOFUELS
CRUDE OIL SPILL REMEDIATION
DISINFECTANT
OIL FIELDS
TEXTILE
SUGAR
DISTILLERY
ANIMAL FEED
WASTE - WATER TREATMENT
PHARMACEUTICALS
PULP AND PAPER

The presence of
Infinita around the World

45+ COUNTRIES

150+ PRODUCTS

500+ CLIENTS WORLD-WIDE

30+ YEARS' TECHNICAL EXPERTISE

Message From The Managing Director

Adarsh Desai

Firstly, I wish one and all a very Happy and Prosperous New Year. May this Year bring great happiness and success to each one of you.

2023 has been a very special year for us. We started this year with a remarkable milestone achieved by our company. Something that recognised our blood, sweat and tears over these years.

Infinita Biotech won the Start Up of the Year Award at the National Start-up Awards 2022 in the Environment Category (Sub Category: Waste to Value). The award was given by Shri Piyush Goyal (Union Minister of Commerce and Industry, Government of India) in New Delhi.

Further, we added another feather to our hat. We received the Runner's Up Award under the Category of 'Most Innovative Company of the Year' at ASSOCHAM's 9th MSME Excellence Awards.

In light of our soaring success this year, we received a lot of media attention as well. Right from TV Interviews in leading Channels such as ET Now and CNBC TV 18 to the Newspapers articles in Times of India, Divya Bhaskar, Sandesh, etc., we were featured everywhere.

Our growth has significantly accelerated this year and so has our global footprint. As of this year, we're exporting our specialised Enzymatic Solutions to more than 45 countries across more than 20 industry segments. We have diversified from product range point of view as well as geographically. In this ongoing financial year 2023 - 24, we expect a growth of over 50% from the previous year. We have set ambitious targets for 2024-25, which will herald our 10th Anniversary and our current growth trend is right on track to achieve these goals.

We have increased our marketing network, scale and budgets and have increasingly participated in various exhibitions domestically and internationally. We have also invested significantly into our R&D initiatives, which is the core of our business.

We have set up a brand new highly advanced R&D centre that will focus on development of Specialised Enzymes. Two of the key projects we're undertaking of high global importance are developing Enzymes for Plastic Degradation and producing Second Generation Ethanol.

Plastic can take up to 500 years to degrade and it is our dream to be able to do it within 60 days. This shows how Infinita Biotech is not a traditional Enzymes company working with just a few common Enzymes. It is a cutting edge leading Biotechnology company with a vision to create solutions for a better tomorrow.

Apart from the R&D centre, we have also developed multiple Application Labs. At Infinita Biotech, we don't only focus on developing Enzymatic Solutions from a theoretical point of view but also have Labs to check their efficiencies and performance so that we can develop solutions more and more accurately and as per the exact requirements of our esteemed clients.

We have also set up a Pilot Plant for production of specialised Plant-based Enzymes. The demand for Plant-based Enzymes is growing due to its broad applications and safety. We want to develop a unique process of extraction which makes these Enzymes way more efficient and cost effective than the standard ones available in the market.

Further, we secured a plot of land this year for a Production facility for Specialised Enzymes. We will be commencing work on this in the near future.

On the human resource front, we have become a much bigger team than we were last year. Now, we're a strong family of more than 70 members. I am indeed very proud to share that more than 40% of them are female.

This year, we had multiple celebrations. Right from celebrating our National Start-up Award to our 8th Anniversary to various festivals, we have done it all. For our 8th Anniversary, the whole team travelled for a retreat to Udaipur, Rajasthan over the weekend. It was a very memorable trip for everyone.

This year, we also implemented a few new HR policies which have benefited our employees. One of them is the Skill Development Programme, wherein any employee who would like to learn a new skill or undergo a particular training that would benefit the company, would be completely sponsored by the company.

The other one, which I am personally very proud of, is the Menstrual Leave Policy for Women. This is a sensitive area which not many companies address , although an important one. At Infinita Biotech, we understand what a woman has to go through every month and in light of that, there is a special leave policy only for women where they can take these leaves unconditionally, with no questions asked.

Trust you will enjoy reading this 4th edition of our BIOVOICE Magazine.

The whole Infinita Biotech family would like to thank each one of you for believing in us and becoming a part of this eventful and extraordinary journey of changing the world Enzymatically!

BIOSCOPE

Articles

Discovery and Development of Novel Enzymes for Plastic Degradation

Contributed by: Milind Kulkarni
President Technical

Introduction

The top most option to find novel enzymes from nature is to screen large collections of whole cell organisms to look for activity-if found, use a whole cell process or isolate the desired enzyme, which is a long process. Microorganisms could be sought in all kinds of bizarre sources from pond sludge, hot spring streams, near countryside garbage heaps, industrial waste and even silent volcanoes as part of their journey into industrial biotechnology.

Another option is to allow the selected microorganisms to grow in limited media components and look for a strain to utilise a given specific substrate as a carbon or nitrogen source. Yet another concept is to look for strains/mutants more productive at producing enzymes after random mutagenesis using ionising radiation or chemical mutagens like N,N-dimethyl nitrosamine, ethyl methyl sulphate, mitomycin, methyl methanesulfonate (MMS), diethyl sulphate, and nitrosoguanidine (NTG, NG, MNNG), through a lengthy process that could take years to reach commercially feasible potencies or titter activities.

Novel tools and technologies have been developed to make identification and development of industrially useful enzymes faster, quicker and with a much higher degree of success, as mentioned in figure 1

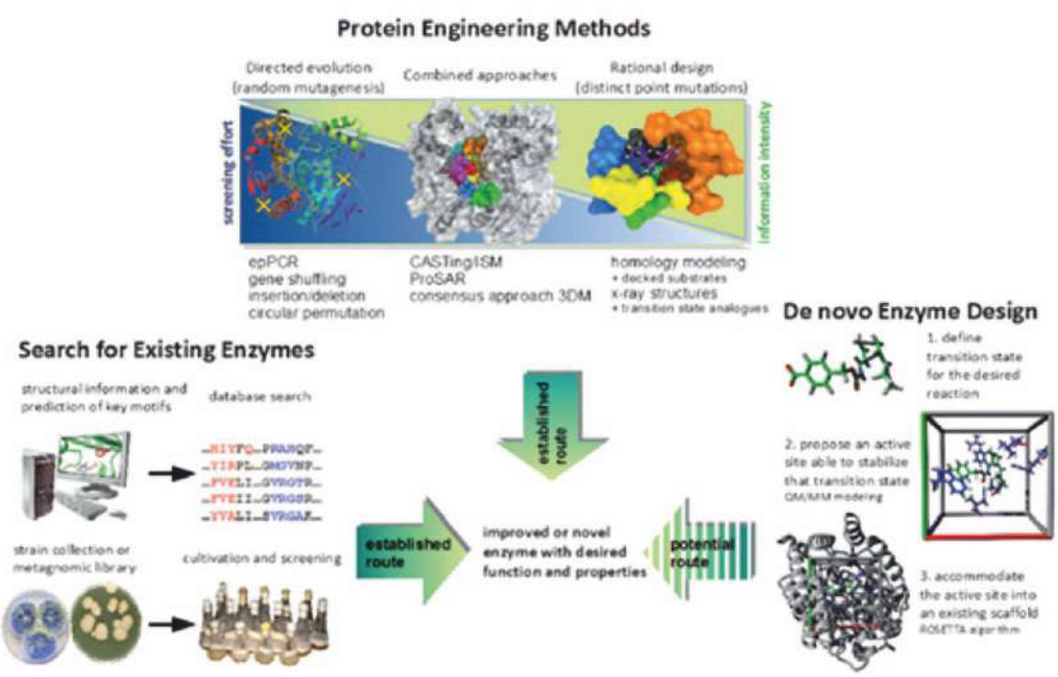


Figure 1: Novel tools and technologies for discovery and development of industrially useful enzymes

According to a new estimate, there are about one trillion species of microbes on Earth, and 99.999 percent of them have yet to be discovered. As recently, the number of microbial species was thought to be a few million at most — little more than the number of insect species. But estimates have been growing ever since. Of the known bacteria, only ~ 2% can be cultured – we don't understand conditions needed for growth/symbiosis with other microorganisms. Thus, a lot of enzymes still do exist in nature that are yet to be found, like for plastic degradation.

Different Approaches to Development of Novel Enzymes for Plastic degradation

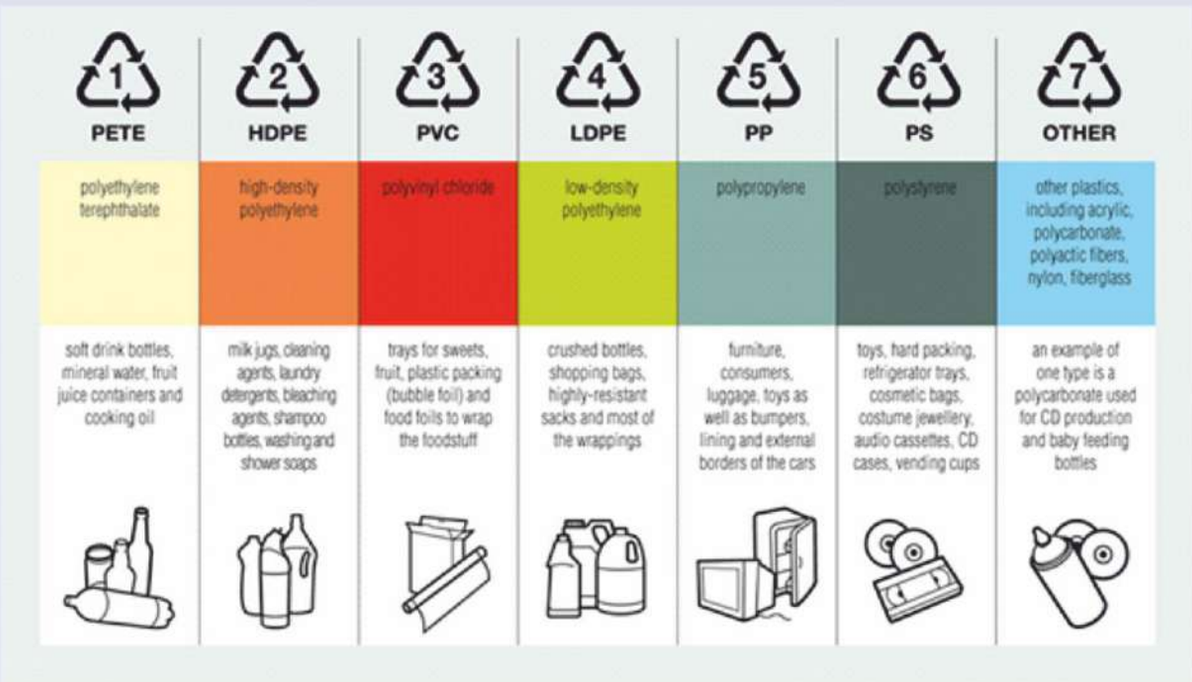


Figure 2: Different types of plastic in daily use

It is challenging to look for enzymes that act on PE (polyethylene), PP, PS, PA (Polyamide), PVC or ether-based PUR (Polyurethane). Such an endeavour requires the coordinated inputs from suitably trained microbiologists, bioinformatics experts and analytical experts, along with appropriate tools that can accurately verify the actual degradation.

Enrichment Approach

Adopting an approach of enrichment from landfill, garbage sites and compost sites with complex polymeric substrates and harbouring high abundance and diversity of microbes could lead to discovery of new degradative enzymes. Better outcomes can be expected if this enrichment approach could be combined with robotics and AI (Artificial Intelligence). Along with omics-analysis and advanced analytical techniques, such directed enrichments can provide polymer-active enzymes. Once such multispecies consortia providing polymer-active enzymes have been obtained. RNAseq, metabolomics and proteomics can be applied to extract clues on key genes engaged in polymer degradation.

For instance, the gene for a novel cutinase homolog, LC-cutinase, was identified from leaf-branch compost metagenomic study and subsequent function-based screening for lipolytic/ esterolytic activity. Further, this gene was overexpressed in Escherichia coli, and purified and characterised to show that it exhibits PET-degrading activity with potential application in the textile industry. When degradation products of this enzyme were studied by reversed-phase high-pressure liquid chromatography, peaks corresponding to monomers like terephthalic acid (TPA) and mono(2-hydroxyethyl)terephthalate (MHET) were eluted with no peak of bis(2-hydroxyethyl)terephthalate (BHET) being detected thus indicating that this enzyme has an ability to completely degrade PET to TPA and ethylene glycol.

In another approach, the polymer was cut into small pieces, placed in mesh bags and buried in compost at around 55–65°C for a period of up to 2 to 4 weeks (burial tests). The fragmented polymer pieces were suspended in an appropriate buffer, incubated at high temperature and the supernatant obtained was inoculated on screening plates. Pure cultures were eventually obtained by repetitive inoculation onto screening plates and these were further subjected to degradation tests on the original polymer followed by 16s rDNA sequencing. Since peaks corresponding to authentic TPA were observed during HPLC so the polymer is hydrolyzable at 50°C with the pure isolates; control samples contained no such terephthalic acid peaks. Mass spectrometric analysis of the culture supernatants showed positive and negative ions of terephthalic acid indicating the hydrolysis of the polymer by an extracellular and thermostable esterase.

Metagenome Mining and Gene Mining

With a metagenomic approach few plastic degrading enzymes have been obtained. Here, either a sequence-based or a functional approach can be adopted. The functional approach would use large amounts of highly diverse DNA stored as insert libraries in heterologous systems along with analytical technologies.

Gene mining through large genome databases and homology-based approaches is another option. Here, Hidden Markov Models (HMM) have shown some promise but it is necessary to experimentally verify such HMM motifs to avoid getting any false positives. Further searches can be improved by opting for structure dependent searches and using such tools for structure prediction like AlphaFold2 or the Robetta server.

Biosensor Development

While today several sophisticated methods based on reversed-phase high-performance liquid chromatography (RP-HPLC), fluorescence and absorbance are known to study the progress of PET degradation by putative enzymes, none of them can directly measure PET degradation in nature. So, there is a need to develop smart sensitive biosensors with ease of use that would confirm the presence of degradation products like TPA, MHET and BHET in nature and could also provide clues regarding the source microorganisms that bring about such degradation.

Synthetic Approach

Other approaches could include directed evolution, rational design, machine-learning based engineering or random mutagenesis that allow development of enzymes with multiple roles.

For example, genetically engineered proteins can be created with two active sites of biological and/or abiological origin, for improved natural and non-natural catalysis. The approach can enhance the catalytic properties, such as enzyme efficiency, substrate scope, stereoselectivity and optimal temperature window of an esterase containing two biological sites. Further reactions can facilitate synergistic chemocatalysis and biocatalysis in a single protein.

The generic or parental plastic-active enzymes include LCC (metagenomic leaf compost cutinase), PET2, TfH (Thermobifida fusca thermophilic hydrolase), IsPETase (Ideonella sakaiensis PET hydrolase). For each of these, improved variants have been reported with activities higher than the parental enzymes with IsPETaseTM (thermostable PETase) being one of the most active IsPETase variants.

Using artificial intelligence (AI) approaches, a highly active enzyme designated FAST-PETase (functional, active, stable and tolerant PETase) has also been reported. FAST-PETase contains five mutations (with respect to wild-type PETase), shows higher PET-hydrolytic activity relative to both wild-type and engineered alternatives between 30 and 50 °C and a range of pH levels. Further, it takes around a week to almost completely degrade untreated, post-consumer-PET from 51 different thermoformed products by FAST-PETase. A closed-loop PET recycling process by using FAST-PETase and resynthesizing PET from the recovered monomers has also been demonstrated successfully and can thus be a viable option at the industrial scale.

The most active enzymes like the LCC variants LCCICCG/WCCG and the FAST-PETase look like ideal candidates for industrial PET re- and upcycling. A French company, working on similar lines on a pilot scale, relies on pre-treated PET-flakes that have increased surface area and lower level of crystallinity. The enzyme used here converts the low-crystalline PET into monomeric TPA (Terephthalic acid) and EG (Ethylene glycol) at about 72°C, within 24 hours. This kind of approach would facilitate an upcycling of the monomers into products of higher value (valorization) and also recycle into the polymers. This could serve as a blueprint for the management of other plastic polymers as well, once corresponding enzymes become available. It can be expected that sooner or later, besides PET bottles, used textile fibres and other forms of PET could also find a way to the industrial fermenters. Platform chemicals based on waste can then be produced that would allow the production of valuable compounds like vanillin from TPA.

De Novo Enzyme Design

This approach allows one to introduce active sites and substrate-binding pockets that are predicted to catalyse a reaction of interest into geometrically compatible native scaffolds.

For instance, it is feasible to design highly thermostable enzymes that can degrade plastics. This has been used to design an enzyme that can catalyse the hydrolysis of polycarbonate, which no known natural enzymes can degrade. Multiple sequence alignment (MSA) and phylogenetic tree analysis in Clustal Omega were employed to compare subclasses of ester hydrolases (EC 87 3.1.1 and EC 3.1.2) including PETases. Quantum

mechanics (QM) simulations confirmed that the Ser-His-Asp/Glu catalytic triad stabilised the transition state for the hydrolysis of polycarbonate. On the other hand, more than 1,000 suitable scaffolds were generated from the PDB (protein data bank) database based on the criteria like scaffold resolutions (<2.5 A), their MW or molecular weight (>13 kDa), one unique protein chain, no mutations, and either naturally thermostable or de novo designed.

Through Rosetta enzyme design, the catalytic triad of Ser-His-Asp/Glu along with the oxyanion hole was introduced into the set of thermostable scaffolds. For a successful match to be generated, two criteria had to be satisfied: (1) there had to be enough space for the ligand and (2) the geometry of the catalytic residues with respect to the ligand were as defined.

Computational evaluation was applied to select a potential PCase and this was produced recombinantly in E. coli. While with CD (Circular Dichroism) spectroscopy it was possible to verify the melting temperature of the design (found to be >95◦C), activity towards a commercial form of polycarbonate was confirmed using AFM (Atomic Force Microscopy). This showed that a PCase had been designed successfully.

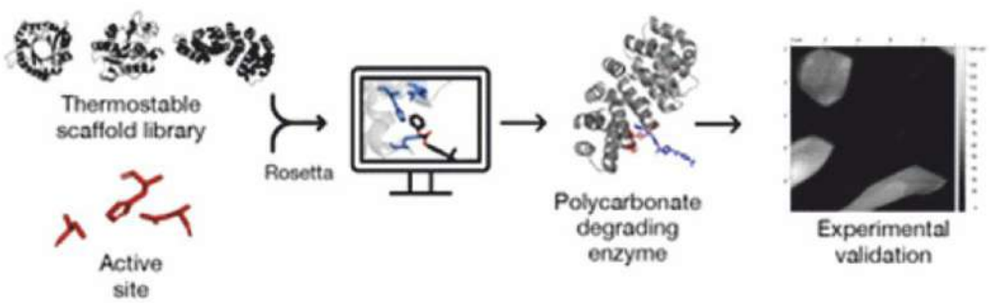


Figure 2: Different types of plastic in daily use

Other Approaches

Another group of researchers converted PET into a medium chain-length PHA (polyhydroxyalkanoates) and a new bio-based poly(amide urethane) (bio-PU). It would also make sense to co-culture a PET- degrading form with a PHB (polyhydroxybutyrate) producer to get bioplastic.showed that a PCase had been designed successfully.

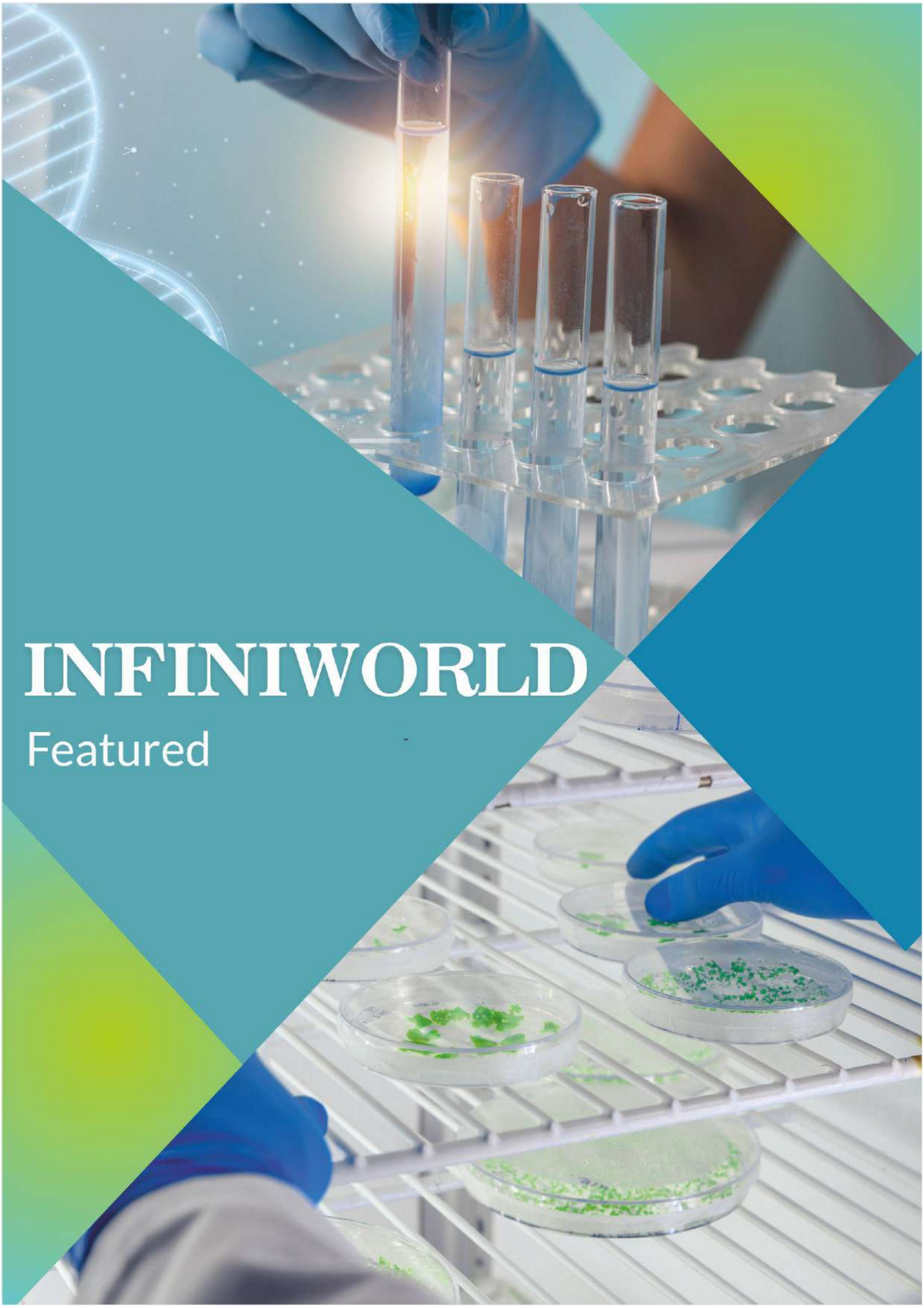
Challenges

For complete enzymatic degradation, the polymers need to be ground to microplastics so that a higher accessible surface area can be achieved, but with lower crystallinity. Also, the secreted enzymes need to be able to attach to the slightly amorphous polymers to bring about hydrolysis.

Nevertheless, it is imperative that as little plastic waste as possible is generated in the first place. The initial steps in this direction could be for example, the blanket ban on use of single-use plastics, especially as packaging materials, the replacement of C-C bond-based polymers by ester-based polymers (synthesised primarily from bio-based materials) since these can be degraded easier and the avoidance of difficult-to-recycle composites. At the same time, the production of plant-based feedstocks for bioplastics should not compromise the agricultural sector with farmland used for food production.

References

- *Chow, J., Perez-Garcia, P., Dierkes, R. & Streit, W.R. (2023) Microbial enzymes will offer limited solutions to the global plastic pollution crisis. Microbial Biotechnology, 16, 195–217.*
- *Sulaiman, S., Yamato, S., Kanaya, E., Kim, J.J., Koga, Y., Takano, K. et al. (2012) Isolation of a novel cutinase homolog with polyethylene terephthalate-degrading activity from leaf-branch compost by using a metagenomic approach. Applied and Environmental Microbiology, 78, 1556–1562.*
- *Hu, X., Thumarat, U., Zhang, X., Tang, M. & Kawai, F. (2010) Diversity of polyester-degrading bacteria in compost and molecular analysis of a thermoactive esterase from Thermobifida alba AHK119. Applied Microbiology and Biotechnology, 87, 771–779*
- *Alonso, S., Santiago, G., Cea-Rama, I., Fernandez-Lopez, L.,Coscolín, C.,Modregger, J. et al. (2020) Genetically engineered proteins with two active sites for enhanced biocatalysis and synergistic chemo- and biocatalysis. Nature Catalysis, 3, 319–328.*
- *Lu, H., Diaz, D.J., Czarnecki, N.J., Zhu, C., Kim, W., Shroff, R. et al. (2022) Machine learning-aided engineering of hydrolases for PET depolymerization. Nature, 604, 662–667.*
- *Holst, L., Niklas,G., Toftgaard, F., Roenne, F., Moise, I., Petersen, E., Fojan, P. (2023). De novo Design of a Polycarbonate Hydrolase. 10.1101/2023.03.10.532063.*



INFINIWORLD

Featured

Winner at the National Startup Awards 2022 in the Environment Category (Sub Category: Waste to Value)

Runner Up for Most Innovative Company of the Year by ASSOCHAM - 9th MSME Excellence Awards

Graced by the visit from the honourable Chief Minister of Gujarat, Mr. Bhupendrabhai Patel, at our Booth - Pre-Vibrant Summit-Biotechnology

Startup Conclave Vibrant Gujarat

Part of Indian Startup Delegation, representing India at Reflect Fest - Cyprus

81st Annual Convention and International Sugar Expo - STAI

InterCHARM - International Exhibition for Perfumery and Cosmetics - RUSSIA

16th Annual Sugar and Ethanol Asia Conference

HPCI (Home and Personal Care Ingredients) Exhibition

Pre-Vibrant Summit-Biotechnology

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BAKERY INDUSTRY

> “Baking Better with Enzymes: The Science Behind Perfect Bakery Products”

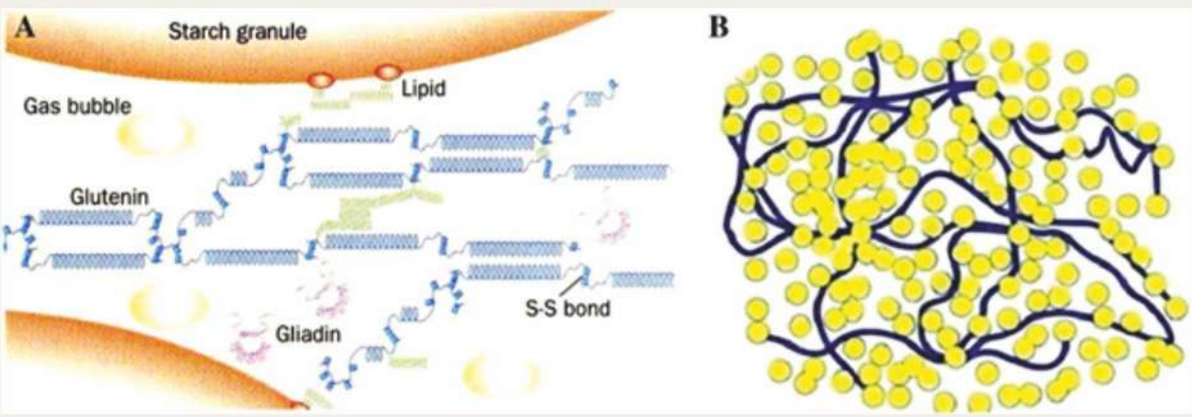
Baking is a timeless art that brings joy to people all around the world. Whether you are crafting flaky croissants, tender bread loaves, or delicate pastries, achieving that perfect texture and taste is the baker's ultimate goal. Behind the scenes, hidden heroes play a crucial role in achieving baking perfection: enzymes.

Enzymes are nature's tiny workhorses, catalysts that accelerate chemical reactions in living organisms. In the realm of baking, they are the secret ingredient that can make your bread softer, your crusts crisper, and your pastries flakier. Join us on a journey through the world of bakery enzymes, and discover how they are revolutionising the way we bake.

Baking is a precise balance of ingredients and processes, and enzymes have emerged as key players in achieving consistent and delicious results. Here's how they work their magic:

- Starch Conversion: Enzymes like alpha-amylase break down starches into simpler sugars during dough fermentation. This not only feeds the yeast but also sweetens the dough, giving it that lovely golden-brown colour.

- Gluten Modification: Proteases are enzymes that alter gluten's structure, making it more elastic and extensible. This is particularly important in bread baking, where a well-developed gluten network results in a lighter and airier crumb.



Source: https://www.researchgate.net/figure/Structural-diagram-of-gluten-proteins-in-dough-a-and-gluten-b-system-5-6_fig1_339083360

- Dough Conditioning: Enzymes can improve dough handling and consistency. They assist in dough relaxation and can reduce mixing time, resulting in a more efficient and less labour-intensive baking process.

- Texture Enhancement: For pastry enthusiasts, enzymes like lipase and amylase contribute to the crispy, flaky texture that elevates croissants and puff pastries to another level.

Benefits of Enzyme Use in Bakeries

So, why should bakers embrace enzymes in their craft? Here are some compelling reasons:

- Consistency: Enzymes ensure that every batch of baked goods is consistent in terms of texture, appearance, and taste. This consistency is vital for bakeries aiming to meet customer expectations every time.

- Improved Shelf Life: Enzymes can extend the shelf life of bakery products, reducing food waste and allowing for wider distribution.

- Cost Efficiency: Enzymes can optimise processes, reduce ingredient waste, and cut down on production time, ultimately saving money for bakeries.

- Clean Label Options: Some enzymes are derived from natural sources, providing a clean label option for bakeries looking to cater to health-conscious consumers.

- Enhanced Creativity: With enzymes, bakers can push the boundaries of creativity, experimenting with new textures and flavours to delight their customers.

In the world of baking, enzymes are like the unsung heroes, quietly transforming raw ingredients into mouth-watering delicacies. Their precise actions and undeniable benefits make them indispensable for bakers striving to achieve perfection in their craft.

As the baking industry continues to evolve, expect to see more innovative uses of enzymes, as well as cleaner and more sustainable options. So, the next time you bite into a perfectly flaky croissant or savour a slice of freshly baked bread, remember that enzymes played a significant role in making that moment of culinary delight possible.

COSMETICS INDUSTRY

“Unlocking Beauty Secrets: The Science The Power of Enzymes in Cosmetics”

In the ever-evolving world of cosmetics, where innovation meets beauty, there is a remarkable ingredient that has been turning heads—enzymes. While you may associate enzymes with the digestive process, these natural catalysts are making their mark in the world of skincare and cosmetics, offering a gentle yet effective way to achieve radiant and healthy skin. Join us on a journey through the enchanting realm of enzymes in cosmetics and discover how they are transforming our skincare routines.

The Marvels of Enzymes

Before we dive into the world of cosmetics, let us understand what enzymes are and why they are so special. Enzymes are biological molecules, often proteins, that act as catalysts, speeding up chemical reactions in living organisms. In the context of skincare and cosmetics, enzymes offer several remarkable benefits:

- Gentle Exfoliation: Enzymes like papain (from papaya) and bromelain (from pineapple) gently break down dead skin cells, providing a natural exfoliation without the harsh abrasiveness of physical scrubs.
- Brightening and Clarifying: Enzymes help brighten and clarify the skin by removing surface impurities, revealing a more radiant complexion.

- Anti-Aging: Some enzymes stimulate collagen production, helping to reduce the appearance of fine lines and wrinkles, and improving skin elasticity.
- Enhanced Absorption: By exfoliating the skin's surface, enzymes enhance the absorption of other skincare products, ensuring that active ingredients penetrate more effectively.
- Balanced Oil Production: Enzymes can help balance oil production, making them valuable for those with oily or combination skin types.

Cosmetic Applications of Enzymes

Now that we have established the magical properties of enzymes, let us explore how they are used in cosmetics:

- Exfoliating Masks: Enzyme-based masks are a popular choice for gentle exfoliation. They're ideal for those with sensitive skin who want to achieve a smoother and brighter complexion.
- Cleansers: Enzyme cleansers offer a deep cleanse without stripping the skin's natural moisture barrier. They're perfect for daily use.
- Serums and Creams: Enzymes can be found in serums and creams designed to target specific skincare concerns, such as anti-aging or brightening.
- Spot Treatments: Enzyme spot treatments help clear blemishes and promote faster healing, making them essential for acne-prone skin.
- Professional Treatments: Many spas and skincare clinics offer enzyme-base professional treatments, such as enzyme peels, to address a wide range of skin issues.

Enzymes and Clean Beauty

In an era where clean beauty is gaining momentum, enzymes are a natural fit. They are often derived from fruits like papaya and pineapple, making them a sustainable and eco-friendly choice. Additionally, enzymes typically have fewer harsh chemicals, making them appealing to those who seek safer and more natural skincare options.

The most used Enzymes in Cosmetics

PAPAIN:

Papain, an enzyme from papaya, finds wide use in cosmetics for its natural exfoliation, aiding in dead skin removal, enhancing skin texture, and brightening complexion. Its gentle yet effective properties make it ideal for sensitive skin, reducing inflammation and promoting even skin tone. Papain's natural origin aligns with the growing preference for plant-based skincare, commonly found in facial peels, masks, and exfoliating products.

BROMELAIN:

Bromelain, derived from pineapple, is prized in cosmetics for its exfoliating prowess, gently removing dead skin cells to reveal a brighter complexion. Its anti-inflammatory properties soothe sensitive skin and aid in reducing redness, making it suitable for various skin types. Bromelain's enzymatic action promotes skin renewal and can diminish the appearance of blemishes or uneven skin tone. Widely incorporated into facial masks, cleansers, and serums, its natural origin aligns with the demand for plant-based skincare.

KERATINASE:

Keratinase, an enzyme in cosmetics, targets keratin, aiding in the gentle breakdown of proteins like dead skin cells and keratin build-up. Its exfoliating action promotes smoother skin texture and helps unclog pores, reducing the risk of breakouts. This enzyme's ability to break down keratin makes it beneficial for hair care, aiding in the removal of excess keratin on the scalp and enhancing hair health. Often used in facial scrubs, masks, and scalp treatments, keratinase offers a gentle yet effective solution for exfoliation, contributing to clearer skin and healthier hair, aligning with the demand for enhanced skincare and haircare solutions.

Enzymes in cosmetics represent a harmonious fusion of science and beauty. Their ability to gently renew and rejuvenate the skin has earned them a special place in our skincare routines. As you explore the world of cosmetics, keep an eye out for products that harness the power of enzymes—they might just be the secret to unlocking your skin's true radiance.

DETERGENT INDUSTRY

“The Unsung Heroes of Cleanliness: Enzymes in Detergents”

Every time we toss our clothes into the washing machine or scrub our dishes after a delicious meal, we rely on a remarkable group of substances to tackle the dirt, stains, and grime that accumulate in our daily lives- enzymes. While these microscopic helpers may not be visible to the naked eye, they play a crucial role in our quest for cleanliness, especially in the world of detergents. Join us on a journey into the fascinating world of enzymes in detergents, where science and household chores meet.

How enzymes are incorporated into different detergent products?

Enzymes are incorporated into various detergent products, including baby detergent powders, dishwashing liquids, and pods, through specific manufacturing processes tailored to each product's requirements.

Detergent Powders:

- Enzyme Addition: Enzymes like proteases, amylases, and lipases are added during the manufacturing process. These enzymes are chosen for their ability to target specific stains like protein-based stains, starches, and oils.
- Granulation: Enzymes are mixed with other detergent components, such as surfactants and builders. This mixture is then granulated to ensure even distribution of enzymes throughout the powder.
- Drying and Packaging: The granulated mixture is dried and processed into the final powdered form. Proper drying is crucial to maintain enzyme stability. The finished product is thenpackaged for sale.

Baby Detergent Powders:

- Enzyme Selection: For baby detergents, milder enzymes or enzyme blends suitable for sensitive skin might be chosen to ensure gentleness on baby clothes.
- Similar Manufacturing Process: The process of incorporating enzymes into baby detergent powders is similar to standard detergent powders, focusing on using gentle enzymes and stringent quality control to ensure safety for sensitive skin.

Dishwashing Liquids:

- Enzyme Encapsulation: Enzymes are encapsulated within the liquid detergent formulation. Encapsulation helps protect enzymes from premature activation or degradation, ensuring their effectiveness during the washing process.
- Stable Formulation: Manufacturers design the formulation to maintain enzyme stability in a liquid environment, considering factors like pH and compatibility with surfactants.

Enzymes in detergent pods or capsules are incorporated using specialised encapsulation technologies to ensure their stability and effectiveness. Here's how enzymes are included in these innovative detergent forms:

Encapsulation Process

- Microencapsulation: Enzymes are encapsulated within tiny capsules made of materials that dissolve in water, such as water-soluble films or coatings.
- Protective Barrier: The capsules act as a protective barrier, shielding the enzymes from moisture, air, and other factors that might compromise their effectiveness or stability.
- Dissolvable Design: These capsules are designed to dissolve or break open when exposed to water during the washing cycle, releasing the encapsulated enzymes onto the stains or soils.

New Technologies in Capsules:

- Multi-Chambered Pods: Some advanced detergent pods have multiple chambers to keep different components separate until use. Enzymes might be housed separately from other detergent ingredients to maintain their stability and potency until they're needed.
- Dual-Action Capsules: These capsules contain different enzymes or cleaning agents that activate at specific stages of the wash cycle. For instance, one enzyme might target stains in the prewash, while another is released during the main wash cycle for further cleaning.

Specialized Packaging and Design:

- Moisture Resistance: Capsules are designed to resist moisture ingress, preserving the integrity of the enzymes within.
- Timing and Release Mechanism: The design ensures the enzymes are released at the optimal time during the washing process to maximise their effectiveness in breaking down stains.

These encapsulation technologies and specialised designs in detergent pods or capsules help preserve the enzymes' efficacy, ensuring they are activated at the right time and under the right conditions for optimal stain removal while offering convenience and ease of use to consumers. Throughout these manufacturing processes, stringent quality control measures are employed to verify enzyme stability, efficacy, and safety for use in the specific detergent products. Enzymes undergo testing to ensure they remain active and effective during storage and use, contributing to the cleaning performance of the detergent while being safe for their intended applications, such as baby laundry or dishwashing.

Next time you are doing your laundry or tackling a sink full of dishes, take a moment to appreciate the invisible heroes working diligently to remove stains and grime-enzymes. Their role in detergents is a testament to the marvels of science and innovation, making our daily chores a little easier and a lot cleaner. As we continue to explore the boundaries of cleaner living and sustainability, enzymes will undoubtedly play a vital role in shaping the future of detergents and cleaning products.

AD INFINITUM

Unique Enzymatic Solutions for a Better Tomorrow

Agriculture

Unleashing the Power of Agriculture Enzymes: Cultivating a Greener Future

In the ever-evolving landscape of agriculture, the quest for sustainable and efficient farming practices has led to the exploration of innovative solutions. One such groundbreaking technology making waves in the agricultural sector is the use of enzymes. These microscopic catalysts play a pivotal role in transforming the way we cultivate crops, enhancing yields and minimizing environmental impact. Enzymes are biological molecules that act as catalysts, accelerating chemical reactions without being consumed in the process. In agriculture, enzymes are harnessed for their ability to break down complex organic matter into simpler forms, aiding in nutrient absorption and overall plant health.

Agriculture Enzymes play a major role in the following as well:

- Improves soil health
- Improving nutrient uptake
- Enhances crop yield
- Mitigating environmental impact

Our Solutions:

Infinita provides enzymatic formulations for Composting, Plant Growth, Organic Larvicide and Soil Rejuvenation.

Animal Feed

Revolutionizing Livestock Nutrition: The Impact of Animal Feed Enzymes

In the dynamic realm of animal husbandry, the quest for optimal nutrition and enhanced performance has led to the emergence of innovative solutions. Among these, animal feed enzymes have gained prominence for their ability to transform the efficiency and sustainability of livestock farming. Let us delve into the world of animal feed enzymes and explore how these microscopic catalysts are reshaping the landscape of animal nutrition. Animal feed enzymes are natural proteins that act as catalysts, facilitating the breakdown of complex feed components into simpler, more digestible forms. These enzymes contribute to improved nutrient absorption, enhanced feed efficiency, and overall better animal health.

Enzymes play a major role in:

- Breaking down complex nutrients

- Improved feed conversion and weight gain
- Enhancing gut health

Our Solutions:

Infinita provides enzymes like Phytase, Cellulase, Hemicellulase, Phytase, Mannanase, Xylanase and Multi-enzyme blends for specific nutritional requirements..

Bakery

The Culinary Alchemy: Enzymes in the Bakery Industry

Enzymes serve as indispensable catalysts in the bakery industry, enhancing both the quality and efficiency of the baking process. These biological agents play a vital role in dough development, contributing to the structure, texture, and rise of baked goods. Amylases, for instance, break down starches into fermentable sugars, providing fuel for yeast during fermentation and resulting in a light and airy crumb. Lipases contribute to the tenderness and flavor of pastries by breaking down fats into smaller components. In essence, the strategic use of enzymes in bakery formulations not only improves product consistency and shelf life but also unlocks a symphony of flavors that defines the sensory experience of our favorite baked treats.

Our Solutions:

We offer a wide range of enzyme-based products for use in the bakery industry, which includes Amylases, Lipases, Glucose Oxidase, Cellulases, Protease, Xylanase, and Improvers.

Biodiesel

Empowering Sustainability: The Role of Biodiesel Enzymes in Green Energy Revolution

As the world seeks alternative and sustainable energy sources, biodiesel has emerged as a promising contender to reduce our reliance on traditional fossil fuels. In the quest for greener energy solutions, the role of biodiesel enzymes has taken center stage. Enzymatic transesterification offers a sustainable and eco-friendlier alternative. Lipases, a type of enzyme, act as catalysts in this process, facilitating the conversion of triglycerides into biodiesel and glycerol. Enzymatic transesterification offers several advantages, including milder reaction conditions, reduced energy consumption, and the ability to process a variety of feedstocks.

Our Solution:

Infinita provides Lipase Complex Enzymes for esterification of edible and non-edible oils to produce biodiesel.

Brewery and Malt

Brewing Alchemy: The Magic of Malt Enzymes in Craft Beer Production

Craft beer, with its diverse flavors and artisanal quality, has become a symbol of innovation and tradition in the brewing industry. At the heart of this alchemical process lies malt enzymes.

The Role of Malt Enzymes in Brewing:

Malt enzymes are crucial players in the malting and brewing process. Malting involves germination and kilning of cereal grains, usually barley, to activate enzymes that break down complex starches into fermentable sugars. During brewing, these sugars are then fermented by yeast, producing alcohol and carbonation. Malt enzymes play a key role in converting the starches in grains into the sugars that fuel the fermentation process.

Our Solutions:

Infinita provides High Temperature Alpha Amylase, Glucoamylase, Beta Glucanase, Alpha-Acetolactate, Multi enzyme blends for hydrolysing starch and increasing filtration efficiency.

Ceramic

Unveiling the Power of Ceramic Enzymes: Revolutionizing Sustainable Practices

In the dynamic world of science and technology, researchers are constantly seeking innovative solutions to address environmental challenges and promote sustainable practices. One such breakthrough is the development and utilization of ceramic enzymes. These remarkable biocatalysts are reshaping industries, offering eco-friendly alternatives with applications ranging from agriculture to waste management. Ceramic enzymes are engineered through a process called immobilization, where enzymes are securely attached to ceramic materials.

This immobilization not only enhances the stability and longevity of enzymes but also broadens their applications across diverse industries.

Our Solution:

Specially formulated blend of enzymes to carry out ceramic process at low temperature.

Cosmetics

"Enzymatic Radiance: The Science Behind Skincare Brilliance"

Enzymes have become invaluable ingredients in the cosmetics industry, contributing to the formulation of products that cater to various skin care needs. Additionally, enzymes play a role in enhancing the absorption of active ingredients in skincare products, ensuring their efficacy. In formulations like cleansers and masks, enzymes aid in breaking down impurities

and unclogging pores, contributing to a clearer and healthier skin appearance. With their ability to promote skin renewal and improve product penetration, enzymes have emerged as key players in the development of innovative and effective cosmetic formulations that prioritize both skincare and user experience.

Our Solutions:

Papain, Bromelain and Keratinase

Crude Oil Spill Remediation

Harnessing Nature's Cleanup Crew: Enzymes for Crude Oil Spill Remediation

The catastrophic impact of crude oil spills on our oceans and ecosystems has spurred a global quest for effective and environmentally friendly cleanup solutions. In this pursuit, scientists have turned to nature's own cleaning agents: Enzymes. These biocatalysts, capable of breaking down complex hydrocarbons found in crude oil, are emerging as a powerful tool in the restoration of environments affected by oil spills. Enzymes, typically produced by bacteria and other microorganisms, act as catalysts, speeding up the chemical reactions that break down the complex hydrocarbon chains into more manageable components.

Our Solution:

Infinita provides a specially formulated Enzyme based product for maximum hydrocarbon crude oil spill remediation.

Dairy

Dairy Enzymes: Transforming Milk into Delightful Delicacies

In the world of dairy products, behind the scenes of creamy yogurts, flavorful cheeses, and velvety ice creams, dairy enzymes play a remarkable role. These enzymes transform raw milk into an array of delightful and diverse dairy products. Dairy enzymes are naturally occurring proteins that act as catalysts, facilitating specific biochemical reactions in milk.

Applications in Dairy Processing:

- Cheese Making
- Yogurt Production
- Ice-cream Manufacturing
- Lactose-free Specialty Products

Our Solutions:

Infinita provides enzymes like Lactase, Transglutaminase and Lipase for the dairy industry.

Detergent

"Enzymatic Marvels: Crafting Clean Clothes with Precision"

Enzymes play a pivotal role in revolutionizing the detergent industry, offering a potent and eco-friendly solution for effective stain removal and fabric care. Enzymes enhance the overall cleaning power of detergents, enabling the removal of tough stains at lower temperatures, thus conserving energy. This enzymatic approach not only ensures superior cleaning performance but also contributes to the sustainability of laundry practices. With enzymes reducing the reliance on harsh chemicals and high temperatures, the detergent industry has embraced a more environmentally conscious and efficient path towards achieving spotless and fresh laundry results.

Our Solutions:

Infinita has developed an extensive range of enzymatic solutions in liquid and granular form. The enzymes - protease, amylase, lipase, cellulase, mannanase and pectinase - are available in various blends as well as single enzymes, depending on the usage and requirements of the users.

Distillery

The Alchemy of Distillery Enzymes: Crafting Spirits with Precision and Flavor

Distillery enzymes are specialized proteins that catalyze crucial reactions during the production of alcoholic beverages. These enzymes are either derived from natural sources or produced through microbial fermentation, they break down complex molecules into simpler components, ultimately influencing the flavor, aroma, and overall character of the final spirit.

Key Enzymes in Distillation:

Amylase : This enzyme breaks down complex carbohydrates into sugars that yeast can then ferment, laying the foundation for alcohol production.

Glucoamylase : This enzyme is especially crucial in the production of high-proof spirits as it ensures the maximum conversion of sugars, leaving little behind after fermentation.

Enzyme Boosters: These boosters are utilized to optimize enzymatic reactions, improve efficiency, and achieve desired outcomes.

Our Solutions:

Infinita provides specially formulated enzymatic boosters for Grain, Sugar and Molasses based distilleries. Other solutions include Enzyme based Biocide, Enzyme blends for Molasses Preservation and Enzymatic nutritional replacement of Urea.

Fruit Juice

Juicy Magic: Enzymes in Fruit Juice Production

The refreshing taste of fruit juice is a universal pleasure, and behind the scenes of this delightful beverage, enzymes play a crucial role in the alchemical process that transforms raw fruits into the sweet nectar we savor.

Pectinase: The Quality Booster

Pectinases are widely used in the fruit juice industry primarily to improve the quality of extracted juice. This enzyme breaks down pectin, ensuring the release of trapped juices. The result is a smoother, clearer juice with a more pronounced and vibrant flavor.

Cellulase: Easing extraction

Cellulase used in fruit juices and wine processing improves the extraction and clarification of juices and maceration of fruit nectars, by breaking the cellulose chains in plant tissues.

Our Solutions:

Infinita provides Amylases, Pectinase and Cellulases for use in juice extraction.

Meat

The Culinary Alchemy of Enzymes: Transforming Meat into Gastronomic Delights

Enzymes, the culinary wizards hidden within the realm of meat processing, are the unsung heroes behind the succulence and flavor complexity of our favorite cuts. Enzymes are involved in flavor development during meat aging processes, where natural enzymes present in the meat work to break down proteins into savory amino acids, intensifying the overall taste. The strategic use of enzymes in meat processing not only improves the sensory attributes of meat products but also

contributes to optimizing production efficiency and meeting consumer preferences for high-quality, flavorful meats.

Our Solutions:

Transglutaminase, Papain and Bromelain

Paper and Pulp

Paper and Pulp Enzymes: Transforming Fibers into Sustainable Excellence

In the world of paper and pulp production, where sheets of paper transform into the pages of our favorite books and essential packaging materials, enzymes are playing a pivotal role in driving efficiency, sustainability, and innovation. Key enzymes are:

Cellulase: Unlocking the Fiber Treasure

During the pulping process, cellulase breaks down cellulose into smaller, more manageable units, promoting the separation of fibers and improving pulp quality.

Alpha Amylase

The use of A-amylases in the pulp and paper industry is for the modification of starch of coated paper, i.e., for the production of low-viscosity, high molecular weight starch

Hemicellulase:

Hemicellulases complement the action of cellulase by targeting hemicellulose. Breaking down hemicellulose contributes to the loosening of fibers and reduces the viscosity of pulp, making it easier to process and improving the overall quality of the paper.

Lipase:

Lipases can control the accumulation of pitch during the production of Paper from pulps with high resin content.

Xylanase:

Xylanase is used to hydrolyze raw materials such as chemicals in the paper manufacturing industry. This enzyme is used either individually or in combination, which has the efficient potential to be considered for bio-deinking and bio-bleaching components.

Our Solutions:

Infinita provides High Temperature Alpha Amylase, Cellulase, Lipase and Xylanase, along with a blend available for de-inking.

Pharmaceutical

Healing Hands: The Vital Role of Enzymes in Pharmaceuticals

Pharmaceuticals have a very complicated world wherein Enzymes have an essential role to play. Let us see how enzymes play a crucial role in drug development, production, and therapeutic applications, showcasing the groundbreaking contributions of these microscopic powerhouses to human health.Advances in precision medicine, gene therapy, and personalized medicine are expected to further expand the role of pharmaceutical enzymes in tailoring treatments to individual patients.

Our Solutions:

Infinita offers Amylase, Diastase, Bromelain, Papain, Lactase, Serratiopeptidase, Nattokinase and Lysozyme for pharmaceutical applications

Soil Stabilization

Paving the Way for Sustainable Roads: The Role of Road Stabilization Enzymes

Developing road stabilization enzymes may revolutionize the way roads are built and maintained in the quest for sustainable infrastructure. These enzymes, biological agents derived from various sources, play a crucial role in enhancing the durability, strength, and environmental sustainability of road construction.

The Basics of Road Stabilization Enzymes:

Road stabilization enzymes are a type of biopolymer derived from natural sources, such as microbial organisms or plant extracts. These enzymes are designed to interact with soil particles and aggregates, leading to improved cohesion, stability, and overall strength in road construction materials.

Our Solution:

Infinita provides a blend of enzymes which improves the chemical bonding that helps to fuse the soil particles together, creating a more permanent structure that is more resistant to weathering and water penetration.

Starch Processing

Breaking Down Barriers: The Role of Starch Processing Enzymes in the Food Industry

Among the many components of the food industry that are transformed into delicious products, starch processing enzymes play a crucial role. These enzymes play a pivotal role in breaking down complex starch molecules, unlocking a world of possibilities for creating everything from silky sauces to fluffy baked goods.

The Basics of Starch Processing Enzymes:

Starch, a carbohydrate found in many plants, serves as a crucial energy source for both plants and animals. In the food industry, starch processing enzymes are employed to break down the complex structure of starch into simpler components, such as sugars and dextrins. Two key enzymes involved in this process are amylase and glucoamylase.

Our Solutions:

Infinita provides Alpha Amylase for liquefaction, Gluco Amylase for saccharification and Beta Amylase for maltose syrup production.

Sugar Processing

The Role of Enzymes in Sugar Processing: Unveiling the Sweet Science

As a common ingredient in our daily lives, sugar undergoes a fascinating journey from raw plant material to crystalline form. Behind this transformation lies the intricate dance of enzymes, nature's biochemical catalysts that orchestrate the complex process of sugar production.

Invertase in Fermentation:

Invertase catalyzes the hydrolysis of sucrose into glucose and fructose. This enzymatic activity is vital for the fermentation process, where microorganisms utilize sugars to produce ethanol or other desired compounds.

Amylase in Starch Conversion:

In cases where starch is a significant component of the raw material, amylase enzymes are employed to break down starch into fermentable sugars, contributing to the overall efficiency of the fermentation process.

Dextranase enzyme for Enhancing Purity and Efficiency:

Dextranase enzyme plays a crucial role in the sugar industry by facilitating the breakdown of dextran, a polysaccharide impurity present in sugar beet extracts. It ensures the production of high-quality, clear syrups and refined sugar.

Our Solutions:

Infinita provides High Temperature Alpha Amylase, Dextranase, Invertase, and Enzyme based Biocide to prevent microbial growth.

Textile

Eco-Friendly Fashion: The Enzymatic Revolution in Textile Wet Processing

In the ever-evolving landscape of fashion, sustainability has become a buzzword, and for good reason. As consumers demand eco-friendly practices, the textile industry is undergoing a transformative journey, with enzymes playing a starring role. These microscopic catalysts are redefining the way fabrics are processed, offering a greener alternative to traditional methods.

Green Beginnings:

Textile production typically begins with raw fibers that require extensive processing to become the fabrics we know and love. Enzymes are at the forefront of this transformation, contributing to the cleaning and preparation of fibers.

Eco-Scouring:

Enter enzymatic eco-scouring, a method that utilizes enzymes like lipase, protease and pectinase to break down fats and proteins. This not only reduces the environmental impact but also enhances the quality of the fabric.

Denim Distressing Without Distress:

The beloved denim industry has embraced enzymes in distressing processes. Cellulase enzymes are employed to create that sought-after worn-out look without resorting to abrasive techniques. This not only saves water and energy but also extends the life of denim garments.

Enzymatic biopolishing, driven by cellulase, gives fabrics a soft and smooth finish. By selectively removing protruding fibers and fuzz, this process enhances comfort while reducing the need for environmentally unfriendly chemical treatments.

Efficient Coloration and Finishing:

Amylase enzymes are used to remove starch-based sizing agents from fabrics before dying. This not only ensures even coloration but also minimizes the environmental impact associated with traditional dyeing processes.

Our Solutions:

Infinita provides a comprehensive range of enzymatic solutions for the textile industry, including Bio Souring, Desizing, Bio-Polishing, Bio-Fading, Bio-Fining, Bio-Scouring and Hydrogen Peroxide Killing and Degumming.

Wastewater Treatment

Waste Water Enzymes: Breaking Down Pollution for a Cleaner Tomorrow

Water, the essence of life, is an invaluable resource that requires careful management to ensure its sustainability. In the wake of growing environmental concerns, waste water treatment has become a critical aspect of preserving our water ecosystems.

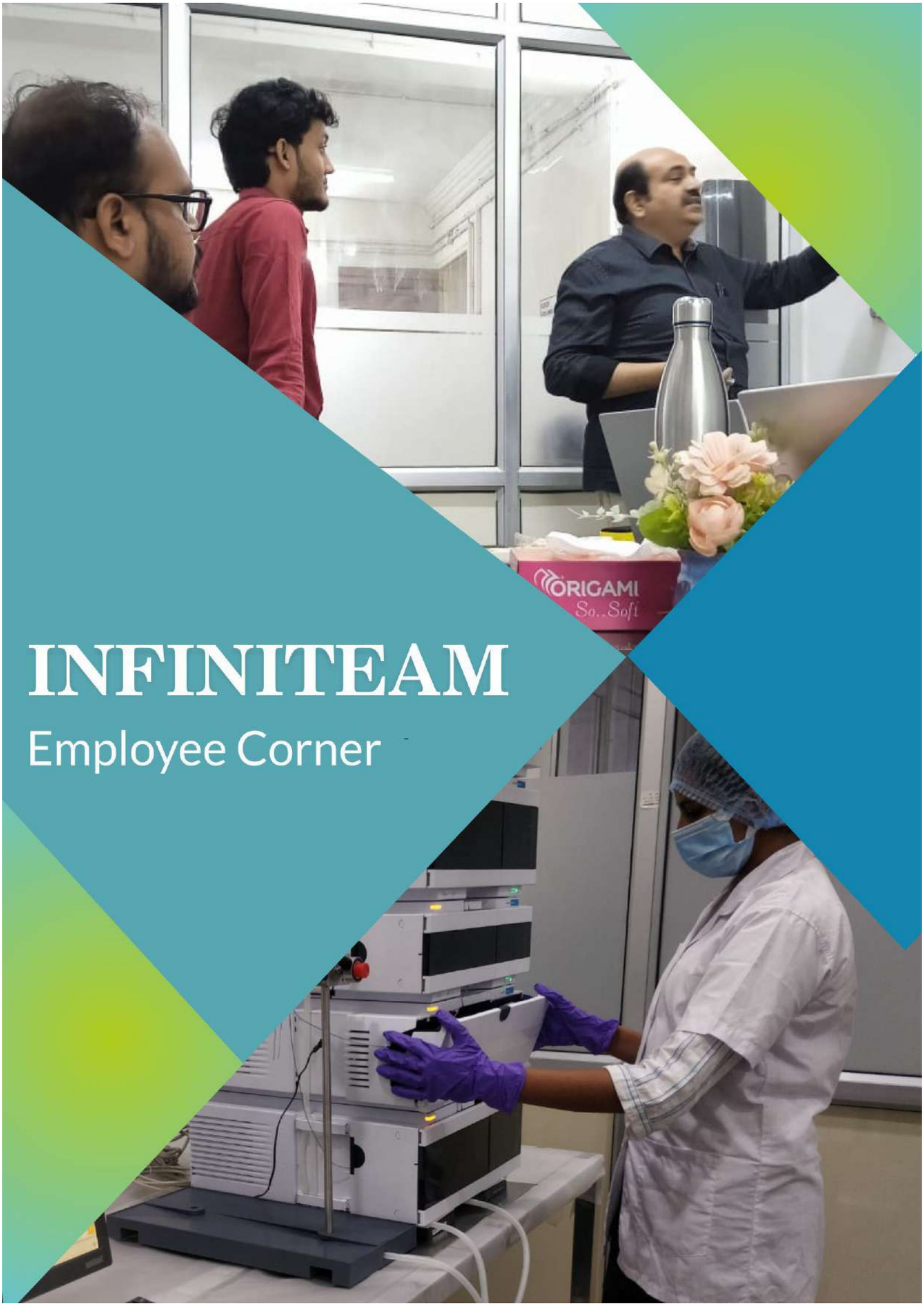
Microbial Bioremediation:

Enzymes are often utilized in conjunction with microbial bioremediation strategies. Microorganisms, augmented by enzymes, metabolize and transform pollutants into harmless by-products. This synergistic approach enhances the efficiency of waste water treatment, while minimizing the use of chemical agents. One of the significant advantages of wastewater enzymes is their energy efficiency. Enzymatic processes generally operate under milder conditions, reducing the need for high temperatures and pressures.

This not only saves energy but also extends the lifespan of equipment, contributing to the overall sustainability of wastewater treatment facilities.

Our Solutions:

Infinita provides specially formulated blends that break down long, complex waste molecules into smaller particles, as well as digesting organic matter anaerobically to produce biogas, denitrification, and COD/BOD reduction by microbes.



INFINITEAM

Employee Corner

Message from Marketing Manager

Contributed By :
Jimesh Patel, Senior Manager - Marketing Department

Make a difference for a better future by Exporting!

Exporting is not just about selling products. It is about exporting values, innovations, and solutions that transcend borders, making a tangible difference for a better future worldwide. By exporting, we're not merely sending enzymes across seas; we are exporting knowledge, expertise, and sustainable practices that have the power to transform industries and elevate standards globally.

Our Marketing Team focuses on exploring potential export markets beyond mere transactions, as part of the company's global expansion efforts. Our team is committed to paving the way for a better tomorrow in diverse markets worldwide through collaboration, innovation and collective dedication. Our relentless pursuit of excellence is evident in this expedition toward global expansion. Introducing our top-level enzyme solutions to new markets is not our only goal, but we also aim to positively impact each region in which we operate. Innovating, sustainable, and high-quality enzyme solutions enhance industries by forming partnerships that cross borders, creating opportunities for enhancing mutual growth.

Our team stands at the helm of this transformative journey. Their dedication, expertise, and passion serves as the compass guiding our path toward success. Their collective efforts fuel our aspirations to not only meet but exceed expectations, to adapt swiftly to changing landscapes, and to pioneer initiatives that resonate with our global audience.

We believe that this expansion is not solely about our company's growth; it is about catalysing a better tomorrow. By exporting our cutting-edge enzyme solutions, we aim to contribute to enhanced processes, improved efficiencies, and more sustainable practices in every market we touch. It's about leaving a positive imprint, not just in terms of business success but in making a meaningful difference in the industries we serve.

Together, as a united team, we embark on this journey with a shared vision - a vision of expanding our horizons, elevating industries, and paving the way for a better, more sustainable future. Our commitment to excellence, innovation, and collaboration remains steadfast as we stride forward toward a brighter tomorrow - one where our enzyme solutions continue to enrich industries and lives globally.

Furthermore, sustainability is deeply embedded in our ethos. Our environmentally conscious practices resonate with customers seeking eco-friendly solutions. They appreciate our efforts to minimise environmental impact while delivering exceptional performance, aligning with their own values and sustainability goals.

Additionally, our comprehensive support doesn't end with product delivery. We offer extensive technical expertise, training, and ongoing support to ensure our customers achieve optimal results. Our dedicated team stands ready to assist at every step, providing guidance and solutions that add value to their operations.

Finally, our track record speaks volumes. The trust and loyalty we have earned from customers across diverse industries and in over 45 countries underscore our reliability, consistency, and ability to deliver results time and again.

As a result, our enzymes company is chosen by customers for its innovative solutions, unwavering commitment to quality, customer-centric approach, sustainability initiatives, comprehensive support, and proven track record. As a partner of choice for those seeking top-tier enzyme solutions, we continue to set industry benchmarks and strive for excellence.

"OUR WAY OF GIVING BACK TO EARTH"

Infinita in the words of Infinitians

ENTHUSIASTIC

MILIND KULKARNI
President Technical

TRUSTING

JIMESH PATEL
Sr. Manager,
Marketing Department

PROGRESSIVE

ABHISHEK PALKAR
Asst. Manager, Marketing

ILLIMITABLE

MANISH SHARMA
Asst. Manager, Marketing

INVENTIVE

SHARAD VIBHUTE
Asst. Manager, Marketing

CONTRIVER

NIRITA RAJPUT
Sr. Executive, Marketing

HARMONY

KUSH PATHAK
Sr. Executive, Marketing

INNOVATIVE

ABHISHEK CHATURVEDI
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PRINCE RAJPUT
Sr. Executive, Marketing

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AMIT BHADURIA
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AGILE

HITENDRA PATEL
Manager International, Logistics

EMPOWERING

SHILPI MISHRA
Sr. Executive, HR

UNITY

TEJAS SHAH
Executive, Accounts

RAINBOW

DHANVANTI RANOTI
Accounts

INTEGRITY

RAJENDRA RABARI
Supervisor, Production

CONSISTENT

TIRTH THAKKAR
Sr. Supervisor, Production

GROWING

FRINKAL PATEL
Asst. Manager QC

INCLUSIVE WORKPLACE

DHARATI JOSHI
Executive , QC

STAUNCH

NIDHI MAHESHWARI
Executive, QC

DEPENDABLE

MANSI PATEL
Sr. Officer QC

DRIVEN

MITTAL SIDHHPURIYA
Sr. Officer, QC

COLLABORATIVE

PRATIKSHA GOHIL
Executive, QC

SYMMETRY

HENA PATEL
Executive - QC

UNIQUE

SULAGNA ROY
Asst. Manager, R & D

OPTIMISTIC

RINKAL KACHHADIA
Sr. Officer, R&D

EMPATHECTIC AND DIVERSE

HIRAL CHAVADA
Sr. Officer, R & D

NURTURING

RASHMI UPADHYAY
Asst. Manager, QA

ECOACTIVIST

NITIN SUTHAR
Sr. Officer, QC

WELCOMING

NIDHI SHAH
Sr. Executive, QA

BOUNDLESS

JINAL LAD
Executive, Admin

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