

BRINGING SCIENCE
TO EVERYDAY LIFE






OUR MOTTO


BRINGING SCIENCE TO EVERYDAY LIFE,

Bringing science alive in a way touches numerous lives across the globe, every day, is a pursuit that gives us much joy. We harness the power of science and technology to bring innovative solutions into areas that impact our senses and everyday life - from food to fragrance to animal nutrition to pharmaceuticals and petrochemicals. It's fine sciences for fine living.

Camlin Fine Sciences (CFS) is the leading integrated manufacturer of the most preferred traditional antioxidants (Shelf Life Solutions) available. Apart from offering high-quality traditional and natural antioxidants for the food, petfood, and animal nutrition industry, we have a product basket which can cater to a wide range of industries.

At CFS, we focus on four key businesses- **Shelf Life Solutions, Aroma Ingredients, Health & Wellness** and **Performance Chemicals**.

Over the last three decades, we have earned customer loyalty with our market knowledge and expertise, product offering and customer service. We want more and more people across the globe to see, taste, feel, hear and touch Camlin Fine Sciences (CFS) through its products. 



PROTECTING IS OUR BASIC INSTINCT

Proven protection of oils and fats
from one of the world's leading
antioxidant manufacturers

Xtendra® TBHQ
protection & safety solutions

Xtendra® BHA
protection & safety solutions

Xtendra® Ascorbyl Palmitate
protection & safety solutions



Xtendra® TBHQ

protection & safety solutions

TBHQ [E319]

CAS No.: 1948-33-0

Camlin Fine Sciences (CFS) has a global expertise in Shelf Life Solutions. Tertiary butylhydroquinone (TBHQ) is one of the known antioxidants used in protecting oxidation of oils and fats, thus, prolonging shelf life.

Dosage: Not more than 200ppm [0.02%] on the basis of oil/fat content

Xtendra® BHA

protection & safety solutions

BHA [E320]

CAS No.: 25013-16-5

Butyl Hydroxyanisole (BHA) is the preferred antioxidant for animals and fats. It is generally used in the synergistic combination with other antioxidants like BHT and propyl gallate. CFS holds a process patent for manufacturing BHA.

Dosage: Not more than 200ppm [0.02%] on the basis of oil/fat content

Xtendra® Ascorbyl Palmitate

protection & safety solutions

Ascorbyl Palmitate [E304]

CAS No.: 137-66-6

A fat soluble form of ascorbic acid, recognised universally as a safe ingredient for use in food, cosmetics and many other application areas.

Dosage: 200ppm to 500ppm [0.02 to 0.05%] on the basis of oil/fat content

Also available :
BHT (Butylated Hydroxytoluene) E321

Applications:

- Vegetable oils and fats
- Margarine
- Snack foods
- Instant noodles
- Bakery shortening
- Animal fat
- Processed meat
- Seasonings
- Petfood
- Rendering
- Infant formula
- Cosmetics
- Potato flakes etc.



BLENDS:

Traditional Antioxidants	
Tertiary butyl Hydroquinone (TBHQ)	Butylated Hydroxytoluene (BHT)
Butyl Hydroxyanisole (BHA)	Propyl Gallate (E 310)
Ascorbyl Palmitate (ASP)	




Table 13.1 Traditional antioxidants from CFS

Leveraging our capabilities of manufacturing bulk antioxidants; developing blends to provide customized solutions found its applications in various food and feed industries. We manufacture and market antioxidant blends under brand names 'Xtendra' and 'NaSure' (Refer Table 13.2 and 14.1).

Traditional and/or vitamin-based antioxidants: We ensure that the different blends of BHA, TBHQ, Ascorbyl Palmitate and/or other traditional antioxidants catering to a wide range of industries are developed with the objective of giving our customers, greater control over their product basket. (Refer Table 13.2)



PROTECTING IS OUR BASIC INSTINCT

With 09/06 advantage,
protect frying oil and fried foods;
enhance it's shelf life

Xtendra[®] 06
protection & safety solutions



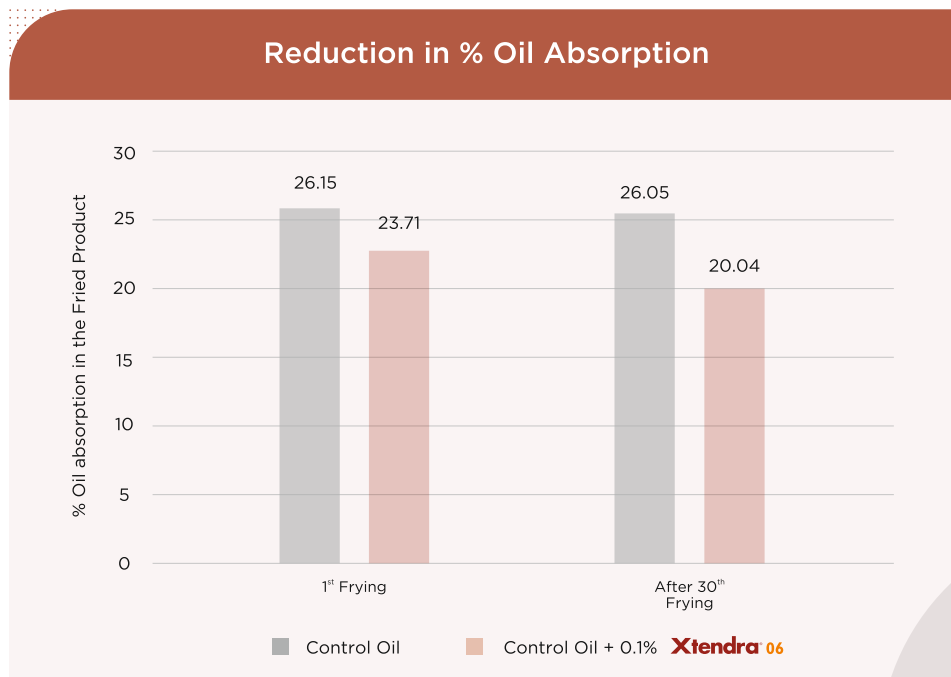
Get the 09/06 advantage



- 1 Significantly reduces the rate of blackening and thickening of oil during frying
- 2 The frequency of adding top-up oil during continuous frying is also reduced
- 3 Oil can be reused a multiple number of times, thus reducing the production cost
- 4 Doubles rancimat hours of the oil [shelf life], thereby increasing the stability of frying oil
- 5 Decreases the rate of formation of FFA and PV of oil during frying and storage of the fried products
- 6 Oil absorption in fried products is reduced by 5 to 15%
- 7 Decreases polymer deposited on utensils during frying
- 8 Reduces the smoke generated during frying
- 9 Gives better shelf life to the oil-fried products such as chips, namkeen etc.



COST REDUCTION USING Xtendra® 06 IN FRYING OILS



*Observation during 30 frying cycles, analyzed by soxhlet. - The % oil absorption in the fried product is relatively reduced using Frying Oil dosed with 0.1% Xtendra 06. Thus, the frequency of addition of top-up oil will be reduced.

With 0.1% Xtendra 06, there is about

10 to 20% less
oil absorption in the fried product in comparison to oil without antioxidant.*



WE BELIEVE IN CREATING MEMORABLE FOOD MOMENTS FOR YOUR CONSUMERS



Dosage*:
For 1 kg oil,
add 1 gm of
Xtendra™ 06

Packaging:
1 kg HDPE bottle,
5 kg HDPE can,
25 kg & 200 kg HDPE drum



NaSure™ 17
natural protection & safety solutions

PREFERRED NATURAL SHELF LIFE SOLUTION FOR FRYING APPLICATION

Dosage*:
0.01% to 0.2%
i.e upto 2 gm in
1 kg oil
NaSure™ 17
natural protection & safety solutions

Packaging:
1 kg HDPE bottle,
5 kg HDPE can,
25 kg HDPE container

Applications

- Donuts
- Potato Chips
- Extruded Snacks
- All other Fried Foods

SHELF LIFE SOLUTIONS FOR FRYING APPLICATION

Product Name	Active Ingredients				
	TBHQ	Ascorbyl Palmitate	Citric Acid	Rosemary extract	Mixed tocopherol
Xtendra 06	•		•		
Xtendra 12	•		•		
Xtendra 47		•	•		•

रक्षा करना हमारी स्वाभाविक प्रवृत्ति है

09/06 के लाभ के साथ,
तलने के तेल और तले हुए खाद्य
पदार्थों की रक्षा करें; इसकी शेल्फ लाइफ बढ़ाएं

Xtendra® 06
protection & safety solutions



09/06 के लाभ के साथ



- 1 फ्राइंग और तली उत्पादों के तलने के दौरान एक एफ.एफ.ए. (FFA) और तेल की पी.वी. (Peroxide Value) में वृद्धि की दर कम हो जाती है।
- 2 तलने के दौरान तेल का काला होना और मोटा होने के दर को कम करता है।
- 3 इसे ऐड करने से तेल का शेल्फ लाइफ लगभग डेढ़ से दुगना हो जाता है।
- 4 तेल में धुआं बनाना कम होता है।
- 5 तलने के दौरान फ्रायर पर पॉलीमर जमना कम होता है।
- 6 तलने के समय तेल का हवा में उड़ना कम होगा।
- 7 नमकीन का शेल्फ लाइफ लगभग डेढ़ से दुगना बढ़ जाएगा।
- 8 क्योंकि तलने के दौरान तेल का FFA और PV का बढ़ने का दर कम होता है, इससे तेल का इस्तेमाल बार बार किया जा सकता है। जिससे प्रोडक्शन कॉस्ट कम होगा।
- 9 नमकीन लगभग 5 से 15% तेल कम अब्सोर्ब करेगा। इससे तेल की बचत होगी।



ADD CRUNCHINESS AND CRISPINESS TO YOUR FRIED SNACK FOODS

with

EZENTIAL

Functional Excellence

FLOUR IMPROVER (BESAN)



Food experts from Camlin Fine Sciences developed **Ezential™ Flour Improver** (besan) to fulfill the local expectation from snack foods. This enzyme-based product is custom-designed to improve the overall taste and quality of snack foods made from gram flour (besan).

Dosage:

2 to 5g/per kg
of Besan or Gram Flour

Application areas:

Besan (gram flour) based snacks like namkeen (fried snack food), . dal, bhajiya, sev etc.

Benefits

- Gives high volume
- Reduces oil consumption
- Natural taste & colour
- Increases crispiness

For enhancing shelf life of your namkeen, use **Xtendra® 06** in the frying oil.

Blends mastered to perfect your expectations

adorr
Seasoning Mixes



A wide range of seasonings to choose from

Camlin Fine Sciences has partnered with the pioneers of seasonings to bring out the best in foods. Our range includes seasoning for dry fruits, noodles, spaghetti, pizza, pasta, biscuits, chips, wafers, puffies, frymes, pop corns and other extruded snacks & fries. We have more than 200 customized seasoning blends developed to meet your expectations delivering long lasting effect on the taste buds, leaving one crave for more.

A seasoning sample batch is made once we have your recipe to determine the quality, taste, pricing and it's application on the sample to match the flavor profile. Your approved recipe is then set in our system.

We stick to our commitment in delivering quality food and reliable customer service with our seasoning range.

NAMKEEN MASALA

- Navratan mix masala
- Kanpuri mixture masala
- Bhel puri masala
- Aloo bhujia masala
- Hing jeera masala
- Bikaneri bhujia masala
- Hari matar masala
- Tasty masala
- Khatta meetha masala
- Jhalmuri masala
- Shahi mixture masala
- Punjabi tadka masala
- Nimbu chana dal masala
- Kachori masala

CORN RICE PUFF

- Tomato tangy masala
- Tomato gold masala
- Cocktail masala
- Tango masala
- Mocktail masala
- Mast onion masala
- Green pudina masala
- Tangy mango masala
- Cream onion puffy masala
- Hing jeera puffy masala
- Chinese tadka masala
- Khatta meetha masala

CASHEW & GROUND NUTS

- Hing jeera masala
- Black pepper masala
- Pizza masala
- Pani puri masti chat masala
- Pakora masala

KURKURE STICKS

- Tomato ketchup masala
- Tomato soso masala
- Tomato chilly masala
- Panipuri masala
- Garlic chilly masala
- Magic masala
- New magic masala
- Rajasthani green chutney masala
- Chilly chatka masala
- Mango achari masala
- Salsa sticks masala
- Manchurian masala
- Nimboo achari masala

POTATO CHIPS

- Tomato spanish masala
- Magic masala
- Masti achari masala
- Cream 'n onion masala
- Lime black pepper masala
- Grilled cheese masala
- Creamy garlic cheese masala
- Fried shallot hot masala

CORN RING

- Tomato ring masala
- Tomato premium masala
- Tomato cheese masala
- Noodle mania masala
- Lemon mint masala
- Sweet cheese masala
- Chilly cheese masala
- Punjabi masala
- Pizza masala

FRYMES

- Noodles masala
- Chatpata masala
- Pasta masala
- Barbeque masala
- Thai chilly masala
- Katori masala
- Aloo tikka masala
- Peri peri mix masala
- Khatta meetha aam masala
- Punjabi mirchi masala
- Singapori samosa
- Schezwan chutney masala

Packaging:
35kg food grade
HDPE drum

Optimise your fried product



DURING FRYING

FOR FLAVOURING

adorr
Seasoning Mixes

PROTECTING
IS OUR BASIC INSTINCT

Protect dry bakery foods from
oxidation and enhance
it's shelf life

Xtendra[®] 08
protection & safety solutions



Xtendra® 08

protection & safety solutions

Oxidative deterioration is a significant contributing factor to the limited shelf life of dry baked foods as they contain fats or oils. Xtendra® blends can help restore the taste of these foods.

- Tailor-made blend for dry bakery products gives efficacy, ease of application and uniform distribution.
- Manufactured in our vertically integrated facility gives our customers complete traceability, quality and cost-effectiveness in the final blend developed.
- Ensures steady supply of our products

Everything you do in bakery is to serve your passionate baked recipe as fresh and delicious from the oven to the store. We, at CFS, can add value to an artisans'/baker's creation for your business needs to succeed.

Xtendra® 08 is an effective food grade shelf life solution blend of TBHQ and citric acid in a suitable carrier. It retards rancidity of oil / margarine / butter used in your dry baked foods thereby, improving its shelf life.



Dosage*:

0.1% in 1 kg fat or oil content.
1 kg oil/fat = 1 gm Xtendra® 08

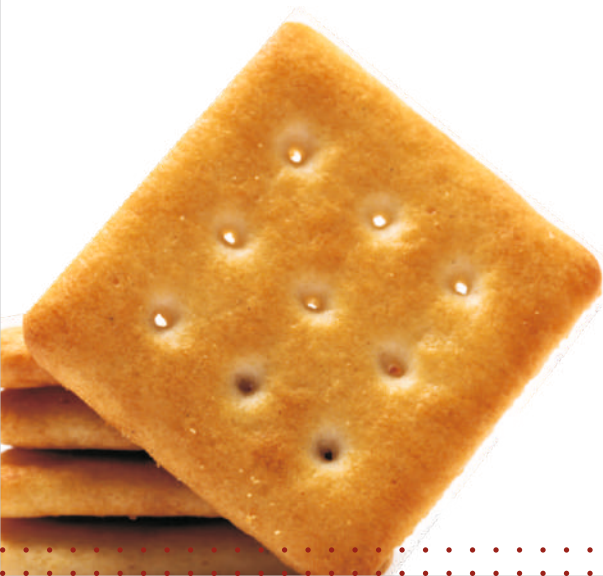
Packaging:

1 kg food grade HDPE bottle
5 kg food grade HDPE can
25 kg & 200 kg food grade HDPE containers / drums

*Do not add more than the recommended dosage.

Applications of Xtendra® 08

- Cookies
- Toasts
- Nankhatai
- Khari
- Rusk
- Biscuits



PREVENTS RANCIDITY, ENHANCES SHELF LIFE OF NOODLES AND PASTA

Xtendra[®] 47

shelf life solutions

Xtendra 47, a tailor-made antioxidant blend designed for noodles and pasta enhances its shelf life and provides ease-of-application, without compromising taste and texture.

Camlin Fine Sciences' (CFS) vertically integrated platform ensures stability and steady supply of products, its quality, traceability, transparency and its provision at the most competitive price. With a footprint that extends across American continents, Europe and Asia, we are able to efficiently deliver any where in the world.

Also available:

NaSure[™] 12 / 37

Extending Shelf Life Naturally

Preferred natural shelf life solution for
noodles and pasta



PROTECTING IS OUR BASIC INSTINCT

Proven safety from microbial
spoilage of cakes and muffins



Microbial spoilage is one of the most common types that can affect safety and organoleptic properties of bakery foods making it unfit for consumption by the time it reaches your consumer's plate. Today, protection of packed bakery foods has become an increasing concern than ever with huge impact on bottom-line as well as food loss leading to wastage.

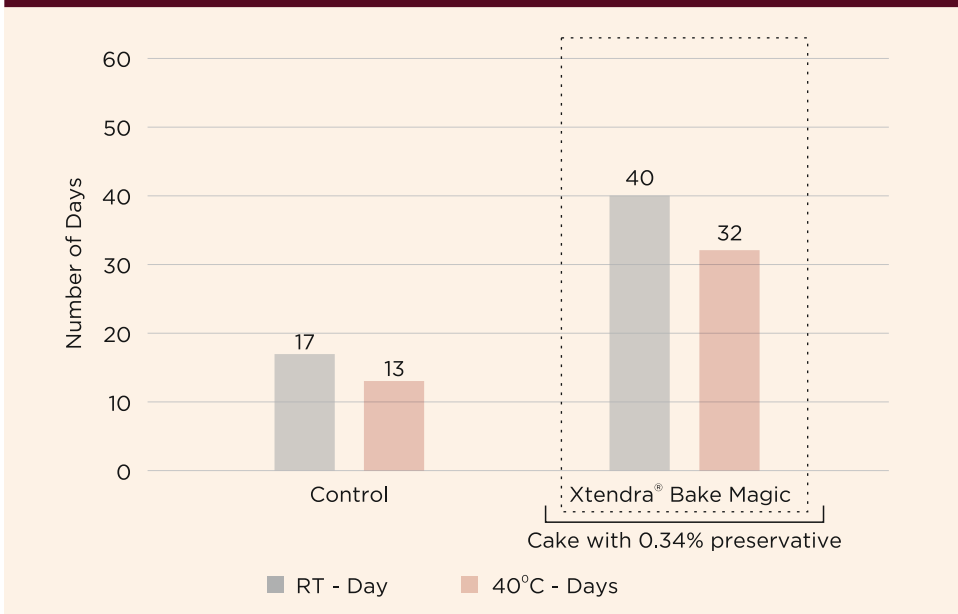


CFS delivers comprehensive solution with **Xtendra® Bake Magic** for cakes and muffins:

- Provides bacterial and fungal protection
- Keeps the taste and texture of your bakery foods intact.
- Effective at low concentration, increases shelf life with lasting freshness.
- Further, we invite our customers to collaborate with us on bakery application projects where our experts could provide detailed technical discussion, development of food applications, evaluate and thereby recommend the best fit.



Xtendra® Bake Magic is an effective & suitable preservative for cakes / muffins

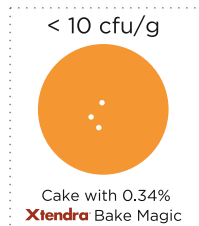


The study was conducted to evaluate the efficacy of Xtendra® Bake Magic as an antimicrobial agent in soft cake with 0.34% dosage on batch basis. Milk was added to weighed quantity of Xtendra® Bake Magic and was mixed till it was uniformly dispersed. Visual observation of Mold / Fungal growth were done on Cakes / Muffins of packed cakes stored at RT and at 40°C / 75 RH

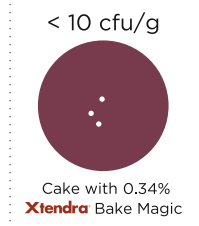
- Cake without preservative showed microbial spoilage after 17 days at RT and 13 days at 40°C
- Cake with Xtendra® Bake Magic remained fresh and without microbial spoilage for more than 30 days at RT and 40°C

Xtendra® Bake Magic increases the shelf life of cakes and muffins by > 60 days

Total Bacterial Count per gm



Yeast & Mold count per gm



Yeast & Mold count was <10cfu/g with use of Xtendra® Bake Magic in cakes and muffins after one month from preparation



*Maximum dosage added is 0.4% and kept in packed conditions
CFU = Colony Forming Units | Y & M = Yeast and Mould | RT = Room Temperature



Also available Xtendra® Bake Magic Plus

Dosage:
Maximum
recommended dosage
of 0.34% Xtendra®
Bake Magic or
Xtendra® Bake Magic
Plus on final product
weight basis.

Packaging:
Available in 1 kg
food grade HDPE jar

Note: Separation of water may occur on long storage and does not affect in any way the performance of the product. Mixing well before use is suggested

Direction for use:

Xtendra® Bake Magic is in paste form and can be easily scooped with a spatula. Mix well with water or milk in the cake recipe and used as required.

PROTECTING
IS OUR BASIC INSTINCT

Proven safety from microbial
spoilage of Indian sweets

Xtendra
Mithai Magic



Xtendra[®] Mithai Magic

Eating sweets is a sort of daily ritual for Indians. Your rich tradition of mithai-making (ethnic sweets) has earned you love, fame and respect from our Indian mithai lovers. We understand that keeping up this tradition is a responsible task.

At Camlin Fine Sciences (CFS), our food technologists along with the help of microbiologists developed **Xtendra[®] Mithai Magic**. It is an antimicrobial blend made up of active ingredients that controls microbes, prevents mold growth and spoilage of the sweets. **Xtendra[®] Mithai Magic** can ensure long lasting freshness of mithais without affecting your signature recipe and its magical taste.

Benefits:

- Keeps the mithai fresh for longer
- Keeps the taste intact
- Safe for consumption
- **Xtendra[®] Mithai Magic** easily blends with your product
- Good solubility and stability hence, does not disturb the consistency of your product

MOTHICHOOR LADOO (BOONDI LADOO)

Direction: Add **Xtendra[®] Mithai Magic** as per the dosage given below to the finished boondi or sugar syrup. Mix well. Rest of the Mithai making process remains the same.

MILK BASED SWEETS

Direction: Add **Xtendra[®] Mithai Magic** to the heated/sauted mawa in the pan and mix well. Rest of the Mithai making process remains the same.



Also available Xtendra Mithai Magic Plus

Dosage*:

Maximum recommended dosage of 0.3% Xtendra[®] Mithai Magic or Xtendra Mithai Magic Plus on final product weight basis.

Packaging:

Available in 1 kg food grade HDPE jar

Note: Separation of water may occur on long storage and does not affect in any way the performance of the product. Mixing well before use is suggested

*Do not add more than the recommended dosage

Applications

- Mothichoor Ladoo
- Khoa
- Peda (all varieties)
- Kalakand
- Burfi (all Varieties)
- Besan Ladoo
- Gulab Jamun
- Halwa

Optimize Mithai-Protection



FOR
MITAHI MAKING

FOR
MITAHI-FRYING



रक्षा करना
हमारी स्वाभाविक प्रवृत्ति है

मिठाईयों पर सूक्ष्मजीवों के
हमले से सिद्ध सुरक्षा |

Xtendra
Mithai Magic



Xtendra[®] Mithai Magic

Xtendra[®] मिठाई मैज़िक हमारे अनुभवी फुड टेक्नोलॉजिस्ट और मायक्रोबायोलॉजिस्ट की सहायता से तैयार किया गया है।

मिठाई बनाने की सभी परंपराओं ने मिठाई प्रेमियों की ओर से आपके लिए प्यार, प्रसिद्धि और सम्मान अर्जित किया है। हम समझते हैं कि परंपरायें बनाये रखना हमारी एक महत्वपूर्ण जिम्मेदारी है। हानिकारक जीवाणुओं को नियंत्रित करने, फफूंदी को रोकने और मिठाईओं को खराब होने से बचा ने के लिए अंन्टीमायक्रोबियल ब्लेंड Xtendra[®] मिठाई मैज़िक है।

लाभ:

- मिठाई को लंबे समय तक ताज़ा रखता है
- स्वाद को बरकरार रखता है
- खाने के लिए सुरक्षित है
- Xtendra[®] मिठाई मैज़िक आपके प्रॉडक्ट के साथ आसानी से मिश्रित हो जाता है
- अच्छी विलेयता और स्थिरता अतः, आपके प्रॉडक्ट के कंसिस्टेंसी को बनाए रखता है।

मोतीचूर लड्डू 10 किलो लड्डू (फिनिश प्रॉडक्ट)

निर्देश: दिए गए मात्रा के अनुसार मिठाई मैज़िक बेसन या चाशनी में डालें। अच्छे से मिला दें। लड्डू बनाने की बाकी विधि वैसे ही।

खोआ 10 किलो खोआ (फिनिश प्रॉडक्ट)

निर्देश: जब असली दूध की मात्रा आधी रह जाये तब उबलते हुए 'कन्डेंस्ड या संघनित दूध' में मिलाया जाएगा। खोआ बनाने की बाकी विधि वैसे ही रहेगी।



मिठाई बनाने में इसकी भी अनुशंसा की जाती है:

Xtendra[®] O6 मिठाईयों को तलने के लिए। तले हुए उत्पादों जैसे जलेबी, इमरती, गुलाब जामुन इत्यादि के शेल्फ लाइफ को बनाये रखने में सहायता करता है। अधिक जानकारी के लिए सेल्स व्यक्ति से पूछें।

मात्रा*: अधिकतम 0.30% अंतिम उपयोग पर निर्भर।

पैकेजिंग: 1 किलो के HDPE फूड ग्रेड डिब्बे में उपलब्ध

Note: Separation of water may occur on long storage and does not affect in any way the performance of the product. Mixing well before use is suggested

*अनुशंसित मात्रा से अधिक ना मिलाएं

उपयोग:

- मोतीचूर लड्डू
- खोआ
- पेड़ा (सभी प्रकार)
- कलाकंद
- बर्फी (सभी प्रकार)
- बेसन के लड्डू
- गुलाब जामुन
- हलवा

Optimize Mithai-Protection



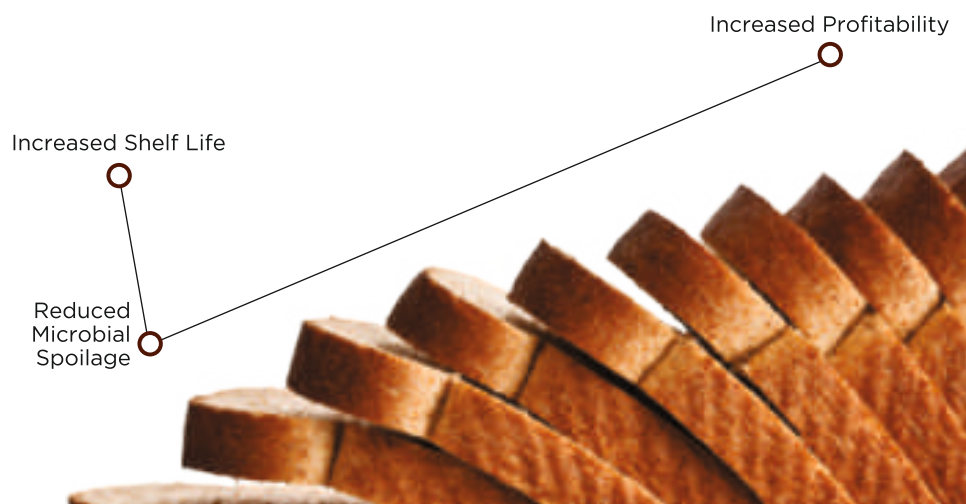
REDUCE MICROBIAL SPOILAGE, INCREASE PROFITABILITY



Bread is one of the most convenient and staple foods we have in today's time. What's less visible is the bread that's wasted before even a consumer buys it. Increasing shelf life of bread by even a day can prolong microbial spoilage and increase profitability for bread makers.

Baker's Bread™ is an effective water-soluble, antimicrobial solution that enhances bread's keeping quality thereby reducing wastage from various food chains, retailers and consumers. **Extended shelf life also provides opportunities to bread manufacturers for expanding the market, widening their distribution network and reaching out to more consumers.**

INGREDIENTS: Propionic Acid (INS 280), Sodium Propionate (INS 281)





HIGHLIGHTS



Water-soluble, antimicrobial system makes easier for application and automation



Non-corrosive, environment friendly liquid preservative system



Delivers optimum pH 4.9 to 5.5, ideal for increased preservative efficacy and dough development



Replaces addition of multiple traditional preservatives with a single product



Meets all food regulatory requirements



Reduces microbial spoilage and retains keeping quality of bread.

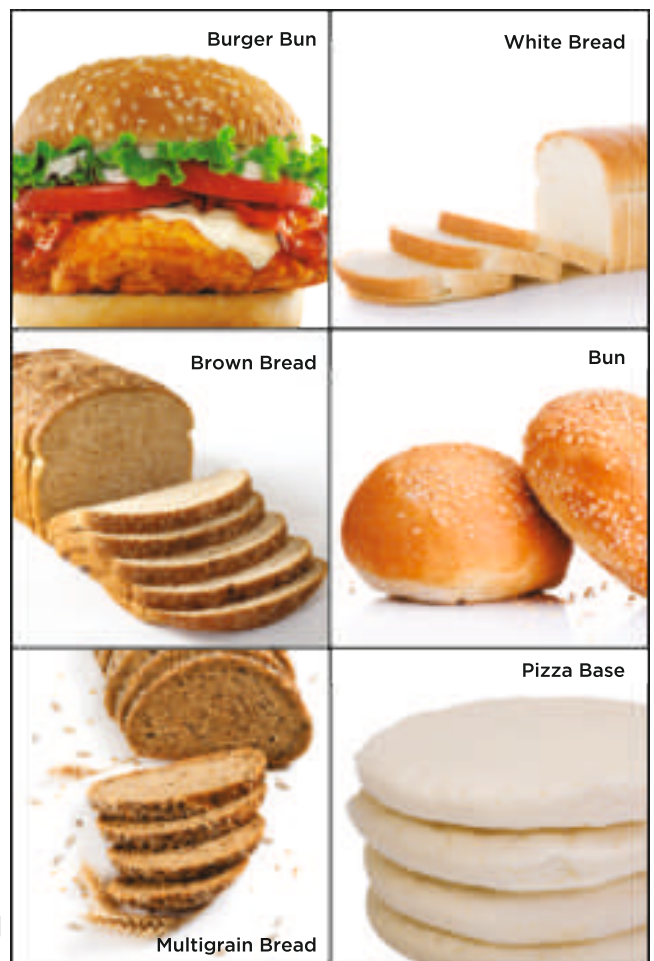


Increases profitability for the producers by reducing return of discarded finished product

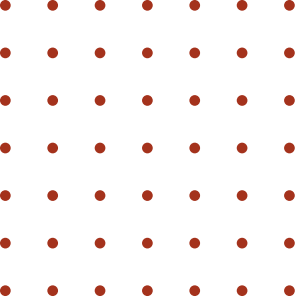
Dosage* : As per GMP [Good Manufacturing Practices]

Packaging : 5 & 25 kg HM HDPE food grade containers

Applications of Baker's Bread™:



FSSAI LIC. No.: 10012022000107



BE THOUGHT LESSS....

Reliable protection with
a traditional solution

Xtendra
CPro

Calcium Propionate



Xtendra CPro

Calcium Propionate

Spoilage is generally of two types – visible and most of the time, intrinsic. Bread spoilage due to microbial attack is one of the most common one that can affect safety and organoleptic properties making it unfit for consumption. Today, food protection has become an increasing concern than ever with huge impact on bottom-line.

CFS offers **Xtendra CPro**, a reliable, affordable antimicrobial agent that ensures food safety and protection until the end of shelf life. **Xtendra CPro** (Calcium propionate) is one of the safest, reliable and affordable preservatives available. It extends shelf life of baked goods by preventing mold and rosy bread bacteria growth. Further, our Customer Service Laboratories invite customers to collaborate with us on application projects where our experts could provide detailed technical discussion, development of bakery applications, evaluate and thereby recommend the best-fit.

Properties of Xtendra CPro

- pH range for preservative action: 5.2 - 5.5
- Great for preventing mold and rope bacteria
- Water soluble
- Ideal for slice bread, rye bread, buns and rolls

Dosage:

As per Good Manufacturing Practice (GMP)

Packaging:

20 kg bags

For better texture and oven spring, we recommend use of



+

**Xtendra
CPro**
Calcium Propionate

Prevent food wastage and add profitability with extended shelf life of bread. Try our liquid antimicrobial formulation.




Applications:

- Bakery foods
- Dairy-based drinks
- Processed cheese, fat spreads, margarine, bakery shortenings etc.
- Frozen desserts/frozen confections
- Edible ices and Sorbet (ice candy)
- Jams, jellies, marmalades, fruit-based spread
- Starch-based desserts
- Confectionary
- Ready-to-eat breakfast cereals and soups
- Pre-cooked pasta and noodles
- Batters
- Egg-based deserts e.g. custard
- Vinegar
- Alcoholic beverages

DELIVERS JUST RIGHT

EZENTIAL

Bread Improver  BI-201



To meet the needs of the professional bakers and simplify their work, CFS developed Ezential™ BI 201 bread improver to deliver the finest bread.

Dosage:
0.1 to 0.25% on flour weight
i.e 10-25gms of Ezential™
BI-201 per 10kg flour

Applications: All types of bread

Benefits:

- Smooths-out the dough more quickly
- Reduces time of fermentation
- Increases yield (volume)
- Usage in any type of dough development
- Improves machinability
- Excellent oven-spring
- Light and Fluffy bread
- Low dosage of gluten
- Prevents dough wastage
- Cost-efficient

Increase shelf life with added microbial protection



or



POWDER

LIQUID

Also available

EZENTIAL

Bread
Improver



BI-102

PROTECTING IS OUR NATURAL INSTINCT

Provide natural protection to
your snack foods and extend
shelf life with added freshness

NaSure[™] 17
natural protection & safety solutions



Being one of the global leading manufacturers of antioxidants, providing food protection is our second nature.

Frying is a little complex than baking or grilling. It causes the largest changes in oil because of the high temperatures involved and the interactions that take place between the food and the cooking oil.

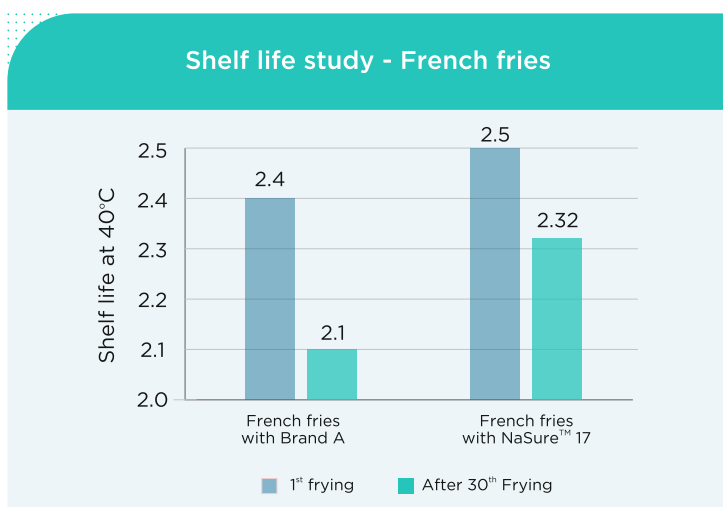
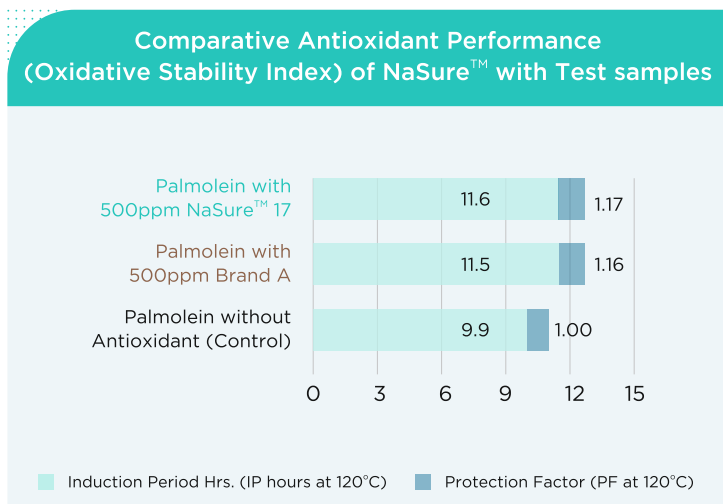
Overheating or over-using the frying oil also leads to formation of rancid-tasting products and other unintended, toxic compounds. Monitoring the duration of frying and replacing the frying oil after each use is necessary to maintain the quality of frying oil and the fried food. However, these are not feasible for a commercial operation hence safe, natural products are used for protecting the frying oil and the fried food.

NaSure™, our plant-based antioxidant products offer you a natural alternative in shelf life extension. NaSure™ 17 is a natural shelf life solution blend of rosemary extract characterised by low flavour and colour profile.

NaSure™ 17

natural protection & safety solutions

Frying study with NaSure™ 17

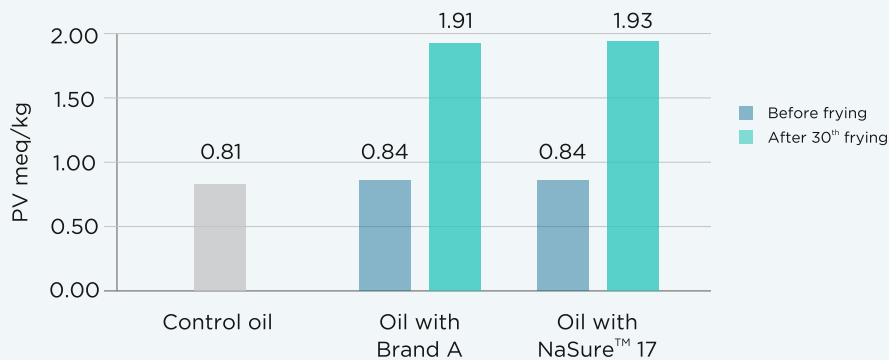


NaSure™ 17 was tested at 500ppm application in Palmolein frying oil versus Test sample (Brand A). The frying study protocol consists of 1 hour frying at 180°C, 50gm frozen potato fries were fried for every two minutes in 3 kg Palmolein oil loaded in an electric double basket fryer. Oil samples and fries samples were withdrawn for analyzing Oxidative Stability Index (OSI) for frying oil and Oxipres for the fried product.

- NaSure™ 17 gives comparable performance versus Brand A in OSI and shelf life results.
- NaSure™ 17 improved sensory quality of fries giving a fresh note against the usual oily characteristic note. The fries tasted fresh and were more appealing.



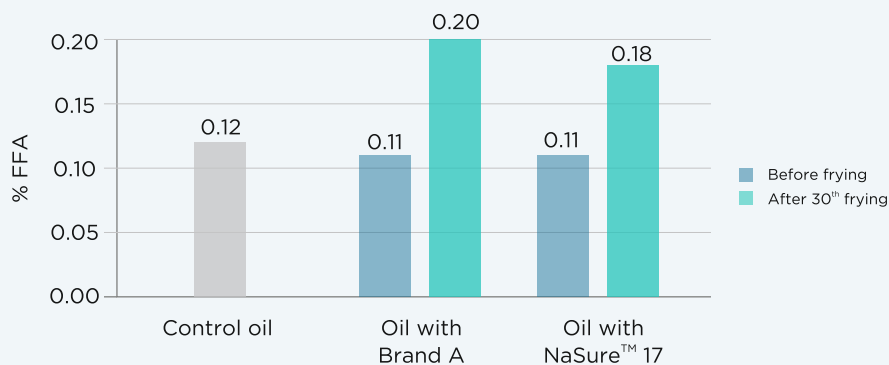
Peroxide Value (PV) Study - Frying oil



NaSure™ 17 was tested at 500ppm application in Palmolein frying oil versus Test sample (Brand A). The frying study protocol consists of 1 hour frying at 180°C, 50gm frozen potato fries were fried for every two minutes in 3 kg Palmolein oil loaded in an electric double basket fryer. Oil samples were withdrawn for analyzing Peroxide value (PV), for frying oil.

NaSure™ 17 gives comparable performance versus Brand A in PV and FFA values.

Free Fatty Acid (FFA) Study - Frying oil



NaSure™ 17 was tested at 500ppm application in Palmolein frying oil versus Test sample (Brand A). The frying study protocol consists of 1 hour frying at 180°C, 50gm frozen potato fries were fried for every two minutes in 3 kg Palmolein oil loaded in an electric double basket fryer. Oil samples were withdrawn for analyzing Free Fatty Acids (FFA) for frying oil.

Dosage:

Recommended dosage is 0.01% to 0.2%.

Packaging:

Available in 1kg / 5kg / 25kg food grade HMHDPE containers or 200kg food grade HMHDPE drum.

Other Applications:

- Fish oils
- Margarine and fat spreads
- Dehydrated foods
- Mayonnaise, Salad dressings and Sauces
- Biscuits, cookies and crackers
- Nut spreads
- Sweets & Confectionery
- Meat & poultry



PROTECTING IS OUR NATURAL INSTINCT

Extend shelf life, retain freshness,
enrich baked foods.

NaSure[™] 18/19
natural protection & safety solutions



Being one of the global leading manufacturers of antioxidants, providing food protection is our second nature.

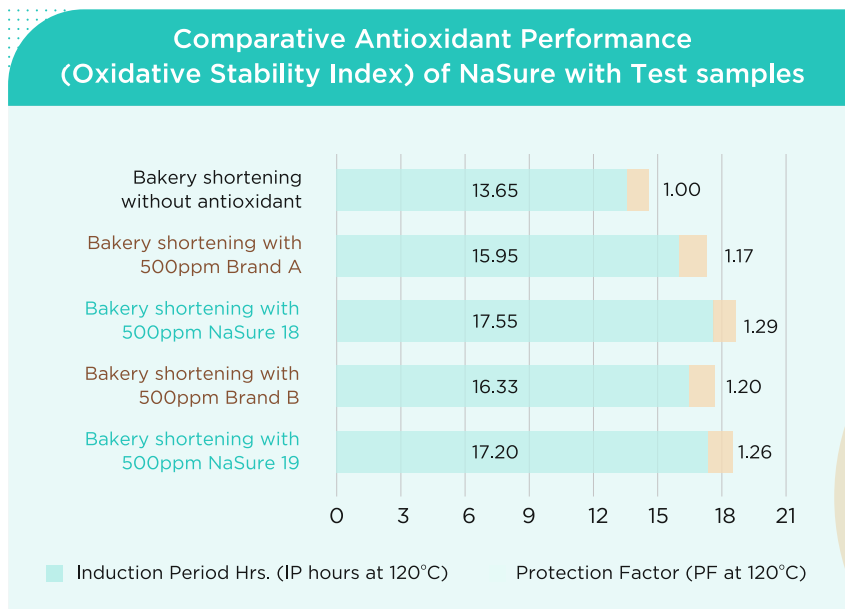
Based on an independent consumer survey conducted throughout the world, bakery foods are perceived as healthier if their freshness quotient is high. Even slightest of rancidity can spoil the taste and aroma of the finished product. A bake expert knows the value of a quality shortening in order to ensure unlimited culinary possibilities that's fresh, tasty with added shelf-life.

NaSure, our plant-based antioxidant products offer you a natural alternative in shelf life extension. **NaSure 18** is a liquid rosemary blend mainly characterised by low colour and low flavour profile. **NaSure 19**, a natural vitamin based blend of mixed tocopherols and rosemary extract.

NaSure™ 18
natural protection & safety solutions

NaSure™ 19
natural protection & safety solutions

Oxidative stability performance study of NaSure 18 and NaSure 19



NaSure 18 & NaSure 19 gave superior results in oxidative stability performance study compared to Brand A and Brand B

The antioxidant performance of NaSure and Test samples (Brand A & Brand B) were evaluated by conducting bakery application study. The bakery shortening used was dosed at 500ppm for both NaSure and Test samples. They were analysed by OSI and the Protection Factor (PF), indicated based on IP hours at 120°C. Ref. of test method – AOCS Cd 12b-92.

OSI principle: The OSI instrument follows the principle of forced air circulation at elevated temperatures to oxidise the test samples. The induction period in hours (IP) achieved is directly correlated with the oxidative stability of test samples. If an antioxidant is used in test sample then it indirectly gives the performance of the antioxidant in terms of IP hours and Protection Factor (PF).

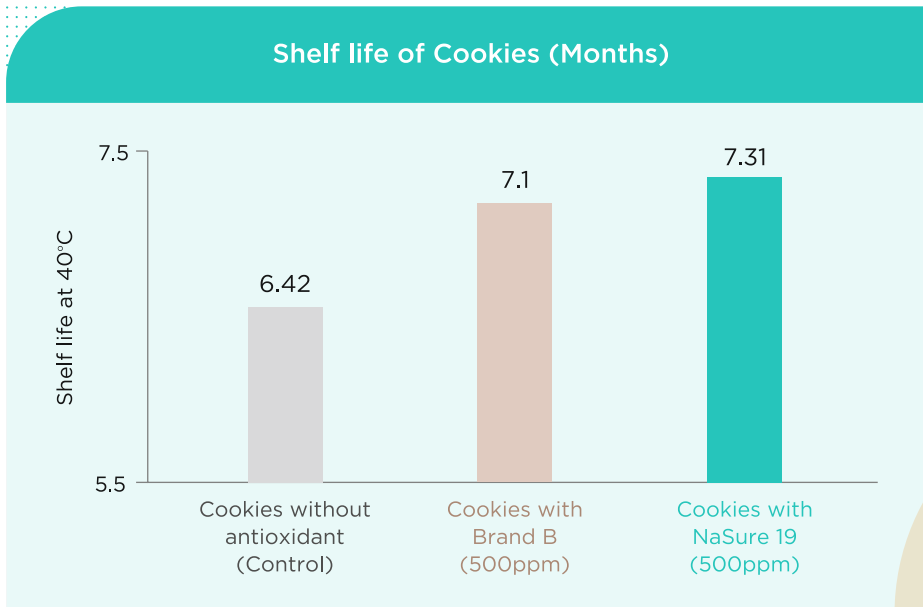


Applications

NaSure™ 18
natural protection & safety solutions

- Fish oils
- Margarine and fat spreads
- Dehydrated foods
- Mayonnaise, Salad dressings and Sauces
- Biscuits, cookies and crackers
- Nut spreads
- Sweets & Confectionery
- Meat & poultry

NaSure 19 evaluated for shelf life in cookies



The antioxidant performance evaluation for Test sample (Brand B) and NaSure 19 was established by conducting a bakery application study. The bakery shortening used for making cookies was dosed at 500ppm. The cookies were tested for shelf life in Oxipres instrument.

- **NaSure 19** is a better antioxidant than Brand B for bakery shortening
- **NaSure 19** improves shelf life of bakery shortening & cookies made with it

Dosage*:

Recommended 0.01% to 0.3%
i.e. 0.1gm to 3gms to 1kg dough

Packaging:

Available in 1kg / 5kg / 25kg food grade HMHDPE containers
or 200kg food grade HMHDPE drum.



Applications

NaSure™ 19
natural protection & safety solutions

- Oils and fats (animal)
- Fish oil
- Margarine and fat spreads
- Snack foods

Brand A and Brand B is a blend of rosemary extract and rosemary extract with mixed tocopherol respectively. Those were used as test samples versus NaSure blends for internal study.

PROTECTING IS OUR NATURAL INSTINCT

Provide a healthy start with
nutrient protection

NaSure™ 18
natural protection & safety solutions



NaSure™ 18

natural protection & safety solutions

When more and more people today are embracing healthier breakfast and foodstuffs that are of natural origin; we developed natural shelf life extension solutions to give your consumers a complete healthy experience. NaSure 18 is a natural shelf life solution blend of Rosemary extract based on carnosic acid. This powerful antioxidant solution used for protecting breakfast cereals is an absolute healthy way to start one's day.

We make food taste better, fresher and for longer

NaSure™ 18

natural protection & safety solutions

For Nut-based milk beverages

NaSure™ 56(Dry)

natural protection & safety solutions

Applications:

- Granula bars
- Protein or energy bars
- Health drinks
- Breakfast cereals
- Instant drink premix (Almond premix)



PROTECTING IS OUR NATURAL INSTINCT

Provide oxidative protection to
instant noodles; prolong shelf life

Water-dispersible

NaSure™ 37

natural protection & safety solutions



Water-dispersible

NaSure™ 37

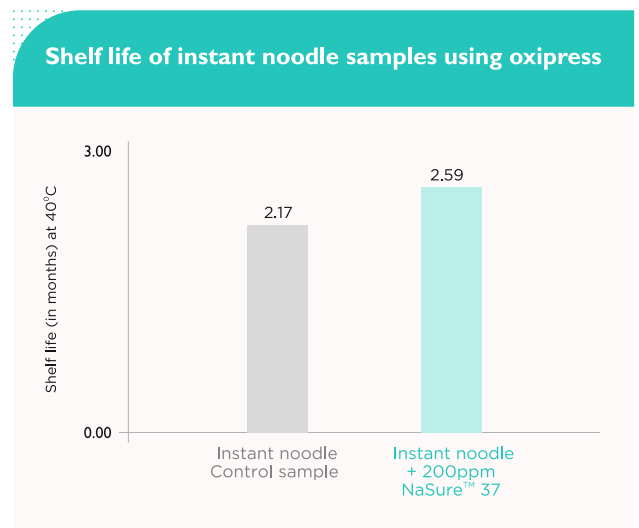
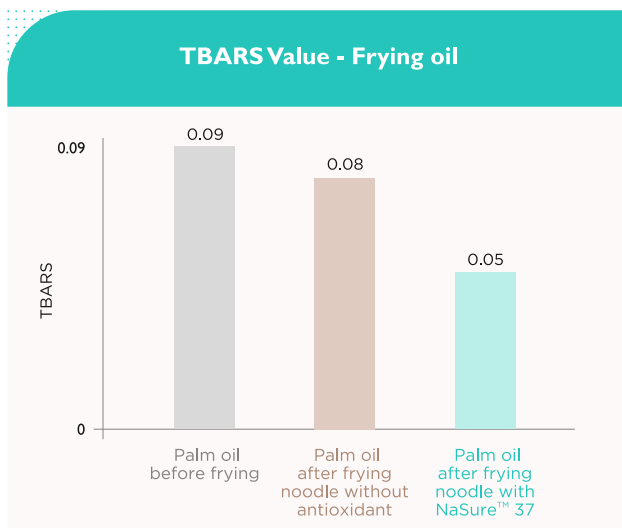
natural protection & safety solutions

Blend it like NaSure

Mixed tocopherols are popular natural antioxidants, which occur in vegetable oils, primarily soyabeans. Mixed tocopherols are valuable ingredients when regulations do not permit the use of more effective synthetic antioxidants or the applications in which natural sources are preferable. Mixed tocopherols are oil soluble hence, cannot be used in applications in which oil is a minimal ingredient such as dough of instant noodles.

NaSure 37™, a water-dispersible natural antioxidant designed for products such as Instant noodles. It is an effective natural antioxidant, in which the antioxidant activity is retained after frying. The same function can be extended to similar food products where natural water-dispersible antioxidant is desired.

Shelf life extension of instant noodles (fried)



This method permits the direct determination of the 2- Thiobarbituric acid value (TBA value) in oils and fats without preliminary isolation of secondary oxidation products. This method is applicable to animal and vegetable fats and oils, fatty acids and their esters, partial glycol esters, and similar materials.

The stability of the oil is predicted using TBARS. NaSure™ 37 proved to be an effective antioxidant to prolong the formation of secondary oxidation products.

Dosage*:

Recommended dosage is 0.01% to 0.3% in 1kg noodle dough

Packaging:

Available in 1kg/5kg/25kg food grade HM HDPE container

NaSure™ 37 is an effective natural antioxidant for instant noodles, in which the antioxidant activity is retained after frying.

Also available

For vitamin-based protection (paste form)
Xtendra® 47

For high vitamin protection (liquid form)
NaSure™ 70

For rosemary extract-based protection
NaSure™ 12

PROTECTING IS OUR NATURAL INSTINCT

Provide colour protection
and enhance shelf-life of
spices and seasonings










NaSure™ 70/90
natural protection & safety solutions



NaSure™ 70/90

natural protection & safety solutions

A liquid natural antioxidant solution of 70% mixed tocopherols. It is a reddish brown coloured, viscous liquid easily miscible in oil.

	Without antioxidant	With 0.1% NaSure™ 70/90	With 0.2% NaSure™ 70/90
0 DAY			
After 15 Days			
After 60 Days			

The study to evaluate the red colour retention of paprika powder with natural tocopherols was conducted at room temperature under sunlight. NaSure™ 70/90 at 0.1% and 0.2% were mixed with small aliquots of paprika powder, which were then blended with the bulk paprika powder. The samples were then spread on petridish and the surface was levelled with flat spatula. The samples along with a control sample (paprika powder without addition of mixed tocopherols) were exposed to sunlight for 15 days until a marked difference in red colour was observed.

Observations

On 15th Day

- The test sample with 0.1% NaSure™ 70/90 showed very few faded specs of paprika powder.
- The control sample of paprika powder showed, most of the surface colour fading on the 15th day.

On 60th Day

- The test sample with 0.2% NaSure™ 70/90 did not show any sign of colour fading until 60 days.
- The control sample of paprika powder completely faded.

Applications:

- Animal fats
- Fried noodles
- Spice powders
- Seasonings
- Snacks and nuts
- Sauces and dressings

Dosage:

Upto 0.1% of the total weight of the spice powder or seasoning used

Packaging:

Available in 1kg/5kg/25kg food grade HMHDPE container or 200kg food grade HM HDPE drum



PROTECTING
IS OUR BASIC INSTINCT

Provide complete beverage
protection from
microbial spoilage

Xtendra® LFP N° 10
protection & safety solutions



Beverage deterioration caused by spoilage microorganisms throughout storage and distribution has a major impact on food quality, shelf life and wastage. It is a greater responsibility to protect and retain the freshness, visual appeal, palatability and shelf life.

Spoilage causes and types

1
Moulds grow as delicate, fluffy, cottony white masses suspended in the liquid

2
Production of haze, sediment, off-flavours and gas

3
Yeasts produces sufficient carbon dioxide enough to burst the bottle or can

4
Some bacterial species can cause ropiness due to the production of dextrans

5
Liquid sweeteners are a significant source of yeasts and moulds. Higher the sugar load, higher is the microbial load in the product that affects the effectiveness even of the pasteurization step

6
A small amount of oxygen contained in the headspace of a bottle or dissolved in the liquid is sufficient for fungal growth

7
Packaging materials too contribute to contamination if not adequately rinsed before filling

Types of beverages

Beverages	pH range	Spoilage
Ginger ales, Ginger cocktail (ginger beer & gingerale)	2.5 - 3.1	Yeasts
Fruit juices Drinks with tea powder Vitamin-fortified drinks	2.5 - 4.0	Yeasts
Sports drinks Fruit drinks	2.5 - 3.5	Bacteria, Heat-resistant mould spores

The moulds grow slowly in bottled beverages and are often detected only after they are in the marketplace. This can result in product recall and huge losses.

For drinks with sweeteners, plant environment, air quality and bottle cleanliness should be taken into consideration.



Xtendra® LFP N° 10

protection & safety solutions

Xtendra® range of solutions drives the protection and safety of food products. Xtendra® LFP N° 10 is a versatile antimicrobial agent used for protecting a wide variety of food and beverage products including fruit drinks, citrus-based beverages, etc.

- Inhibits spoilage due to microbial contamination after addition of LFP N° 10, thereby increasing the shelf life
 - Bacterial count reduction is more than 50%
 - Yeast and Mold count can be reduced almost 100%
- Keeps the taste and aroma of your beverages intact



Dosage:
Max 0.3%
(for non carbonated water based flavoured drinks)

Packaging:
1kg, 5kg and 25kg HM HDPE containers

Other Applications:

- Fruit and vegetable juice
- Fruit and vegetable paste
- Food gravies
- Chutneys
- Soft drinks
- Processed food
- Other convenience foods



PROVEN SAFETY FROM MICROBIAL SPOILAGE OF MILK-BASED SWEETS



dezarto



Extend sweet, pleasant memories

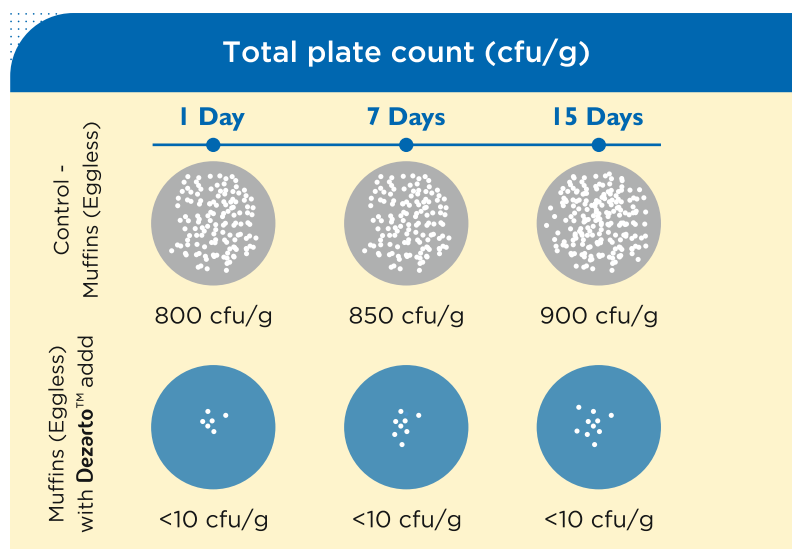


Indian milk-based sweets are susceptible to microbial spoilage that restricts its shelf life enhancement. Whether its bakery foods or traditional Indian sweets; festive season. large-scale marketability and exports too potentially demands longer shelf life.

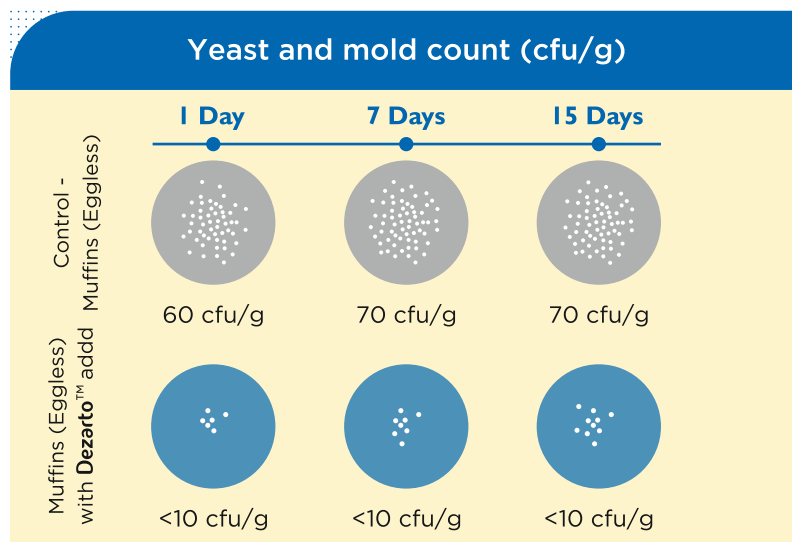
CFS looked at adding value by not just maximizing product's shelf life but maintaining the texture as well as sensory qualities which most of the time gets ignored. Some of the major sensory attributes includes color, firmness, chewiness, juiciness and rancid notes.

Increases the keeping quality of sweets as well as baked foods

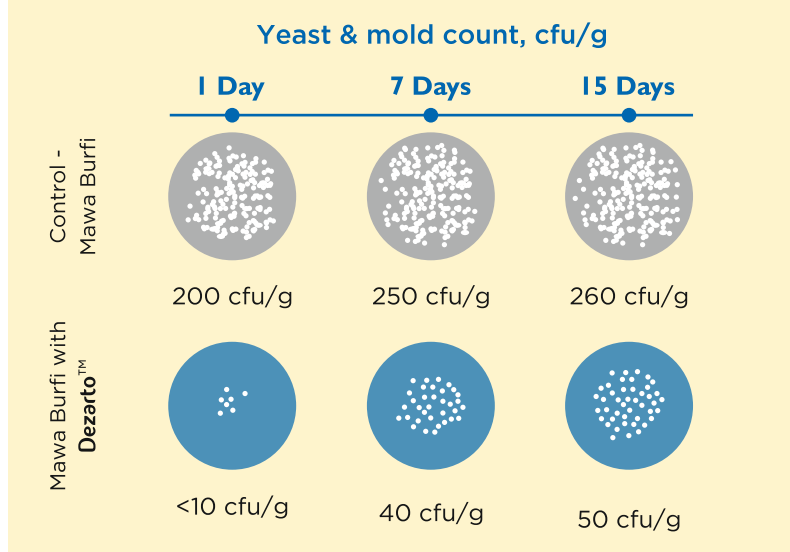
Micobial evaluation of Eggless Muffins (Bakery) using Dezarto



Results:
Laboratory microbial evaluation of Eggless Muffins with Dezarto showed total bacterial and reduced to 100% for 15 days.

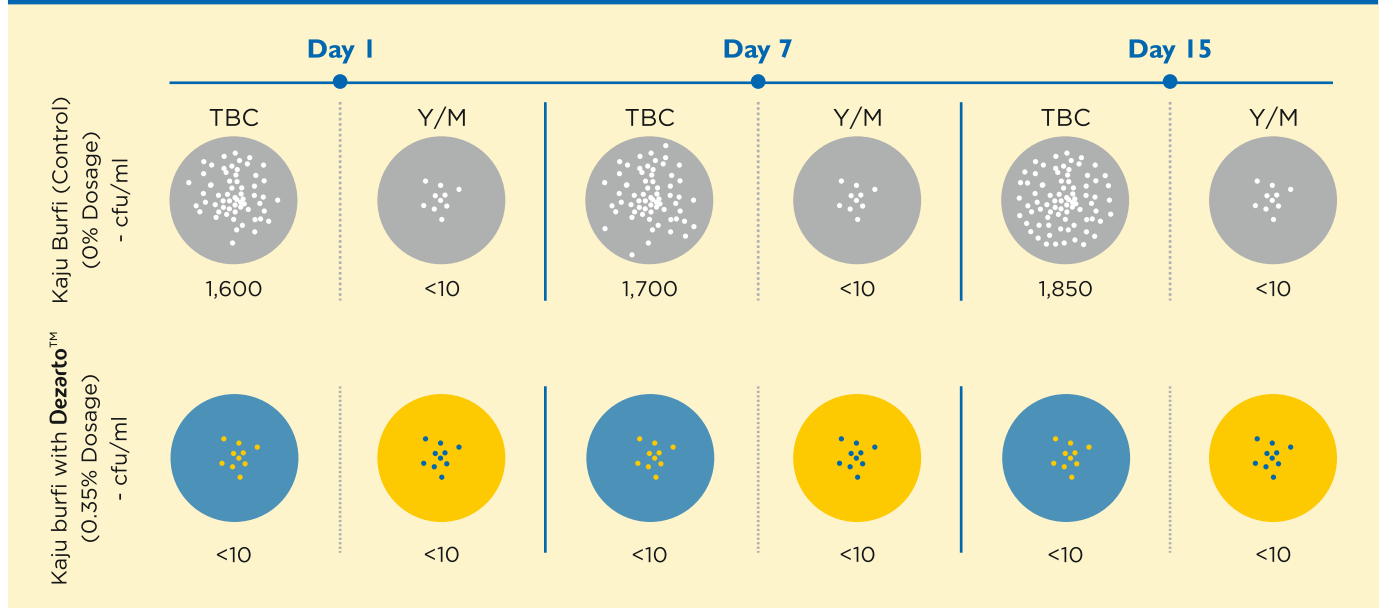


Microbial evaluation of Mawa Burfi



Results:
Laboratory microbial evaluation of Mawa Burfi with Dezarto showed effective Yeast & Mold control for a period of 15 days in comparison with Control samples.

Microbial evaluation of Kaju Burfi



TBC = Total Bacteria Count Y/M = Yeast and mold count cfu = colony forming units

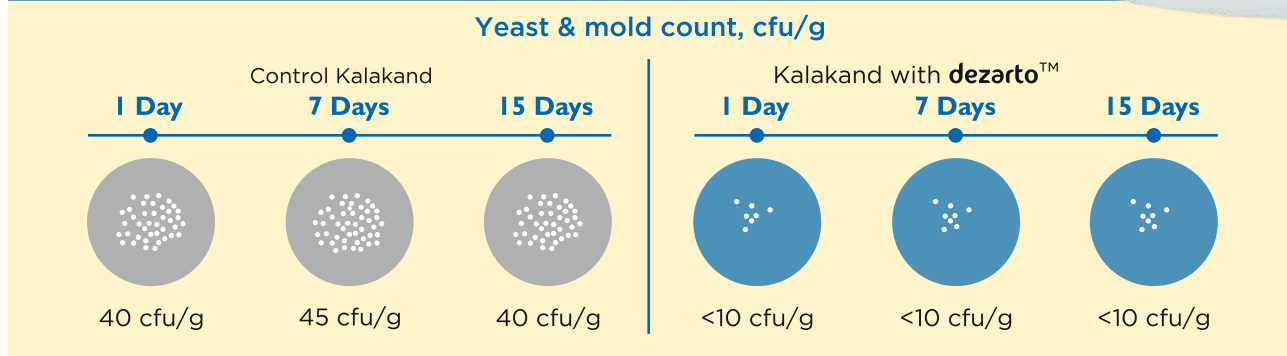
Results:

Laboratory microbial evaluation of Kaju Burfi with Dezarto showed total bacterial and Yeast & Mold count reduced to 100% for a period of 15 days.





Microbial evaluation of Kalakand



Results:

Laboratory microbial evaluation of Kalakand with Dezarto showed consistent Yeast & Mold control (of <10cfu/g) for a period of 15 days.



Dosage:

Recommended 0.7% maximum of Dezarto for Khoya and Khoya based products, Chhana and Paneer based sweets.

Recommended 0.35% maximum of Dezarto for cereal and starch based desserts, fine bakery products and bakery mixes.

Packaging:

Available in 1 kg food grade HDPE jar

Direction for use:

Dezarto is in paste form and can be easily scooped with a spatula. Mix either in milk (warm if required) or in the product directly.

EXPERIENCE A NEW DIMENSION OF TASTE

Our ability to produce vanillin has come leaps and bounds in the last few years. And now we're able to manoeuvre this nature-identical vanilla flavour to unveil its many shades to perfection.

Perfect Vanilla has unique flavour profiles that can suit a wide range of food applications. It can help you create newer possibilities and lift the pleasant notes of vanilla.

PERFECT
Vanilla
Powder

PERFECT
*Vanilla*TM
FLAVOUR



PERFECT
Vanilla
Powder

PERFECT
*Vanilla*TM
FLAVOUR

Perfect Vanilla Sweet & Creamy and Fruit Punch are unique notes developed in powder form to suit the flavour profile in bakery products and in frozen desserts.

Perfect Vanilla Liquid Flavours gives you the flexibility to enhance the flavour profile in a wide range of food applications.

Perfect Vanilla powders

Fruit Punch
Sweet and Creamy
Classic
Classic L2073

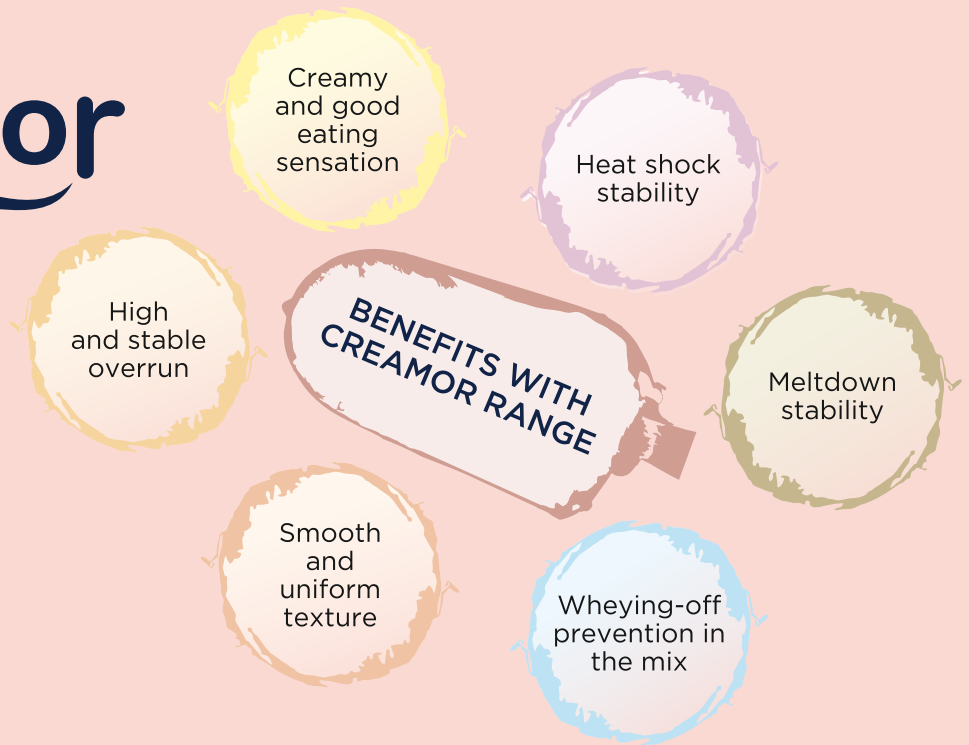
Available in powder and liquid form



Dosage:
01. to 0.2%
depending on
the end use.

Applications:

- Soft cakes
- Cream cakes
- Fruity cakes
- Fruit bread
- Buns
- Cookies
- Cake premixes
- Frozen desserts
- Ice cream premixes
- Yoghurts
- Kulfi
- Chilled milk beverages
- Vanilla milkshakes



Sensory preferences vary from customer to customer and the geographical location. Some Creamor products will provide a warmer eating sensation than others (table 1). Creaminess is also an important parameter which is linked to the frozen foam structure. The impact of Creamor products on creaminess is shown in table 1.

Table 1 : Creamor range for different functional properties

	Creamor 54	Creamor 63	Creamor 72
Functional Properties			
Meltdown stability			
Warm eating sensation			
Dry extrusion and shape retention			
Creaminess			
Recommended for low fat and low total solids formulations			
Increase of mix viscosity			

Table 2 : Ideal Creamor for different ice creams or frozen desserts

Recommendation	Creamor 54	Creamor 63	Creamor 72	
Ice cream (milk fat)				
Frozen dessert (vegetable fat)				
Product	Applications			
Moulded or filled ice cream				
Extruded ice cream				
Softy ice/soft serve/softy				

The versatile ice cream stabiliser

Creamor range of ice cream stabiliser blends has applications in a wide variety of ice cream and frozen dessert products. **Creamor** range comprises special blends of food-grade emulsifiers and hydrocolloids, developed to meet the requirements of your industry. The ingredients are based on non-animal origin raw materials.

Depending on the type of **Creamor**, the products will have different impact on creaminess, eating sensation (cold/warm) and meltdown stability. Some products are more suitable for extruded and low-fat products.

No limit to indulgence, enjoy more with

Creamor

The versatile ice cream stabiliser

Dosage:

Recommended usage levels range from 0.3% to 0.6%, depending on fat contents (refer product specifications for fat % and dosage). In low cost formulations with fat and low total solids, certain **Creamor** range can improve the quality of the product (see table 1).

When the fat content is reduced, **Creamor** dosage is increased to support the shrinking aggregated structure of crystallised fat. Likewise, when the fat content is increased, less **Creamor** is needed.



Creamor 54

Creamor 63

Creamor 72

Creamor 77

Creamor 99

Also, available

PERFECT
Vanilla
POWDER/LIQ.

- Classic Vanilla
- Sweet & Creamy
- Fruit Punch
- Milky Blast
- Choco Delight
- Butterscotch
- Fresh Strawberry

Camlin Fine Sciences Ltd.

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+91 22 6700 1000 ✉ sinfo.in@camlins.com

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ABSORPTION INTELLIGENCE™



Clean DHA from algal source

Riz-Omega™ uses intelligent, innovative processes to manufacture vegan DHA triglyceride form naturally, which ensures high absorption and functional values for early life to golden years.

REACH. WITHIN REACH.



Along with the technical brilliance of AlgalR[®], Camlin Fine Sciences introduces Riz[®] Omega-3, a range of nutritional lipids, derived from wild-type microalgae, using innovative processes.

ABSORPTION[™] INTELLIGENCE



Riz Omega[™] uses intelligent, innovative processes to manufacture vegan DHA in triglyceride form naturally, which ensures high absorption and functional values for early life to golden years.



The benefits of Omega-3 are scientifically well recognized through numerous studies world over. These relate to brain development, cognitive health, mood disorders, cardiovascular health, and eye health. Riz DHA[™] is an ideal wellness nutrient from pregnant women, infants, growing kids, active adults to the aging population.





CLEAN & PURE

- Given the risks of contaminated marine Omega-3 and the strong consumer demand for clean products, Riz[®] Omega-3 offers a reliable alternative.
- The oil extraction process utilizes patented physical processes without the use of chemicals.
- A molecular distillation process further ensures an ultrapure product.
- Purity certifications is done by SGS and Eurofins.
- Halal Certified.



SAFE AND STABLE

- The oil is self-stabilized without any exogenous antioxidants using a unique patented “Omega-shield” process.
- Free of heavy metals.
- Vegan, non-GMO, gluten-free and allergen-free.
- Complete traceable process to ensure safety.



SUSTAINABLE

- Riz[®] Omega has no impact on natural, marine resources.
- Environment-friendly process.
- Fully integrated facility for unhindered manufacturing and supply.



APPLICATIONS:

- Seasoning oils
- Gummies
- Smoothies premix
- Chocolates
- Cereal bars
- Protein shakes
- Plant-based drinks
- Infant formula
- Petfood
- Dietary or wellness Supplements



life@camlinfs.com,
www.camlinfs.com/life



Product Development

Customer Application Services

Technical Service



APPLICATION LABS

A RELIABLE SERVICE SUPPORT

Considering cultures and food eating habits vary with region, we had to pay close attention to understanding and developing localized solutions. We have set up our applications laboratories in India, USA, Mexico, Italy and Brasil.

Our laboratories are equipped with the latest instruments such as OSI, Rancimat, Oxipres, Checkmate, GC FID, GC-Headspace, HPLC, Fat extractor to name a few. With the help of these, we can support customers with quantification of actives, oxidative by-product testing, shelf-life stability testing etc. to meet their requirements.

Our combined knowledge pool along with our capabilities paved the way for solutions that meet our customers' everyday challenges. For their product development process, we can provide a detailed technical discussion on antioxidant functionality in different matrices as well as provide regulatory support.

We also invite customers to conduct collaborative application projects to support their product designs for high-value and efficient shelf life solutions for food, petfood and feed.



Applications:

Food



Oils and fats, Meat, poultry and seafood, Bakery, Sweets and confectionery, Instant noodles, Spices and seasonings, Sauces and Dressings, Infant food, Fish and Algal oils, Frying oils, Margarine and fat spread, Snack foods and nuts, Ready meals, Dehydrated foods
(soups, seasonings, potato products)

Petfood



Oils and fats, Rendering, Meal, Premixes

Animal feed



Oils and fats, Meal, Premixes

GLOBAL REACH, LOCAL PRESENCE



CFS has more than **100** products in its portfolio with supply chain serving more than **60** countries and footprint that extends across the American continents, Europe and Asia.



WHO ARE WE?

Today, food protection has become an increasing concern than ever with huge impact on bottom-line as well as food loss leading to wastage. Spoilage is generally of two types - visible and most of the time, intrinsic which can affect safety, protection and organoleptic properties of food making it unfit for consumption by the time it reaches your consumer's plate.

Through **Xtendra™** and **NaSure™**, CFS delivers comprehensive solutions to drive food safety and protection until the end of the shelf life. With more and more people focusing on clean labels, we provide natural alternatives too. Further, our Customer Service Laboratories can support application services to protect food, prevent spoilage and wastage. We invite our customers to collaborate with us on application projects where our experts could provide detailed technical discussion, development of food applications, evaluate, and thereby recommend the best-fit. We believe no effort is too much in preparing humans for a better future.

