OUR COMPANY

For over a decade LLC Delta Wilmar Ukraine maintains its undisputed leadership position on the fat-and-oil market of Ukraine, CIS and European countries. It has a diverse range of product portfolio consisting of tropical and soft oils, margarines, specialty fats for varied applications and other by-products. In such a way, the company caters to the entire spectrum of needs of more than 1,000 companies of the fat-and-oil industry all over the world.

LLC “Delta Wilmar Ukraine” is a unique mix of palm and sunflower oil business. Being a 100% Singapore invested company, we have two plants — one for processing of tropical oils and another — for production of sunflower oil. These capacities including our vegetable oil transshipment terminal are located in the ecologically-green area 30 km away from Odessa in Pidvennyi Port.

Our top priorities are innovative approach to our products, high quality standards, and environmental friendliness. Our environmental initiatives are aligned with the Ukrainian and international laws in order to minimize the company’s ecological footprint.

LLC “Delta Wilmar Ukraine” expanded its geographical coverage from Ukraine to more than 25 countries of the world including India, China, Turkey, Egypt, Italy, Greece, Romania, Russia, Poland, Moldova, Serbia, Azerbaijan, Armenia, Belarus, Kazakhstan, Uzbekistan etc. through relevant investments and associations to cater to the market at large.

CERTIFICATIONS

Quality of raw materials and ingredients, as well as the technological process of production ensures its stable quality and safety. Quality of goods manufactured by LLC «Delta Wilmar Ukraine» is annually noted with awards and diplomas. The production process is confirmed by certificates of compliance with such requirements:

- International certification scheme for food safety management system FSSC 22000;
- Quality management system ISO 9001;
- Food safety management system ISO 22000;
- Feed certification scheme GMP + B1;
- ISCC EU;
- RSPO MB;
- Kosher;
- Halal.

Also, as a part of voluntary certification system, all production annually undergo the certification by UkrSEPRO (Unified State System of Certification and Standardization in Ukraine).

INNOVATIONS & CUSTOMIZED SOLUTIONS

Delta Wilmar invests heavily in Research and Development to continuously re-define the industry standards by providing quality products to its customers. The company also draws relevant research capabilities from its parent company Wilmar from their HQ in Singapore; thereby providing its customers with nothing less than the ‘best’.

Product range of the company’s plant under the TM Sania fully complies with the European requirements, as it contains a low percentage of trans fats. Therefore, the demand for the Delta Wilmar products continues to grow. With innovative technologies and in-house research Delta Wilmar provides specialized and customized solutions to specific niche segments. The company with the strengths of its major shareholder Wilmar participates in various aspects of the entire supply chain from farm to fork, thereby adding value in both intrinsic and extrinsic terms.
SUCCESS STRATEGY

DELTA WILMAR
DELTA WILMAR GROUP, A PART OF THE "WILMAR INTERNATIONAL" TRANSNATIONAL AGRO-INDUSTRIAL CORPORATION

2020
COMPLETE MODERNIZATION OF PLANT PACKED PRODUCT

2019
JOINING PJSC CHUMAK TO WILMAR INTERNATIONAL CORPORATION

2018
BEGINNING OF PRODUCTION OF SUNFLOWER LECHITHIN OF PREMIUM QUALITY

2017
NEW PILOT PLANT INTENDED FOR TESTING NEW INGREDIENTS

2016
A NEW PRODUCTION LINE WAS INSTALLED AND SET IN OPERATION. SUCCESSFUL COMPLETION OF THIS PROJECT INCREASES PRODUCTION VOLUMES BY 4000 TONS PER MONTH

2015
EQUIPMENT FOR INTERESTERIFICATION AND HYDROGENATION WAS UPDATED, AND CAPACITY INCREASED

2014
THE COMPANY COMMISSIONED A PLANT FOR PROCESSING THE SUNFLOWER SEEDS NEXT TO THE EXISTING COMPLEX.

“DELA WILMAR” LLC, THE FIRST TROPICAL OIL TRANSSHIPMENT AND PROCESSING COMPLEX ON THE TERRITORY OF THE CIS, STARTED TO OPERATE AT ITS FULL CAPACITY

2006
ON DECEMBER 22, “WILMAR INTERNATIONAL LTD.” AND “DELTA EXPORTS PTE LTD.” SET UP “DELA WILMAR” LLC IN UKRAINE

2004
“DELTA EXPORTS PTE LTD.” WAS ESTABLISHED IN SINGAPORE

1993
“WILMAR INTERNATIONAL LTD.” WAS ESTABLISHED IN SINGAPORE. IT IS ONE OF THE LARGEST COMPANIES IN THE WORLD FOR PROCESSING OF AGRICULTURAL PRODUCTS

1991

CREATING HEALTH WITH WEALTH
LLC “Delta Wilmar Ukraine” places high level of significance to its human resources. Apart from bestowed with strong partners and a dynamic Board, the company strongly believes that its success is the collective synergy of its most valuable and intangible human resources. The company creates a platform for its business leaders and staff by providing them with opportunities of career progression and entrepreneurship through various initiatives. More than 600 specialists work at LLC “Delta Wilmar Ukraine”. Our people are highly motivated and with a disposition of high levels of integrity, are committed to serve our customers with un-paralleled levels of professionalism.

ENVIRONMENTAL CARE
LLC “Delta Wilmar Ukraine” deploys state of the art technology complimented with equipment supplied by the leaders in the industry as DesmetBalle, Gerstenberg-Schroder, Europa Crown, CPM, Buhler, Siemens, Vyncke etc. to provide quality products to our customers, considerably reducing the impact of environmental pollution and preserving the ecology of the Black Sea.
TROPICAL OILS

PALM OIL AND ITS FRACTIONS

RBD / HYDROGENATED
RBD PALM OIL

Refined bleached deodorized palm oil and Hydrogenated RBD palm oil are widely used for production of fats and margarines. RBD/Hydrogenated RBDPO also find applications in baking, confectionery and dairy (as milk fat substitute for the manufacturing of products with complex fat composition).

RBD / HYDROGENATED
RBD PALM OLEIN

Refined bleached deodorized palm olein is used in bakery for production of dough, waffles, sugar cones, filling of pastries and chocolates. It is also used in meat industry for production of pates. It decreases the volume of fat needed for frying which contributes to the economic usage from a customer’s view point.

LAURIC OILS

RBD / HYDROGENATED
RBD COCONUT OIL

These are high-quality fats used for production of margarines and fat products, in dairy (coatings for ice cream, dairy cheese, milk fat substitute, milk containing products) and cosmetic industries.

RBD PALM KERNEL OIL

Refined bleached deodorized palm kernel oil is used for production of margarine and fat products, confectionery, dairy, bakery and other food industries, as well as in the manufacture of soap.

RBD PALM STEARIN

Refined bleached deodorized palm stearin is formed during the fractionation of palm oil, after splitting hard and soft products. It is widely used in the different recipes of specialized fats and margarines, in the interesterification process for the production of high-quality milk fat replacers, surface-active substances and food emulsifiers.

<table>
<thead>
<tr>
<th>Specification</th>
<th>RBD palm oil</th>
<th>RBD palm olein</th>
<th>RBD palm stearin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistence, at 20 °C</td>
<td>Semisolid</td>
<td>Liquid</td>
<td>Solid</td>
</tr>
<tr>
<td>Melting point, °C</td>
<td>33 – 39</td>
<td>17 – 21</td>
<td>48 – 53</td>
</tr>
<tr>
<td>Moisture &amp; Volatile matters, % max.</td>
<td>0,1</td>
<td>0,1</td>
<td>0,1</td>
</tr>
<tr>
<td>Iodine value, g/12 / 100 g</td>
<td>50 – 55</td>
<td>56 – 59</td>
<td>32 – 46</td>
</tr>
<tr>
<td>Peroxide value, Mmol/kg O max.</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Acid value, mgKOH/g, max.</td>
<td>0,1</td>
<td>0,1</td>
<td>0,2</td>
</tr>
</tbody>
</table>

56% of the total vegetable oil market – palm oil, 44% – other 16 kinds of oils.

<table>
<thead>
<tr>
<th>Specification</th>
<th>RBD coconut oil</th>
<th>Hydrogenated RBD coconut oil</th>
<th>RBD palm kernel oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point, °C</td>
<td>20-29</td>
<td>30-33</td>
<td>22-30</td>
</tr>
<tr>
<td>Moisture &amp; Volatile matters, % max.</td>
<td>0,1</td>
<td>0,2</td>
<td>0,1</td>
</tr>
<tr>
<td>Iodine value, g/12 / 100 g</td>
<td>7 – 14</td>
<td>3</td>
<td>12 – 20</td>
</tr>
<tr>
<td>Peroxide value, Mmol/kg O max.</td>
<td>0,3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Acid value, mgKOH/g, max.</td>
<td>1,0</td>
<td>1,0</td>
<td>0,2</td>
</tr>
</tbody>
</table>
PRODUCTION MODEL

LLC “Delta Wilmar Ukraine”, together with its partner companies is a vertically integrated production system - from processing of raw materials to distribution of finished products.

**TROPICAL OILS PROCESSING PLANT**

- Refining
- Neutralizing
- Hydrogenization/Interesterification
- Winterization
- Fractionation
- Refining
- Mixing
- Adding water and ingredients
- Pasteurizing
- Cooling
- Warehouse
- Packaging

**SUNFLOWER SEED OIL PRODUCTION PLANT**

- Weighing and discharge
- Drying
- Dehulling
- Hull for boiler-house
- Hull in pellets
- Pressing
- Cake
- Oil
- Hydration
- Extraction
- Meal
- Oil
- Hydration
- Lecithin
- Storage
- Oil
- Lecithin

**Processing capacity**

- Processing capacity - 2 100 t / day
- Packaging Capacity - 900 t / day
- Neutralization and Freezing Capacity - 600 t / day
- Transesterification capacity - 300 t / day
- Hydrogenation capacity - 150t / day
- Production of palm and laurine special fats
- Warehouse composition - 18 thousand tons
- Capacity for storage of bulk products

**Processing capacity**

- Sunflower processing capacity - 1 700 t / day
- Elevator for storage of sunflower - 30 thousand tons
- Extraction Preparation Department
- Lecithin production site 7t / day
- Boiler room for husks
- Shipment of granular and non-granular meal by car and rail transport
OUR PRODUCTS

TROPICAL OILS
- RBD palm oil
- RBD palm olein
- RBD palm stearin
- RBD coconut oil
- RBD palm kernel oil
- Hydrogenated RBD tropical oils

SUNFLOWER OIL
- Crude Sunflower Oil (SFO)
- High Oleic Crude SFO
- Neutralized Winterized SFO
- Refined SFO Mark “P”

SPECIALTY MARGARINES
- For puff pastry
- For short-paste, sugar dough & bakery
- For creams

SPECIALTY FATS
- Confectionery fat
- Food fat of general purpose
- Cooking fat “For frying”
- Liquid fat for frying
- Shortening universal
- Milk fat replacers (MFR) Series “Z100-Z502”

FATS FOR CHOCOLATE
- Confectionery fat for chocolate products and chocolates
- Vegetable fat cocoa butter substitute (non-lauric)
- Cocoa butter equivalent CBE
- Cocoa butter substitute lauric CBS
- Cocoa butter replacer non-lauric CBR

OTHER PRODUCTS
- Sunflower meal in pellets
- Sunflower hull in pellets
- Sunflower lecithin

Delta Wilmar Ukraine also manufactures products with low content of transisomers and low content of glycedol esters (Low GE).

BUSINESS FOR B2B
The company places strong emphasis on the packaging of its products. Everything is made in order to meet the requirements of the customer and logistic challenges. That is why our clients receive the products as fresh in terms of their appearance, taste or quality.

- Fats and Margarines are packed in corrugated boxes with multiple protection layers net weight 10 ; 20kg;
- Liquid Tropical oils and Refined Sunflower oil are packed in “bag-in-box” (20kg plastic bags with neck and lid packed in corrugated box);
- Sunflower oil is exported in bulk vessels and flexitanks in containers.
SUNFLOWER OIL EXPORT

SUNFLOWER OIL EXPORT FROM UKRAINE TO EUROPE
in 2018/2019, thsd mt

Total: 1 171

EXPORT OF SUNFLOWER OIL FROM UKRAINE
in 2018/2019, thsd mt

Total: 5 320

BALANCE OF SUPPLY AND DISTRIBUTION OF SUNFLOWER OIL IN UKRAINE
in 2018/2019, thsd mt

- Opening stocks: 93
- Production: 5 793
- Import: 1
- SUPPLY: 5 887
- Consumption: 445
- Export: 5 320
- SUPPLY: 5 765
- Ending stocks: 122
- Reserves / distribution: 2%

Other countries: 792
SUNFLOWER OIL

CRUDE
NOT WINTERIZED

Sunflower oil is a vegetable oil rich in unsaturated fatty acids. It is perfect for the direct refining based on the capacities of the client’s refinery. The product is available in bulk on vessels and in flexitanks in containers.

SUNFLOWER OIL, HIGH-OLEIC, NOT REFINED, NOT FROZEN

This oil is usually defined as having a minimum 80% oleic (mono-unsaturated) acid. It provides very good stability without hydrogenation and has recently enjoyed increased demand in the food processing industries as a transfats free solution. This has created a widening of the premium for HO sun oil and HO sunseeds. This oil is widely used for frying, margarines production, etc.

SUNFLOWER OIL REFINED DEODORIZED, WINTERIZED (RSFO MARK “P”)

RSFO is rich in linoleic and linolenic (0.5%) polyunsaturated fatty acids, which are essential for humans. It does not contain cholesterol, preservatives and GMO, has no smell and retains the natural flavor of food during cooking. It does not burn, foam and spray during heating. It is used for production of margarines and cooking fats (during the hydrogenation process) and canned food.

NEUTRALIZED WINTERIZED SUNFLOWER OIL (NWSFO)

NWSFO is a low in fatty acid value, wax and phosphatides free vegetable oil. It is perfect for the direct refining based on the capacities of the client’s refinery.

TOP OF WORLD IMPORTERS SUNFLOWER OIL

Total: 4 046

- China: 458 (9%)
- EU: 1 171 (25%)
- India: 2 417 (45%)

29% all sunflower oil exported to EU countries

<table>
<thead>
<tr>
<th>Specification</th>
<th>High oleic CSFO</th>
<th>NWSFO</th>
<th>RSFO Mark “P”</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFA (as oleic), % max</td>
<td>4,0</td>
<td>0,2</td>
<td>0,1</td>
</tr>
<tr>
<td>Moisture &amp; Impurities, % max</td>
<td>0,2</td>
<td>0,25</td>
<td>0,1</td>
</tr>
<tr>
<td>Iodine value, g/100 g</td>
<td></td>
<td>125–145</td>
<td></td>
</tr>
<tr>
<td>Oleic Acid, % min.</td>
<td>80</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Color as Lovibond (3.25°), red</td>
<td></td>
<td>3,4–4,5</td>
<td>1</td>
</tr>
<tr>
<td>Peroxide value, Meq/kg, % O max</td>
<td>7</td>
<td>9–12</td>
<td>1</td>
</tr>
<tr>
<td>Package</td>
<td>Bulk in vessel / BIB pack (20 kg) / Flexitanks (22 mt)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Specifications are standard. Customization is possible based on customer’s requirements.
MARGARINES: WORLD PRODUCTION
TOP-5 MARGARINE PRODUCERS IN 2019 YEAR

MAJOR CIS MARGARINE PRODUCERS
IN CIS COUNTRIES in 2019 year, thsd mt
Total: 1,660

- Russia: 1,236 / 66%
- Ukraine: 220 / 22%
- Others: 204 / 12%

TOP-5 WORLD MARGARINE PRODUCERS
in 2019 year, thsd mt
Total: 9,606

- EU-28: 2,090 / 26%
- CIS: 1,660 / 13%
- Pakistan: 940 / 11%
- India: 825 / 9%
- Russia: 1,236 / 10%
- Others: 2,855 / 31%

TOP-5 EU-28 MARGARINE PRODUCERS
in 2019 year, thsd mt
Total: 2,089

- Poland: 320 / 15%
- Germany: 327 / 17%
- United Kingdom: 275 / 14%
- Belgium: 190 / 9%
- Netherlands: 215 / 10%
- Others: 762 / 35%
MARGARINE FOR SHORT-PASTE, SUGAR DOUGH & BAKERY

Specialized margarines are a highly dispersed fat-water emulsion. Made on the basis of refined deodorized vegetable oils and fats. They are used in the confectionery and bakery industries for the preparation of cookie, shortbread cookies of various kinds, shortbread, cakes, cupcakes, pastry, bread, gingerbread and other products.

**BENEFITS:**

- Good lift of dough, aeration;
- Evenly distributed in the dough;
- Holds the shape of the finished products;
- Excellent properties of dough during baking;
- Long shelf life without changing the taste and aroma.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Margarine «Stolichny C»</th>
<th>Margarine «Domashny»</th>
<th>Margarine «Milk aroma»</th>
<th>Margarine 82%</th>
<th>Margarine «Solnechny»</th>
<th>Margarine DW NEW-82</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fat Content, % min.</td>
<td>60</td>
<td>40</td>
<td>82</td>
<td>82</td>
<td>72</td>
<td>82</td>
</tr>
<tr>
<td>Moisture &amp; Volatile matters, % max.</td>
<td>39,93</td>
<td>59,93</td>
<td>17,93</td>
<td>17,93</td>
<td>27,93</td>
<td>17,98</td>
</tr>
<tr>
<td>Salt value, % max.</td>
<td>1,5</td>
<td>1,5</td>
<td>1,5</td>
<td>2</td>
<td>1,5</td>
<td>0 – 2</td>
</tr>
<tr>
<td>Acid value, °K max.</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
</tr>
<tr>
<td>Peroxide Value, mmol 1/2 O/kg, max.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

* Specifications are standard. Customization is possible based on customer's requirements.
# ADVICES FROM OUR TECHNOLOGIST

PROBLEMS IN THE PROCESS OF SHEET PASTRY COOKING

## CAUSES & SOLUTIONS

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause &amp; solution</th>
</tr>
</thead>
</table>
| Insufficient layering of the product, fatty taste, dark surface & underbaked center, margarine leaks in the process of baking | - Incorrect baking temperature  
   - Baking temperature depends on the type of the oven and ranges from 170 to 250 °C  
   - Insufficient margarine volume during layering  
   - The volume of margarine during the layering should be from 20 to 100%, depending on the type of the puff pastry and technology  
   - Incorrect temperature regime of the working area/ in the proofer  
   - The recommended temperature of the working area and dough is 12-16 °C  
   - For the yeast-containing dough the temperature in proofer should not exceed 32 °C  
   - Incorrect layering  
   - Based on the type of puff pastry, the number of margarine layers ranges from 12 to 256  
   - Thin dough rolling during the handling  
   - Depending on type of product, the thickness of the final rolling ranges from 2 to 12 mm |
| Yeast puff pastry settled after baking                                  | - Dough overproofing  
   - Depending on the recipe and technology, dough proofing takes 20 minutes - 12 hours  
   - High content of gluten in the dough  
   - Good quality flour or specially selected improvers should be used  
   - Insufficient baking time  
   - Puff pastry baking time takes 12-60 minutes depending on the dough weight and oven |
| Yeast puff pastry tears during baking                                    | - Insufficient time of proofing  
   - Depending on the recipe and technology, dough proofing takes 20 minutes - 12 hours.  
   - Deformation of the dough surface  
   - To pay special attention to the dough handling in order to avoid stretching or tearing  
   - High content of gluten in the dough  
   - Good quality flour or specially selected improvers should be used  
   - Skinny dough surface  
   - Quick dough handling is needed after the final rolling and humidity control in the proofer |
| Product falls to one side during the baking                             | - Insufficient time of dough rest between rolling and before handling  
   - Fast fan work in the convection oven  
   - Long dough rest is needed in preparation of nonyeasted puff pastry. The duration of the rest can take up to 12 hours depending from the cooking technology and puff pastry type |
| The final product has large holes                                       | - The usage of large amount of flour during the handling  
   - To control the process of flour adding during the layering and handling  
   - Skinny dough surface during the rest and handling  
   - Quick dough handling is needed after the final rolling |
MARGARINES FOR PUFF PASTRY

Margarines for puff pastry are used in confectionery and baking industries. They are specially created for the dough layering in the manufacture of semi-finished products for puff pastry, croissants, yeast and yeast-free dough.

**BENEFITS:**
- High lift of the final products;
- A clear separation of the layers during baking;
- Pleasant creamy flavor and aroma of the finished product;
- No need to mix with the flour;
- The dough remains pliable when cooled between the rolling stages (yeast and yeast-free dough).

<table>
<thead>
<tr>
<th>Specification</th>
<th>Puff pastry margarine, 82%</th>
<th>Puff pastry margarine, 80%</th>
<th>Puff pastry margarine, 72%</th>
<th>Puff pastry margarine, DW NEW-80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fat content, % min.</td>
<td>82</td>
<td>80</td>
<td>72</td>
<td>80</td>
</tr>
<tr>
<td>Moisture &amp; Volatile matters, % max.</td>
<td>17,93</td>
<td>19,93</td>
<td>27,93</td>
<td>19,98</td>
</tr>
<tr>
<td>Salt value, % max.</td>
<td>1,5</td>
<td>1,5</td>
<td>1,5</td>
<td>0,5</td>
</tr>
<tr>
<td>Acid value, °K max</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
<td>2,5</td>
</tr>
<tr>
<td>Peroxide value, mmol ½ O/kg, max.</td>
<td>1,5</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Melting point, °C</td>
<td>40 – 44</td>
<td>40 – 44</td>
<td>40 – 44</td>
<td>40 – 43</td>
</tr>
<tr>
<td>SFC at 20 °C, %</td>
<td>39 – 47</td>
<td>32 – 38</td>
<td>39 – 47</td>
<td>41 – 49</td>
</tr>
</tbody>
</table>

* Specifications are standard. Customization is possible based on customer’s requirements.

*** All puff pastry margarines have convenient packaging — layers/blocks of 2 kg, each layer wrapped in parchment and put in a handy little box of 8/10/20 kg convenient for usage.
# ADVICES FROM OUR TECHNOLOGISTS

## PROBLEMS IN THE PROCESS OF COOKING OF BUTTER CREAM ON MILK-SUGAR SYRUP WITH MARGARINE FOR CREAMS

### CAUSES & SOLUTIONS

<table>
<thead>
<tr>
<th>Problem</th>
<th>Cause &amp; solution</th>
</tr>
</thead>
</table>
| **Unsteady form of cream**                   | • The temperature of the margarine is too high  
                                          | ✓ Need to cool margarine to a temperature below 10 °C  
                                          | • Milk-sugar syrup too thin  
                                          | ✓ To boil the milk-sugar syrup in order to make a solids content of at least 73 +/- 0,2%  
                                          | • Milk-sugar syrup is too warm  
                                          | ✓ To cool the syrup to 20 °C |
| **Syrup divides from the cream**              | • The syrup is put into the cream all at once or in large portions  
                                          | ✓ To add the syrup into the cream gradually, in small portions |
| **Nonhomogeneous consistency of cream**       | • Milk-sugar syrup curdled  
                                          | ✓ The curdled syrup is unacceptable to use in the production |

## BENEFITS:

- Allows creating a cream comparable with dairy butter cream;
- Provides good whipping;
- Keeps the shape, plasticity of homogeneity of cream fillings and decorations;
- Does not require changes of technological schemes and equipment, which worked on dairy butter;
- It is widely used as a layer between shortcakes.
MARGARINES FOR CREAM

Cream margarine is unique in its technological characteristics. In flavor it is comparable with dairy butter and thus actively used as a substitute for dairy butter in the manufacture of creamy semi-finished products, soufflés and cream. Its low cost makes the end product more economical without compromising on the quality.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Margarine for cream «For cakes»</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fat Content, % min.</td>
<td>80</td>
</tr>
<tr>
<td>Moisture &amp; Volatile matters, % max.</td>
<td>19,93</td>
</tr>
<tr>
<td>Salt Value, % max.</td>
<td>0</td>
</tr>
<tr>
<td>Acid Value, °K max</td>
<td>2,5</td>
</tr>
<tr>
<td>Peroxide Value, mmol ½ О/kg, max.</td>
<td>1</td>
</tr>
<tr>
<td>Melting point, °C</td>
<td>30 – 35</td>
</tr>
<tr>
<td>SFC at 20 °C, %</td>
<td>20 – 26</td>
</tr>
</tbody>
</table>

* Specifications are standard. Customization is possible based on customer’s requirements.
BENEFITS OF SPECIALTY FATS

CONFECTIONERY FAT

BENEFITS:
- Creates the easy whipped filling;
- Provides a delicate taste;
- Creates superior product consistency;
- Easy compatibility with milk fat;
- Less fat consumption;
- Productivity increases;
- Usage with a wide range of confectionery

SHORTENING UNIVERSAL

BENEFITS:
- Provide high emulsion stability;
- Good whipping with sugar;
- Makes the texture homogeneous;
- Products remain fresh for a long time;
- High organoleptic characteristics;
- Dough is pliable for a longer time;
- Forming process is easier;
- Extended shelf life of the final products.
SPECIALTY FATS

CONFECTIONERY FAT
Our confectionery fats product line is represented by a wide range of products. These fats are produced from refined deodorized modified palm oil and its fractions. As per consumer’s request, aromatizers and coloring agents can be added to the recipes. Elevated antioxidant properties provide long shelf life. Confectionery fats add superior quality at low cost to the end products. They are used in confectionery industry for production of various sorts of biscuits, cakes, wafers fillings, fillings for sweets, wafer cakes, sticks and etc.

FOOD FAT OF GENERAL PURPOSE
Food fat of general purpose provides a good texture to the final product, improves its characteristics and the melting curve (SFC - profile). It is widely used as a milk fat replacer, as well as in confectionery, baking, cooking, canning and food-concentrates industries.

LIQUID FAT FOR FRYING
It is used for cooking of various foods, as well as in the production of different varieties of waffles. When roasting retains the natural flavor and taste of the finished product.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Confectionery fat “SANIA”</th>
<th>Confectionery fat “SANIA”, VVS</th>
<th>Liquid fat for frying</th>
<th>Cooking fat “For frying”</th>
<th>Shortening universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fat content, % min.</td>
<td>99,7</td>
<td>99,7</td>
<td>99,8</td>
<td>99,8</td>
<td>99,8</td>
</tr>
<tr>
<td>Moisture &amp; Volatile matters, % max.</td>
<td>0,3</td>
<td>0,3</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>Acid Value, mg KOH/g, max.</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>Peroxide value, mmol 1% O/kg, max.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>SFC at 20 °C, %</td>
<td>33 – 42</td>
<td>25 – 35</td>
<td>2,0 / 0,9</td>
<td>29 – 41</td>
<td>19 – 23</td>
</tr>
</tbody>
</table>

* Specifications are standard. Customization is possible based on customer’s requirements.
IMPORT OF CBE, CBS & CBR

WE IMPORT WORLD-KNOWN SERIES OF CBE, CBS AND CBR PRODUCED BY WILMAR INTERNATIONAL COMPANY

COCOA BUTTER EQUIVALENT (CBE)
CBE is a blend of palm and exotic vegetable fats, which were specially selected, fractionated and carefully refined to resemble cocoa butter in all chemical and physical parameters. We distribute WILCHOC CBE series of fats, which are fully compatible with cocoa butter and share the similar crystallization and melting profile. They impart strong heat resistance and excellent melting characteristics to various types of chocolate products. WILCHOC is ideal for chocolate confectionery. It can replace cocoa butter completely or partially.

COCOA BUTTER LAURIC SUBSTITUTE (CBS)
Lauric based cocoa butter substitute (CBS) is manufactured under selective conditions of refined, bleached, deodorized, and hydrogenated process. It is an excellent substitute for cocoa butter in confectionery coatings and shaped confectionary products. We distribute ULTRA CHOCO and WILKOTE series of CBS. ULTRA CHOCO is an ideal fat to be used for moulded bars, enrobed/coated, and panned product applications. WILKOTE is widely used in bakery and confectionery applications such as cream filling in biscuit, wafers, caramel and vermicelli.

COCOA BUTTER NON-LAURIC REPLACER (CBR)
Non-lauric cocoa butter replacer (CBR) derived from fractionated and hydrogenated palm oil. We distribute the WILLARINE CBR series which can replace cocoa butter at a 20% level. Having a high solid content, it imparts excellent stability to both chocolate and confectionery coating at higher temperature. WILLARINE does not impart soapy after taste. It is an ideal non-lauric and non tempering fat for coating. CBR provides easy handling in production process, good gloss of finished product, long shelf life and resistance to bloom.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Cocoa butter equivalent (CBE)</th>
<th>Cocoa butter lauric substitute (CBS)</th>
<th>Cocoa butter non-lauric replacer (CBR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WILCHOC</td>
<td>ULTRA CHOCO</td>
<td>WILKOTE</td>
</tr>
<tr>
<td></td>
<td>SP</td>
<td>340</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>SS</td>
<td>360</td>
<td>600</td>
</tr>
<tr>
<td></td>
<td></td>
<td>380</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>800</td>
</tr>
<tr>
<td>Moisture &amp; Impurities, % max.</td>
<td>0,1</td>
<td>0,1</td>
<td>1,0</td>
</tr>
<tr>
<td>Melting point, °C</td>
<td>33 – 42</td>
<td>33,5 – 35,5</td>
<td>33–36</td>
</tr>
<tr>
<td>Free fatty acid (as Lauric acid), % max.</td>
<td>0,1</td>
<td>0,1</td>
<td>33–36</td>
</tr>
<tr>
<td>SFC at 20°C, %</td>
<td>72–77</td>
<td>95</td>
<td>80</td>
</tr>
<tr>
<td>Iodine value, Wijs</td>
<td>33–36</td>
<td>4–8</td>
<td>6–8</td>
</tr>
</tbody>
</table>

KEY DISADVANTAGES OF COCOA BUTTER:
- High price and willingness to quality changes;
- Instability of its structure and properties;
- The requirement of special tempering conditions in order to receive a stable crystal structure;
- Unstable gloss of chocolate products;
- The complexity of the technological process of chocolate products manufacturing with cacao butter usage.

KEY ADVANTAGES OF COCOA BUTTER EQUIVALENTS:
- Provide good taste and gloss to products;
- Have a triglyceride composition similar to cocoa butter;
- Make the milk chocolate more hard, brittle and crispy;
- Increases resistance to fat bloom and shelf life of the finished product;
- Reduces the cost of the finished product.
FATS FOR CHOCOLATE PRODUCTS & CHOCOLATES

Cocoa butter is an important component in the production of confectionery products, but it significantly increases the production cost. The usage of cocoa butter substitutes and equivalents not only reduces the cost of confectionery production, but also simplifies the manufacturing process itself.

Cocoa butter alternatives are divided into two main groups - fats requiring tempering (cocoa butter equivalents - CBE), and fats which do not require tempering (laric cocoa butter substitutes - CBS and non-laeric cocoa butter replacers - CBR).

CONFECTIONERY FAT FOR CHOCOLATE PRODUCTS AND CHOCOLATES


This confectionery fat with high melting point was specifically designed for filling of the liquid fat contained in fillings based on hazelnuts, peanuts, almonds. It crystallizes into a single stable form and does not require tempering. Thanks to the absence of lauric fats in its content, it has no soapy taste. It is compatible with other fats for fillings, which include cocoa butter, butter oil and liquid nut oils. Resistant to oxidation, it is widely used in confectionery and baking industries for the manufacture of chocolate products, fillings for waffles and biscuits, as well as for the preparation of confectionery coating.

VEGETABLE FAT COCOA BUTTER SUBSTITUTE (NON-LAURIC)

It is used for making confectionery coating, which is used for glazing all types of confectionery - chocolates, waffles, cookies, marshmallows, jellies, in glazes for ice cream, etc. It can be used to prepare solid fillings in admixture with other non-laeric vegetable fats. Being resistant to oxidation, it also does not require tempering. Glaze, prepared with this fat, has excellent gloss which does not fade in the process of storage. Fatty acid composition and fat characteristics provide a high quality product. It is compatible with cocoa butter, which can be up to 20% of total fat content. This makes it possible to apply different cocoa powder, small portions of cocoa liquor and cocoa butter for the coating recipes, which results in a pronounced taste of chocolate in the finished product.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Confectionery fat for chocolate products and chocolates (non-laeric)</th>
<th>Vegetable fat cocoa butter substitute (non-laeric)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acid Value, mg KOH/g, max.</td>
<td>0,1</td>
<td>0,1</td>
</tr>
<tr>
<td>Peroxide Value, mmol ½ O/kg, max.</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fat Content, % min.</td>
<td>99,8</td>
<td>0,2</td>
</tr>
<tr>
<td>Moisture &amp; Volatile matters, % max.</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>Olein Acid trans isomer mass content, % max.</td>
<td>1</td>
<td>48–54</td>
</tr>
</tbody>
</table>

* Specifications are standard. Customization is possible based on customer’s requirements.
FATS FOR DAIRY INDUSTRY

Milk fat replacers refer to a special purpose fats, produced on a base of refined deodorized oils and fats and natural dyes (on customer demand). We developed the assortment range of Z100 – Z502 MFR series which corresponds all customers’ requirements.

<table>
<thead>
<tr>
<th>Our MFR Series</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z 100</td>
<td>Z 200 Z 300 Z 500</td>
</tr>
<tr>
<td>Z 101</td>
<td>Z 201 Z 301</td>
</tr>
<tr>
<td>Z 102</td>
<td>Z 202 Z 302 Z 502</td>
</tr>
</tbody>
</table>

**MILK FAT REPLACER Z100 SERIES**
The special features of the product include improved compatibility with milk fat, the possibility to use it on the production lines equipped for traditional dairy products.

**MILK FAT REPLACER Z200 SERIES**
The range of Z200 series of products were developed to correspond to customer’s requirements. The special features of the product include the absence of Trans Fats, the optimal melting temperature, and good organoleptic characteristics if used as a base for ice cream or other dairy products.

**MILK FAT REPLACER Z500 SERIES**
It is used in the dairy industry for the production of fermented milk products, hard cheeses, spreads, ice cream, in the confectionery and bakery industries.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Z 100-102</th>
<th>Z 200-202</th>
<th>Z 300-303</th>
<th>Z 500-302</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anicidine Value, max.</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Acid Value, mg KOH/g, max.</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>Peroxide Value, mmol ½ O/kg, max.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fat Content, % min.</td>
<td>99,8</td>
<td>99,8</td>
<td>99,8</td>
<td>99,8</td>
</tr>
<tr>
<td>Moisture &amp; Volatile matters, % max.</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>SFC at 20°C, %</td>
<td>20–27</td>
<td>19–23</td>
<td>19–26</td>
<td>20–26</td>
</tr>
<tr>
<td>Olein Acid trans isomer mass content, % max.</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>20</td>
</tr>
</tbody>
</table>

* Specifications are standard. Customization is possible based on customer’s requirements.

**Organoleptic parameters of our MFR**

<table>
<thead>
<tr>
<th>Taste and smell</th>
<th>Clear. Odors of aromatizers are permitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistency</td>
<td>Solid, dense, pliable</td>
</tr>
<tr>
<td>Color</td>
<td>White/yellow</td>
</tr>
</tbody>
</table>

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OTHER PRODUCTS

HIGH PROTEIN SUNFLOWER MEAL IN PELLETS

Based on consumers’ requirements, we can produce sunflower meal with 39-42% protein. High protein and low fiber content sunflower meal comes from efficient dehulling system. Sunflower meal is available in bulk on vessels and in containers.

FIELD OF USAGE:
High protein sunflower meal suits well for animal/poultry feed. It is a valuable source of calcium, phosphorus and B vitamins.

SUNFLOWER SEED HULL IN PELLETS

Sunflower hull is the by-product of the dehulling of sunflower seeds before they are used for oil extraction. Sunflower seeds contain about 26-28% of hulls that are often removed before oil extraction during production of high quality oil and meal.

FIELD OF USAGE:
Sunflower hull is widely used as a biofuel to power oil mills in order to replace coal, and therefore environmentally friendly.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Sunflower meal in pellets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein, % min.</td>
<td>39</td>
</tr>
<tr>
<td>Fiber, % max.</td>
<td>19</td>
</tr>
<tr>
<td>Moisture, % max.</td>
<td>12,5</td>
</tr>
</tbody>
</table>

* Based on consumers’ requirements, we can produce sunflower meal with 42% protein.

LECITHIN FOOD “WILLEC SUN GOLD”

APPOINTMENT: For use in the food industry as emulsifiers, stabilizers, antioxidants, synergists of antioxidants, wet retention agents, baking cosmetic enhancer.

<table>
<thead>
<tr>
<th>Specification</th>
<th>Lecithin nutritional</th>
</tr>
</thead>
<tbody>
<tr>
<td>The color number of the 10% solution in toluene, ml. iodine, no more</td>
<td>60</td>
</tr>
<tr>
<td>Color number compared to Gardner scale (10% solution in toluene), not more than</td>
<td>11</td>
</tr>
<tr>
<td>Mass fraction of water, %, not more</td>
<td>0,8</td>
</tr>
<tr>
<td>Mass fraction of substances insoluble in acetone, % not less</td>
<td>62,0</td>
</tr>
<tr>
<td>Mass fraction of substances insoluble in hexane, %, not more than</td>
<td>0,3</td>
</tr>
<tr>
<td>Acid number of lecithin, mg KOH / g, no more</td>
<td>30,0</td>
</tr>
<tr>
<td>Peroxide value, mmol / kg, % CH, not more</td>
<td>5,0</td>
</tr>
<tr>
<td>Brookfield Viscosity, for current lecithins at 25 °C, not more</td>
<td>12500</td>
</tr>
</tbody>
</table>
**HISTORY**

2019 JOINING “CHUMAK” TO WILMAR INTERNATIONAL CORPORATION

2014 THE WORLD’S FIRST KETCHUP OF YELLOW TOMATOES

2011 LAUNCH OF A PASTA FACTORY.

2007 “CHUMAK” - THE LARGEST FACTORY IN CENTRAL AND EASTERN EUROPE FOR THE PROCESSING OF FRESH TOMATOES

1996 “CHUMAK” COMPANY BEGAN PRODUCING THE FIRST KETCHUP IN UKRAINE

**ABOUT COMPANY**

“Chumak” is one of the most recognized producers of food products in Ukraine, which produces ketchup, mayonnaise, tomato paste, sauces and pasta. The company was founded in 1996 by Swedish businessmen in Kakhovka (Kherson region) and today is one of the largest tomato processors in the CIS with an annual processing capacity of up to 89,000 tons.

**GREAT LOCATION**

Chumak’s production facilities are located on the fertile fields of Ukraine, in the middle of the world’s biggest irrigation system. There are about 240 sunny days per year and favorable soil, ensuring the naturalness and freshness of raw materials for our products.

**MODERN TECHNOLOGIES**

We use the latest innovative technology and equipment produced by such leaders as Tetra Pak, Volpak, Bossar, Selo and others.

**QUALITY CONTROL**

Our production process is certified according to DSTU ISO 9001:2009, DSTU ISO 22000:2007 and BRC Global standards, we regularly pass inspections of our clients and independent audits.
STRUCTURE

2 PLANTS
1430 employees

- tomato paste
- ketchup
- mayonnaise
- sauces
- preservation
- juice
- pasta
- snacks

TOTAL CAPACITY:
89 000 TONS PER YEAR

including
67 000 tons
of TOMATO PRODUCT

22 000 tons
of MAYONNAISE-BASED PRODUCT

WAREHOUSE CAPACITY
16 000 pallets

partners

CHUMAK
From field to table
PRODUCTS

TOMATO PASTE AND PRODUCTS ON THE BASIS OF TOMATO

Tomato paste with salt 25%, pail 1000g./500g.

Composition: tomatoes, salt, sodium benzoate, potassium sorbate, citric acid, lactic acid.

Storage conditions and shelf life:
Store at temperature from 0°C to +18 °C and at relative humidity not more than 75%. Open package should be stored at temperature of from 0 °C to +6 °C not more than 30 days.

Box / Pallet 1000g.
Quantity in the box: 6
Quantity on a pallet: 432
Shelf life: 12 months.

Sauce Sweet Chile, PET 1,120kg.

Composition: Drinking water, table salt, white sugar, soy sauce powder 4.2% (fermented soy sauce, malt dextrin, flavor enhancer - sodium glutamate), thickener - maltodextrin, flavor enhancers (sodium glutamate, ribosinate, inositol, inositol sodium), acidity regulators (lactic acid, acetic acid), natural dye - cara mel, preservatives (potassium sorbate, sodium benzoate), natural extract of sweet herb Stevia Greenleaf.

Storage conditions and shelf life:
0 °C +25 °C
Shelf life: 9 months.

Sauce "Soy", PET 960 ml.

Composition: drinking water, salt, white sugar, soy sauce powder 4.2% (fermented soy sauce, maltodextrin, flavor enhancer and sodium glutamate flavor), thickener - maltodextrin, flavor enhancers and flavor (sodium glutamate, ribotide (sodium inosinate, sodium guanilate)) natural extract of sweet herbs stevia Greenleaf.

Storage conditions and shelf life:
0 °C +18 °C
Shelf life: 9 months.

Tomato ketchup "To the kebab", bucket 5kg.

Composition: drinking water, tomato paste, white sugar, thickener - 1422, salt, regulator acidity - acetic acid ice, spices or extracts spices (paprika, onion, coriander, cumin, black pepper, thyme, garlic), a natural extract of the sweet herb Stevia Greenleaf.

Tomato ketchup, bucket 5kg.

Composition: drinking water, tomato paste, white sugar, table salt, thickener - starch modified, acid regula toracetic acid, spices or spice extracts (onions, garlic, cumin, cinnamon, black pepper, cloves, chili), a natural extract of the sweet herb Stevia Greenleaf.

Mayonnaise AND MAYONNAISE SAUCES

Mayonnaise "Original 72%", bucket 4.7kg.

Composition: sunflower oil refined deodorized, drinking water, white sugar, common food salt, egg yolk powder, emulsifiers (E1450, E415), acidity regulators (E260, E270), mustard flavor, antioxidant E385, dye E160a.

Mayonnaise sauce "Appetizing 30%", bucket 4.7kg.

Composition: drinking water, sunflower oil refined deodorized, thickeners (corn modified starch, xanthan gum), white sugar, common salt, acidity regulators (acetic acid ice, lactic acid), egg yolk powder, emulsifier-starch modi fied corn, mustard flavor, flavoring delicacy, antioxidant - EDTA calcium sodium, dye synthetic - b-carotene.
**Products “Chumak”**

"Dried tomatoes in Oil", PP 1000g

**Composition:** Sun-dried tomatoes, salt, glucose syrup, citric acid, ascorbic acid, potassium sorbate, sunflower oil refined deodorized, garlic, basil, oregano.

**Storage conditions and shelf life:** Store at temperature from +0 °C to +25 °C and at relative humidity under 75%. Open package should be stored at temperature of from 0°C to +6 °C not more than 14 days.

**Shelf life:** 12 months.

Box / Pallet
Quantity in the box: 4

---

Fermented Cucumbers Sliced, bag-in-box 6000g

**Composition:** Pickles, water, salt, acidity regulator - acetic acid, stabilizer - calcium chloride, preservative - potassium sorbate, pepper red hot, dill extract, color - curcumin, spicy flavor.

**Storage conditions and shelf life:** Store at temperature from +0 °C to +25 °C and at relative humidity not more than 75% Open package should be stored at temperature of from +0 °C to +6 °C not more than 3 days.

**Shelf life:** 4 months.

Box / Pallet
Quantity in the box: 1
Quantity on a pallet: 72

---

Whole Fermented Cucumbers, bag-in-box 6000g

**Composition:** Pickles, water, salt, acidity regulator - acetic acid, stabilizer - calcium chloride, preservative - potassium sorbate, pepper red hot, dill extract, color - curcumin, spicy flavor.

**Storage conditions and shelf life:** Store at temperature from +0 °C to +25 °C and at relative humidity not more than 75% Open package should be stored at temperature of from +0 °C to +6 °C not more than 3 days.

**Shelf life:** 4 months.

Box / Pallet
Quantity in the box: 72

---

"Sweet pickled cucumbers", bucket 1kg

**Composition:** Pickled cucumbers, sugar, water, salt, acetic acid, guar gum, xanthan gum, potassium sorbate, calcium chloride, paprika, curcumin, chlorophyllin, turmeric, natural flavoring Mc Cormic.

**Storage conditions and shelf life:** Store at temperature from +0 °C to +25 °C and at relative humidity not more than 75% Open package should be stored at temperature of from +2 °C to +6 °C not more than 60 days.

**Shelf life:** 12 months.

Box / Pallet
Quantity in the box: 6
Quantity on a pallet: 432

---

**Pasta**

Our delicious pasta is 100% natural, made with the highest quality wheat. It remains excellent shape and does not stick together after cooking. High-quality wheat. Non-GMO. No Dyes

---

**CHUMAK**

Chumak pasta in assortment:
Weight from 350 to 800 g
Quantity in a box: from 12–28 pieces.
Number on the pallet: from 432 to 1596 pcs.

**PASTA PRIMA**

Pasta Prima pasta in assortment:
Weight from 400 to 800 g
Quantity in a box: from 12–20 pieces.
Number on the pallet: from 432 to 1120 pcs.
3, Kozatskaya str., Kherson, Kherson oblast, Ukraine, 74800
Tel.: +38 055 448 500; Fax: +38 0552 448 550
E-mail: office@chumak.com