

## MSD Global Oleo FZC

MSD Global Oleo FZC is one of the leading Vegetable based oleochemicals trading company in the world. With its head office in India MSD Global ( [www.msdoleo.com](http://www.msdoleo.com) ) our principal activities include toll manufacturing, sales and distribution of entire range of oleochemicals and various grades of speciality fats and edible oils.

# SPECIALITY FATS



## SpecialityFats and Edible Oil

MSD Global is an Internationally acclaimed trading and toll manufacturing company have in-house sales and logistics support team in India and Dubai office ,Engaged in Toll manufacturing of edible oils and speciality fats. We are one of the leading speciality fats toll manufacturers for shortening,margarines and other fats for bakeries,biscuits,puffs, pastries and other applications.

Our speciality fats are made out of palm products,edible vegetable fats,and special blends of interesterified edible vegetable oils. We can manufacture speciality fats as per need based solid fat content and crystalline structure to cater to various customers. MSD Global produces range of speciality fats which are tailored made to meet stringent and demanding confectionery applications. These speciality fats are produced under most selective process conditions and hygienic food safety conditions. Products like shortening,aerated shortening,margarines and confectionery fats are basically supplied to major institutions and bakery for manufacturing biscuits,buns,breads,cookies,puff pastries,cakes and wide variety of confectionaries.

MSD Global produces and markets a vast range of speciality fats and edible oil that cater to the needs of households,baking and food industry. MSD Global is one of the leading producers of oils,fats,speciality fats,vegetable shortening,specialized shortenings,margarines,vegetable ghee and confectionery and chocolate fats.

MSD Global mainly involve in the export of oleochemicals and speciality fats products to overseas market with the determined vision of bringing excellent Malaysian and Indonesian made products to users all over the world.

MSD Global has a very wide product range for confectionery (biscuits,chocolates,cakes,gum & candy) to beverages,for milk and dairy products and culinary products.

MSD Global has been acknowledged and accepted as a reliable, efficient and effective toll manufacturer, exporter and supplier of palm oil and its derivatives on a global scale. We are expanding our range of products and growing the presence of our in-house brand MSD GLOBAL. We aim to be regarded by our customers as one of their crucial strategic business partner who delivers products and services with good quality and good value.

As market places get increasingly competitive, it is natural for companies to look at more value added, more cost effective product offering for speciality fats. Prices for vegetable speciality fats in the world are driven by supply of competitive prices. MSD Global is able to leverage its experience as a global speciality fats suppliers, qualified personnel, advanced daily pricing systems and its manufacturers state of the art production facilities.

## The Brand MSD GLOBAL

The Brand MSD GLOBAL is backed by extensive distribution network all the over the world as we have local sales commission agents and business partners together which helps in extensive distribution of speciality fats in more than 50 countries across 4 continents.

MSD Global Oleo FZC offers various grades of speciality fats and edible oils. We offer confectionary fats, Ice cream fats, dairy fats substitutes, Bakery fats, Frying fats, edible RBD palm olein of various grade.

As a supplier of choice for Malaysia and Indonesia vegetable fats we undertake bulk purchasing and specialise in undertaking corporate orders for exports of palm oil and palm kernel oil based speciality fats from Malaysia and Indonesia to countries such as Europe, Africa and Middle east and USA.

Our associate partners are leading manufacturing plants based in Malaysia and Indonesia. All our manufacturers are certified with occupational safety and Health (OSHA), Good manufacturing practices (GMP), Kosher and Halal certified (RSPO). MSD Global is tied up with vertically integrated palm oil producers who are engaged from seeder to farming, harvesting, mechanical pressing, physical refinery and finally to end products such as RBD stearin, Shortenings, Olein, kernel oils, Margarine and by products such as kernel cakes and vegetable residues. All our products and processes are vertically integrated and fully traceable.

MSD Global is tied up with the largest global processor and merchandiser of palm and lauric oils. Our business activities is mainly repacking of refined edible oils and speciality fats of various grades under our company brand name MSD Global

MSD Global expertise include the processing and exporting of Speciality fats with good collaboration and support with our manufacturers in Malaysia and Indonesia, strong customer network and highly committed group of management team and staff. We are committed and confident to excel in the speciality fats and achieve sustainable growth.

All our manufacturers have state of the art ISO 9002 and HACCP accredited manufacturing unit and in depth study of the dynamics of the edible oil industry. MSD Global Produces wide range of premium quality products that cater to the needs.

MSD Global exports industrial fats (biscuits, dough fats, filling cream fats, chocolate cream fats, chocolate coating fats, frying fats, ice cream fats, bakery fats, confectionery fats, dairy fats, pastry, and margarine.

MSD Global is tied up with 4 factories in Malaysia and 3 Factories in Indonesia, with an aim to become a global leader in vegetable oil and fats Industry. The company seeks to take lead in exporting the finest and high quality of palm based vegetable speciality fats from Malaysia and Indonesia to its customer's world-wide.

We offer most competitive prices for vegetable based speciality fats using our advance daily pricing system enabling our customers to make timely purchase decision using up to date information on market trends and Forecasts.

MSD Global has been in the fore front of the speciality fats industry world-wide. Our range of vegetable speciality fats are customised and adhere to stringent quality standard and guidelines as required by our customers located in over 50 countries around the world. Our confectionery fats are used in application such as molding, coating and filling and are in high demand by some of the world's top brands mainly due to the advanced chemical and physical characteristics in them. With years of speciality fats experience we have progressively embraced the best practices in both quality management systems and palm oil refining technologies. Thus enabling our workforce to be highly skilled and motivated in ensuring stringent and sustainable product quality assurance enforcement.

MSD global speciality fats division was formed in order to meet the fat and oil supply of our customers. Intime we became one of the leading companies with increase tolling capacity and our brand MSD Global was established in shortening, margarine and other speciality fats and edible oil.

MSD Global operates an extensive logistics network and provides customers with an end to end solution, covering the time the raw material are sourced and refined in refineries to the time it reaches the final consumer. A reliable and extensive sourcing network enable us to better control our quality and enhances our ability and commitment to traceable and sustainable crude oil supplies to our refineries.

We partner with local, international and multinational brand owners to help them optimize the flow of inventory and information to reduce cost and improve service level.

MSD Global is an Indian based company. All our manufacturers located in Malaysia and Indonesia has refining capacity of more than 1000 mts per day, with a fully automated refining plant integrated with processing plants for by-products such as soap, margarine, shortening, cooking oil, speciality fats etc. Our speciality fat is produced from hydrogenation plant with capacity of 5000 to 10000 MTS per month. MSD Global has a wide coverage, our market middle east, Africa, Asia and Europe.

# SHORTENING



## Shortening Specification Table

Shortening Fats											
	5052	4548	4447	4650	3941	5052	3639	4043	4347	3639	4852
Free Fatty Acid (as Palmitic)	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max
M&I	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max
Peroxide Value	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max
Iodine Value	34-44	34-47	36-46	35-45	40-50	34-44	42-52	38-48	36-46	42-52	3542
Slip Melting Point degC	50-52°C	45-48°C	44-47°C	46-50°C	39-41°C	50-52°C	36-39°C	40-43°C	43-47°C	36-39°C	48-52°C
Colour in Lovibond (5 1/4" cell)	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max
Permitted Antioxidant	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max
Smell	Normal										
Taste	Bland										
Application	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Filling for bakery and confectionery. Applicable for cheese and Ice cream formulation	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	General purpose bakery shortening Applicable for biscuits, Bread, donut, cream and toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Filling for bakery and confectionery. Applicable for cheese and Ice cream Formulation	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee

Shortening: MSD shortening is a premium quality shortening based on fractionated and fully refined and deodorized palm oil. It is a fat free of trans fatty acids and high oxidative stability fat. It is a palm based shortening that is non-hydrogenated and cholesterol free.

MSD Shortening is a premium baking and frying fat which can be applied to pastry margarines and bakery products. Also suitable as an economical biscuit, frying and wafer filling cream.

MSD Global shortening is white in appearance and with no distinct taste.

MSD Vegetable shortening is obtained from sustainable palm oil with good plantation practice standards, recognized internationally by reputable organizations.

All our shortening grades with various melting points strive to create value for our customers by satisfying their requirements with standard performance characteristics. It is specially formulated to be used as a premium ingredient in bread, biscuits, cookies, wafer, cream filling and various other bakery products.

MSD Global shortening offers series of shortening which can be tailor made to meet the texture and melting requirements of various bakery and filling applications.

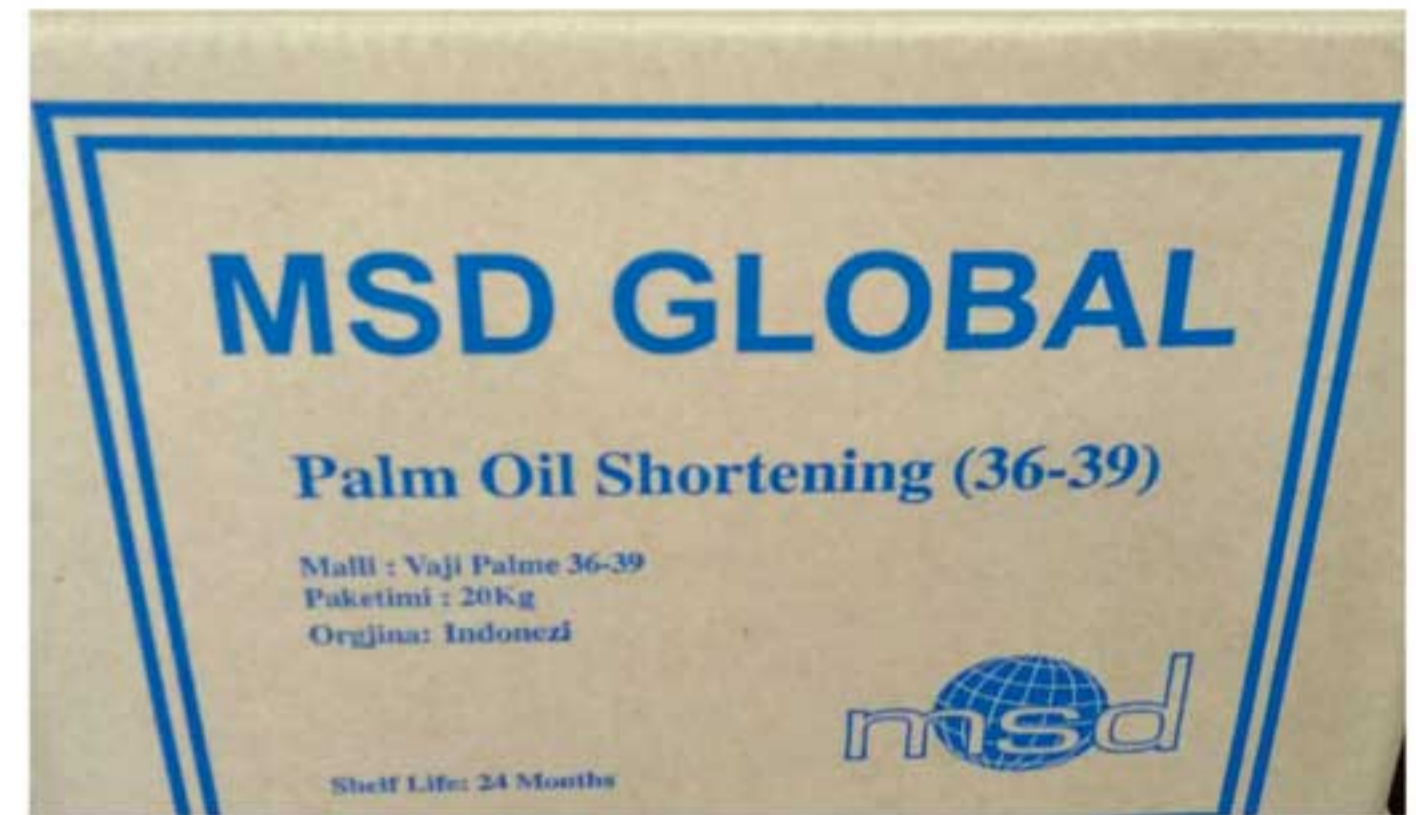


In addition to being extensively used in the baking and confectionery industries, MSD Shortening is a soft plastic type fat specially formulated for use as a frying fat and dough fat to prepare breads, cakes, biscuits, cream filling, pastries, cookies, wafers and various other bakery products and other yeast-raised dough to improve the texture, smooth consistency, facilitates mixing and shelf life of baked products. It provides good crumb structure and improves volume in breads, pastries and other bakery products.

Depending on customer's requirements, other ingredients, including anti-oxidants and emulsifiers are generally added in to our shortening.

MSD Shortening is a fat that is a solid at room temperature and used to make crumbly pastry and other food products. They contain less water and are thus less prone to splattering, making them safer for frying.

# SHORTENING



## Shortening Specification Table

Shortening Fats												
	3942	3438	3640	3743	4245	4450	4854	3841	4143	4749	4952	
Free Fatty Acid (as Palmitic)	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	
M&I	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	0.1% max	
Peroxide Value	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	2mEq/kg max	
Iodine Value	49-52	46-54	45-55	46-54	47-50	40-50	35-45	40-50	38-48	35-45	34-44	
Slip Melting Point degC	39-42	34-38 <sup>0</sup> C	36-40 <sup>0</sup> C	37-43 <sup>0</sup> C	42-45 <sup>0</sup> C	44-50 <sup>0</sup> C	48-54 <sup>0</sup> C	38-41 <sup>0</sup> C	41-43 <sup>0</sup> C	47-49 <sup>0</sup> C	49-52 <sup>0</sup> C	
Colour in Lovibond (5 1/4" cell)	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	3 R Max	
Permitted Antioxidant	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	200ppm max	
Smell	Normal											
Taste	Bland											
Application	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Filling for bakery and confectionery. Applicable for cheese and Ice cream formulation	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	General purpose bakery shortening Applicable for biscuits, Bread, donut, cream and toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee	Multi purpose shortening Applicable for Biscuit, Bread, Donut, toffee

Shortenings tend to contain a few percentages of monoglycerides. Such "high ratio shortenings" blend better with hydrophilic ingredients such as starches and sugar.

MSD Global has developed a range of hardened and non Hardened palm oil based fats which are used by the food Industry for the manufacture of a wide variety of margarines, shortenings and vegetable ghee. All the product in this category are modified from liquid to solid and can be mixed with soft oils according to the customer requirements.

All types of MSD Global hard stock fats are based on non lauric vegetable fats with or without addition of antioxidant. All our products strive to create value for our customers by satisfying their requirements with standard performance characteristics.

Shortenings are characterised by having a fairly high melting point and fat content, except pourable shortenings. Palm oil and its products have very similar consistency to shortenings and together with their wide range are ideally suited to formulate these products. Palm oil in combination with palm stearin can be used to produce shortenings of excellent quality and diverse applications such as for making breads, cakes, pastries, creams and sweets. To meet high melting point and solid fat content of shortening other liquid oil have to be hydrogenated while palm oil itself fits into the profile in its natural form and require no further modification and chemical processing . Different melting points are available based on customers' requirements.



# SHORTENING



## Characteristics

- Bland in taste
- Smell and suitable for any formulation of bakery
- Resistance to oxidation
- No cholesterol or trans fatty acid
- High stability in frying process
- Once consumed is easily digested having 99% assimilation factor compared to other oils that usually have 95 - 97%
- Hardened palm based fat

## Uses/ Application:

- In the fabricating process of wafers (sheets and cream), biscuits, waffles other fillings for pastry, bread, rolls croissants, industrial fried products (snacks, chips, doughnuts, potatoes etc). Also suitable as an economical biscuit and wafer filling cream.
- Is also used in fabricating meat based products successfully replacing sunflower, olive, soy or corn oils with the finished products having much better tenderness and elasticity.
- Hard stocks for butter blends, margarines, shortenings and vegetable ghee.
- This product is certified by HALAL and KOSHER.

## Benefits

- Free of trans fatty acids. Trans Fat Free
- GMO and Allergen Free
- Provides consistent texture
- Halal and Kosher Certified
- No Hydrogenation
- Enhances the crispy properties
- Different ranges for various applications and climates
- Making higher range of cookies and biscuits
- Cholesterol Free
- Good volume
- Can be specially formulated for institutions
- Prolongs shelf life
- Contains antioxidants improving shelf life of products for making crisp/ crunchy cookies and biscuits cream filling and cake icing
- Uniform crumb structure
- Cream consistency is constant
- Stable to oxidation
- Short temperature range
- Elastic structure
- Once consumed is easily digested having 99% assimilation factor compared to other oils that usually have 95-97%.
- Bland in taste
- makes the dough short
- Smell and suitable for any formulation of bakery.
- Resistance to oxidation
- High stability in frying process imparts tender quality to bakery products



Storage condition: Keep in cool ( 9-14c), clean, dry and odour less place, away from direct sunlight.

Packing: 15 kg, 16kg, 20 kg and 25 kg carton.

## Our Business:

Our expertise spans from repacking of refined oil, packaging of speciality fats and handling logistics and global distribution to serve the specific need of each and every of our valued customer.

We offer a comprehensive range of quality products ranging from palm based vegetable cooking oil, vegetable ghee, soft oil, lauric oils to bakery and confectionery fats etc.

Our Brand MSD Global has established high level of global awareness with strong worldwide distribution network.

Today our products are sold to more than 100 countries in Africa, Asia Pacific, Europe, and Middle East with strong focus on local trade agents. Our In-house sales team and logistics team based in Dubai and India is dedicated to serve and deliver customers' needs with utmost efficiency and reliability.

With our Global presence in over 100 countries we are aware of changing customer's requirement and demands. Our Strong world-wide distribution network has equipped us with knowledge to anticipate each distinct market needs. Also our strong partnership with Malaysia and Indonesia high end manufacturers with their highly automated plant, dynamic capabilities and capacities we have diversified our product application.

## Our Ability:

MSD Global supplies quality speciality fats to leading companies world-wide that uses them in the production of consumer brands. Our export market includes major continents of Europe, Asia, America, Australia, New Zealand and Africa. The types of customers we serve include traders, consumer goods manufacturers.

MSD Global offers various grades of speciality fats like margarine, cooking oil, shortening, Ice cream fats, and chocolate and confectionery fats.

All our products come from processing of CPO and CPKO in our manufacturers internationally certified refineries. Our products are Hazard Analysis critical control point (HACCP) certified for food safety and Halal and Kosher certified.

We also adhere to Poram standard and can create our product specifications according to customers' requirements. Through continuous innovation and Improvement MSD Global is able to meet food manufacturer's stringent quality requirement for oils and fats.

Palm oil the versatile oil (Transfat Free): Due to the extensive hazards posed by animal fat cholesterol and excessive levels of trans fats derived from hydrogenation, organic palm fruit oil is becoming the preferred option of high quality, health conscious food processors. Organic palm fruit oil does not require hydrogenation as it Solid at room temperature, therefore avoiding harmful trans fatty acids.

CPO is a versatile vegetable oil with a variety of edible applications which include cooking oil, margarine, shortening, ICE cream, bakery fats, chocolate and coating fats. All our products are made from quality palm oil through processing CPO in internationally certified refineries. Our products are HACCP certified for food safety and HALAL and Kosher certified. We also adhere to PORAM (palm oil refineries association of Malaysia) Standards and can tailor make our products specification to suit customers' requirements.

## Sourcing of Feedstock rawmaterials.

MSD Global sources its rawmaterial feedstock from top grade plantations and oil brokers all over Malaysia and Indonesia. Thus ensuring that our company produces highest quality of vegetable based speciality fats using the toll manufacturing capacity of leading manufacturers who has the state of art standard facility.

### Packing:

our fully automated in house filling plant enables us to provide a broad range of container sizes and types at the same time offering outstanding manufacturing flexibility and delivery availability.

MSD Global offers wholesalers and retailers the opportunity to sell their products under MSD Global brands. MSD global is continuously and constantly expanding its capacities by making tieups with various manufacturers in Malaysia and Indonesia with state of the art technology.

This means MSD GLOBAL is the Ideal production and supply chain partner for national and International high volume brands.

### Production:

Our company is tied up with 4 filling plants in Malaysia and 3 filling plants in Indonesia which have combined capacity in excess of 5000 MTS speciality fats handling varied grades of speciality fats and Industrial packing and cater to more than 50 countries worldwide. In addition all our filling plants are Integrated with Carton Box, Jerry can, Drumming facility that are specially designed to fit 20 Ft container load for export purpose.

### Bulk Exporter of vegetable speciality fats:

We undertake bulk purchasing and specialise in undertaking corporate orders for export of palm and palm kernel / coconut speciality fats from Malaysia to countries such as Europe, Africa, Middleeast and USA markets.

### Brand:

Our company Brand MSD GLOBAL is well established in African, European and USA market. Strong & Reliable international network: Over the period of time, our company has established a strong and reliable network of acquaintances with several reliable shipping carriers operating from Malaysia, Indonesia and Thailand and Third party Inspection companies. This enables us to offer cost effective freight solutions to our buyers by overcoming the different predicaments occurring in the growing container freight Industry.

# Industrial Margarine



## Industrial Margarine

Industrial Margarine (IM) is an all-purpose margarine suitable for industrial uses related to baking. As a margarine producer your fat and margarine needs are in the best hands of MSD GLOBAL. MSD Global is able to provide the industry with a range of baking fats to add profitability and value to their finished products. We understand the requirements of the baking industry. IM is a vegetable oil based non-refrigerated margarine, specially formulated for applications where volume of the finished product is critical such as cake, cookies etc. Well-texturised to give good creaming properties over a wide temperature range. This includes a wide range of biscuits dough fat and bread dough fat. It is particularly suitable for use in general baking applications. It contains no animal fats. It is formulated using hydrogenated vegetable oils and their fractions that are considered GMO free. The Premium margarine has added colour and flavour which improve the final product.

**Application:** for biscuits, cakes, cookies, pastries, bread and high quality bakery products

**Description:** Imparts a pleasant buttery aroma, provides superb and consistent cake volume and softness.

**INTENDED USE:** Can be used as a bakery fat

**STORAGE AND SHELF LIFE:** 12 months\*

**PACKAGING:** Available in 15kg or 20kg carton boxes with PE Liners

**CERTIFICATIONS:** Halal

### Benefit :

- Has added colour and flavour
- Halal certified
- Contains no animal fats
- Considered GMO free

The Following grades of Margarines complete our comprehensive range.





# All Purpose Margarine:



## All Purpose Margarine:

MSD Global All Purpose margarine baking fats are based on modified and un modified non lauric vegetable fats with or without treated water with specialised emulsifiers, nature identical flavour, natural color and added vitamins. Typically made with the combination of liquid oil the products results in ideal, lighter, crispier biscuits and cookies. MSD global has fats with palm oil fractions to meet the bakery requirements. It also includes aerated non aerated varieties and partially hardened fats with low Trans content. They give you excellent creaming and baking products.

### Application: Biscuits dough fat

Product code	IV (WIJS) (gI2/100g)	FFA (% as palmitic)	Slip Melting Point (c)	Color (51/4Lovi Bond)	PV (meq/ Kg)	Moisture (%)	Salt (%)	Flavour	Application	Odour	Taste	Shelf life	Storage & Handling	Packaging
MSD MG 38 - 42	48 - 53	0.2 max	38 - 42	7.0 7.5R	1.0 max (when packed)	17.0 max	2.0 max	Butter Fruity	General purpose bakery fat.Applicable for cake, bread, cookies & all baked goods	Free From Rancid & Objection-able odours	Free from rancid and off flavours	9 months from the manufacturing date when stored in unbroken original packing at the storage conditions specified	Product should be stored in a cool, dry & odour free environment in unbroken original packing at 25 C	20kg carton box with PE Liners
MSD MG 38 - 42	48 - 53	0.2 max	38 - 42	7.0 7.5R	1.0 max (when packed)	17.0 max	2.0 max	Butter Fruity	General purpose bakery fat.Applicable for cake, bread, cookies & all baked goods					
MSD MG 38 - 42	48 - 53	0.2 max	38 - 42	7.0 7.5R	1.0 max (when packed)	17.0 max	2.0 max	Butter Fruity	General purpose bakery fat.Applicable for cake, bread, cookies & all baked goods					
MSD MG 38 - 42	48 - 53	0.2 max	38 - 42	7.0 7.5R	1.0 max (when packed)	17.0 max	2.0 max	Butter Fruity	General purpose bakery fat.Applicable for cake, bread, cookies & all baked goods					
MSD MG 38 - 42	48 - 53	0.2 max	38 - 42	7.0 7.5R	1.0 max (when packed)	17.0 max	2.0 max	Butter Fruity	General purpose bakery fat.Applicable for cake, bread, cookies & all baked goods					



### Application: Biscuits dough fat

#### Characteristics:

- Non lauric soft fat.
- Good mouth fee
- Good fluidity for spraying
- improved shelf life of finished products



# All Purpose Margarine



## All Purpose Margarine

Product code	Fat Phase %	Free Fatty acid (as palmitic) % AOCS Ca 5a - 40	Slip Melting Point % (AOCS Cc 3- 25)	Peroxide value meq/ Kg (AOCS Cd 8 - 53)	Energy Value / 100g kj	Moisture (%)	Salt content %	Odour	Taste	Shelf life	Storage & Handling	Packaging
MSD MG 35 - 40	80 min	0.1 max	35 - 40	1 max	3000	16 max	4 max	Free From Rancid & Objectionable odours	Free from rancid and off flavours	9 months from the manufacturing date when stored in unbroken original packing at the storage conditions specified	Product should be stored in a cool, dry & odour free environment in unbroken original packing at 25 C	20kg carton box with PE Liners
MSD MG 28 - 31	80 min	0.1 max	28 - 31	1 max	3000	16 max	2 max					
MSD MG 42		0.10 max	42 max	2.0 max	3780	0.10 max						
MSD MG 47 -52	80 min	0.1 max	47 - 52	1 max	3000	16 max	3.5 max					

**Application:** Biscuit Dough, general bakery applications

### Characteristics:

- High quality palm oil
- Excellent oxidative stability.
- Improved shelf life of the finished product
- Non lauric medium dough fat
- Good aeration



# Puff Pastry margarine:



**Puff Pastry Margarine** : MSD Global margarine has a great flavour and suitable for baking breads and cookies. Pastry margarine is specially formulated to produce a tough plastic-like margarine with high melting point. Our puff Pastry Margarine offers excellent plasticity and is used in the production of laminated pastry, such as Danish pastry, puff pastry and croissants. Typical Danish pastries and croissants have at least 16 layers or more, whilst puff pastry usually contains at least 288 layers of plasticized margarine. MSD Global can supply customers with fat blends and margarines with the required process ability. It is suitable for baking your favourite breads. The plasticity of the margarines and blend must be specially adjusted depending on the area of use and requirements which is why the specific crystallisation of the fats is very important alongside the choice of the suitable fats by relying on its broad based knowledge. The broad range of bakery products require the most diverse properties from fats. The number of margarine layers used differs from product to product. After all, the choice of the fat influences the texture, crumb, structure, volume as well as the sensory qualities of the pastry. MSD Global margarine has a great fruity flavour, making it tasty bread spread for every day meals. It give a great mouth feel and produce consistent and even puffs and also blends easily with dough. It is formulated using prime-quality vegetable oils and their fractions that are considered GMO free. It contains no animal fats. The right fat maximises the enjoyment:

**Approach and Services:** Fat used in bakery products should not have coarse fat crystals and should be easy to handle.

Product code	Fat Phase %	Colour	Moisture & Impurities (%)	Slip Melting Point (c)	Taste / flavour	Texture	Solid fat content (by NMR) %	N10	N20	N25	N30	N 35	N40	N45
MSD	0.25	Yellowish	160 max	44 - 46	Buttery	Smooth		74- 81	55 - 62	41 - 49	30 - 37	20 - 27	10 - 18	8 max

**Application:** for pastries with filling, pie bottoms.

**Description:** provides excellent plasticity performance and ease in application, produces good puff and flakes in pastries and pie bottoms

**INTENDED USE:** Is used as a lamination fat in the pastry industry

**STORAGE AND SHELF LIFE:** 9 months

**PACKAGING:** Available in 15kg or 20kg carton boxes with PE Liners

**CERTIFICATIONS:** Halal





### Benefits:

- Considered GMO free
- Appropriate temperature profile keeps the fat from oozing during lamination and baking
- Ensures crisp and flaky products
- Formulated using prime quality vegetable oils
- Least dough shrinkage
- Has a high melting point
- Makes puffs lighter and flakier
- Halal certified
- Good plasticity like butter easily spreadable
- Gives more number of puffs per batch
- Least dough shrinkage
- Great Aroma
- Ability to spread easily
- Lump free, smooth and firm
- No greasy feel in the mouth
- Completely deodorised
- Give extra rise in puffs and make them look bigger
- Lump free, smooth and firm
- Rolls without cracking
- For making puff and cookies also for cooking vegetable.

## Cake Margarine

Cake Margarine: Imparts buttery Aroma, Provides good cake volume and softness

Application: For biscuits, cakes, cookies, pastries, bread and other bakery products

Product code	Free Fatty Acid ( as Palmitic ) %	Colour ( 5 Lovibond cell )	Moisture & Impurities ( % )	Slip Melting Point (c)	Taste / flavour	Texture	Shelf life	Packing
MSD MG 38 - 42	0.25 max	Yellowish	160 max	38 - 42	Buttery	Smooth	9 months from production when stored at cool and dry place in the original packing at 25 c max and humidity at 65% max	15 kg net with PE lined carton box

### Benefits of Cake Margarine:

- For making plum/ pound/ fruits cakes, muffins and brownies
- Give more volume when whipped
- Emulsifiers and moisture ensure proper aeration and blending of ingredients
- Can be aerated fully with out breaking
- Leaves good taste in mouth
- Offers cream convenience better than butter
- Gives soft and voluminous cakes
- For layering creams and icing for all types of cakes and pastries



## Key Highlights of Our Speciality Fats

### Quality:

All our manufacturers' refineries are equipped with highly automated manufacturing process such as neutralisation, fractionation, bleaching, deodorisation and packaging of speciality oils and fats. With this kind of technologically advanced facilities we are able to cater speciality fats used in coating, bakery, biscuits, muffins, chocolate bars, Ice Cream manufacturers mainly in middle east, Africa, Europe and USA market. Our manufacturer in Malaysia and Indonesia are expertise to produce lauric and non lauric based fats for cocoa butter substitute, Ice cream fats, chocofats, coating fats with various slip melting points for chocolate fats.

Every step of the manufacturing process is carefully monitored by well trained production staff. MSD Global has developed with help of our manufacturers technical team wide variety of oils and fats products centering on speciality fats . They are used to adjust the quality of chocolates, make frying oils highly stable and used as emulsification oils to enhance the foods flavours and texture

### Volume and high end capacity:

We are tied up with manufacturers which has individual capacity of 50 to 60 thousand tonnes of yearly production. With this kind of annual tonnage of fats and oils production capacity, MSD global produces vegetable oils and speciality fats of highest standard quality. Our partner manufacturers in Malaysia and Indonesia have largest fractionation facilities of olein and stearin phases of the fats which help us manufacture shortening, margarine and vegetable RBD palm olein with various cloud point under our brand name with highest capacity. Using our manufacturers unique emulsification and fermentation technologies, we produce shortening and margarines which can help our customers develop rich flavours, range of creams with excellent characteristics, dessert ingredients that create genuine flavours and other products that are indispensable for bakery and confectionery applications.

### Range of Speciality fats:

MSD global provides a range of fats for its application into various bakery products so as to improve its quality along with providing health and profitability to the bakery industry. Consumers are becoming health conscious and are demanding healthier foods. In order to cater to the needs of the modern consumers and promote healthy eating habits especially amongst the kids, MSD Global has established itself as a pioneer in developing transfat free products. Our shortening and margarines add value to the finished products. Our vegetable fats are produced under most selective process conditions and hygienic, food safety conditions. These vegetable fats products are produce a whole range of lauric speciality fats and palm oils, specifically formulated ingredients required by the processed food industry for applications in filling fats, creaming fats, Ice cream fats, milk fat replacers, shortenings, margarines, frying fats, vegetable ghee and many tailor made fats to suit customers requirements.

### Customer Service:

Dedicated to produce fats and oils with deep expertise and latest technology. MSD Global serves wide range of sectors such as cakes, crackers, chips, candy, Ice cream, biscuits, confectionery products, catering, whipped cream, wafers and also chocolates and different types of chocolates cream. With offering high end products, MSD global believes in customer satisfaction as number one priority. We can offer tailor made products. Also our experienced technical team gives product and application based customer support as well. MSD Global speciality fats division was formed in order to offer services to the leading global customers quality, organic and fully identity preserved palm oil products. . Based on the unique technologies that we have developed we produce what the customer wants in order to help them create new delicious flavours.

### Low Cost:

we are able to work on cost efficient conversion with our factories located in Malaysia and Indonesia as they are integrated processing plant and we source our feedstock rawmaterial ( crude palm oil and crude palm kernel oil) from close proximity and entire conversion is done using high end capacity right from production to packaging . Also we arrange shipment to our customers destination sea port at sharp freighting cost as we deal in bulk volumes and multiple customers destination sea ports which helps us to book vessel space at good price. Also we do forward cover for our customers which helps us plan shipments in advance which further helps in obtaining right freight cost.

### Research and Development:

All our manufacturing plant in Malaysia & Indonesia have in house R & D centre. Where they extensively conduct research on incoming feedstock ( oil seed, edible oil) as well as make sure that the final products meets customer required target specification adhering quality expectation and process efficiency. Through continuous innovation and improvements, MSD Global is able to meet the food manufacturers stringent quality requirements for oil and fats.

### Comprehensively though through for every industry:

An optimum solution can often only be found if the process and storage condition of the end products are also considered along with the recipe details. Many problems cannot be perfectly solved without precise knowledge of the process conditions and approximate formulation of the end product. The processing of fats and oils is challenging. We would be happy to assist with your project in your premises or factory as well.

### Good influence on Product Properties:

RBD palm oils, shortening fats and margarines all have a decisive impact on the characteristics of food whether crispy, creamy or smooth. They all display very different behaviours when it comes to taste, oxidation, melting and smoke point. The right recipe is therefore crucial for ensuring that the properties customers require are allowed to develop, it is imperative to define in which form and in which ratio oils and fats are refined, blended or fractionated. The melting and dropping points that is to say the solidity of the fat at certain temperatures can be altered in this way.

### Partner in food production:

MSD Global is one of leading toll manufacturer of fats. We are the professional and high performing supplier for various food sector.

# Vegetable Cooking Oil:

Vegetable cooking oil is probably the most commonly used of all the oils. It can be found frequently for use in recipe and can also be used for frying.

## Refined, Bleached and Deodorized (RBD) Palm Olein Oil

RBD palm olein is the liquid fraction obtained by the fractionation of refined palm oil after crystallization at controlled temperatures. It is especially suitable for frying and cooking. Main application of RBD palm olein include salad and cooking oils in households, Industrial frying fat, Instant noodles, potato chips, doughnuts and condensed milk.

Palm oil is semi solid at room temperature (20c). The liquid portion could be physically separated from the solid portion of palm oil by fractionation. After fractionation the liquid portion is called palm olein which is commonly bottled and sold as cooking oil. The solid fat portion is called Palm stearin and it is commonly used to formulate transfree fats such as margarine, shortening and vegetable ghee.

It is a clear yellow liquid at room temperature

RBD palm olein is obtained from the fractionation of RBD palm oil which undergoes the process of crystallization at a controlled temperature in which palm oil is chilled until crystals are formed. One of the most prominent applications of RBD palm olein includes salad and cooking oil.

With easy access to raw material from multiple processing plants located strategically in Malaysia and Indonesia. MSD Global team organises regular shipping programs on chartered bulk vessels and tankers to deliver bulk oils to our customers in Middle East, Africa, Europe and USA.

MSD Global organisation team of experienced traders in palm, lauric and soft oils formulates price outlook and views based on both technical and fundamental analysis of vegetable oils trends enabling our customers to manage risk in a volatile market environment.

We offer a comprehensive product range of high quality packed cooking oils in various jerry can packing sizes. Our cooking oil is great versatile all-purpose oil. Our brand is marked under our company name MSD GLOBAL used for Edible / Cooking purposes. RBD palm olein is used as cooking oil as well as frying oil for food industries such as snack food and ready to eat food. It is also used as a raw material for margarine and shortening.

It is especially suitable for frying and cooking. The liquid olein is products of fractionation, and they are the major products exported

## Characteristics:

Palm Olein is produced by the physical separation of the stearin phase during palm stearin production. Unlike stearin, the olein phase has a relatively low melting point on account of its predominantly monosaturated fatty acid chains.

## Application:



- 1) Suitable for frying and cooking. Main application of vegetable cooking oil ( RBD palm olein) include salad and cooking oils in households, Industrial frying fat of instant noodles, potato chips, doughnuts and condensed milk.
- 2) Palm olein cooking oil is cholesterol free and contains vitamin D and E. It has high stability to oxidation and is nutritionally healthy with a balanced composition. Emulsifying agents may be added along with permitted colours, Flavours and other ingredients as derived to suit final product application.
- 3) Main applications of RBD Palm Olein include salad and cooking oils in households, industrial frying fat of instant noodles, potato chips, doughnuts and condensed milk.
- 4) To flavour pastry, rice and vegetable to steam vegetables for soaps -- to 100 C
- 5) For deep frying chips, potato croquettes, duchess potatoes, fish, poultry, meat, vegetables.
- 6) For frying and grilling for saut ing meat, poultry and mushrooms, for due bourguigrone

We can offer 3 different types - CP 10, CP 8 and CP 6. But the most popular grade is CP 10.

SPECIFICATION	CP 10	CP 8	CP 6
Free Fatty Acid (as Palmitic Acid)	0.1% max	0.1 % max	0.1 % max
Moisture & Impurities	0.1% max	0.1 % max	0.1 % max
Iodine Value (Wij's)	56 min	57 min	60 min
Slip Melting Point ° C (AOCS Cc 3 - 25)	24 max	24 max	19 max
Colour (5 ¼" Lovibond Cell)	3 or 6 Red max	3 or 6 Red max	3 or 6 Red max
Cloud Point ° C	10 max	8 max	6 max

## Refined, Bleached and Deodorised Palm Olein CP 6:



Palm Olein is further fractionated to a more liquid fraction called super palm olein. Super palm olein has an iodine value of 60-63. Super palm olein is more suited to cooler climates and has a cloud point of about 2°C to 5°C. Because of its fatty acid composition and good oxidative stability, super refined palm olein is excellent to be used as liquid cooking oil and all the more suitable for frying. Apart from its high quality performance, the added advantage is it does not alter the taste or flavour of fried foods as it does not have any distinct fragrance. Moreover, it leaves the meal completely dry with no dripping of oil.

Sr. No.	Parameter	Measurement	Result
1.	Free Fatty Acid ( as palmitic)	%	0.10 max
2.	Moisture & Volatile Matters	%	0.1 % max
3.	Color ( 5.25")	R / Y	2.0 / 20 max
4.	Per – oxide value	Meq / Kg	2 max
5.	Density at 40 degree celcius	-	0.8977
6.	Unsaponification matter	%	0.2
7.	Saponification Index	-	195 – 205
8.	Iodine Value	-	61 min
9.	Slip melting point	Celcius degree	10
10.	Clouding point	Celcius degree	6.0 max
11.	Taste	-	OK
12.	Odour	-	OK
13.	Additives added	-	BHA, BHT

Fatty Acid composition	
C12:0	0.3
C14:0	1.0
C16:0	35.4
C18:0	3.8
C18:1	45.1
C18:2	13.4
C18:3	0.3
C20:0	0.3

Triglycerides of super Palm Olein	
C46	0.2
C48	1.9
C50	30.8
C52	53.4
C54	13.6
C56	0.2

## Packaging Size

250 ML 48 PET bottles per carton  
 500 ML 24 PET bottles per carton  
 1 L 12 PET bottles per carton  
 2 L 6 PET bottles per carton  
 3 L 6 jerrycans per carton / 6 PET bottles per carton  
 5 L 4 jerrycans per carton / 4 PET bottles per carton  
 10 L per jerrycan  
 18 L per jerrycan / 1 can per carton  
 20 L per jerrycan / 1 can per carton / per bag in box (BIB)  
 25 L per jerrycan  
 190 KG per drum  
 198 KG per drum  
 21 MT per flexibag

## RBD Palm Olein ( CP 8):



Palm Olein Cp 8 is further fractionated to a more liquid fraction. The refined palm olein has an Iodine value of 54 - 56. Because of its fatty acid composition and good oxidative stability palm olein Cp8 is excellent to be used as liquid cooking oil and all the more suitable for frying. Apart from its high quality performance, the added advantage is it does not alter the taste or flavour of fried food as it does not have any distinct fragrance. Moreover it leaves the meal completely dry with no dripping of oil.

Product Specification	Product Specification
Free Fatty Acid ( as palmitic)	0.1 max
Iodine Value	56 min
Slip melting Point	24 max
Moisture & Impurities	0.1 max
Cloud Point	8 max
Colour ( 5.25" lovibond cell)	3.0 R max
Packing	Pet bottle, jerry can, tin, drum, Bag in Box, IBC, Flexibag
Description	Stable at high temperature. Natural source of vitamin E
Recommended Uses	Suitable for all types of cuisines, cooking and shallow frying
Shelf Life	24 months from production when stored at cool, clean and dry place in the original packing at 25 c max and humidity at 65% max.

### Application:

- Suitable for all types of cuisines. Cooking and shallow frying.
- Palm olein widely used as cooking oil in tropical countries CP 10.
- Good cooking quality, clear and oxidative stability
- Palm olein with cloud point 10 c is the preferred choice in most tropical countries
- Also widely used for frying in food industry
- Good resistance to gumming, oxidation, foaming, darkening, slower FFA increase and smoking.

### Description:

Stable at high temperature. Natural source of vitamin E.

To flavour pastry, rice and vegetables, to steam vegetables, for soups ---> to 100 c

For deep frying chips, potato, croquettes, duchess, potatoes, fish, poultry, meat, vegetables ---> to 170 c

For Frying and grilling for saut ing meat, poultry and mushrooms, for fonde bourguignonne ---> to 170 c



## Inner values per 100g:

Energy 3700 Kj (900 Kcal)  
Protein 0g  
Carbohydrates 0g  
Fat 100 g  
Saturated fatty acids 50 g  
Monounsaturated fatty acids 40 g  
Poly unsaturated Fatty acids 9g  
Trans fatty acids 0g  
Cholesterol 0 mg

## Packaging Size:

250 ML 48 PET bottles per carton  
500 ML 24 PET bottles per carton  
1 L 12 PET bottles per carton  
2 L 6 PET bottles per carton  
3 L 6 jerrycans per carton / 6 PET bottles per carton  
5 L 4 jerrycans per carton / 4 PET bottles per carton  
10 L per jerrycan  
18 L per jerrycan / 1 can per carton  
20 L per jerrycan / 1 can per carton / per bag in box (BIB)  
25 L per jerrycan  
190 KG per drum  
198 KG per drum  
21 MT per flexibag



## Refined, Bleached and Deodorised Palm Olein CP 10:



Palm oil is semi solid at room temperature (20 c). The liquid portion could be physically separated from the solid portion of palm oil by fractionation. After fractionation the liquid portion is called RBD palm olein Cp 10 which is commonly bottled and sold as cooking oils. The solid fat portion is called palm stearin and it is commonly used to formulate transfree fats such as margarine, shortening and vegetable ghee.

RBD Palm Olein Cp 10 has an Iodine value of 54 - 56. Because of its fatty acid composition and good oxidative stability. Palm Olein Cp 10 is excellent to be used as liquid cooking oil and all the more suitable for frying. Apart from its high quality performance, the added advantage is it does not alter the taste or flavour of fried food as it does not have any distinct fragrance. Moreover it leaves the meal completely dry with no dripping of oil.

MSD GLOBAL cooking oil is made from 100% Malaysian and Indonesian RBD Palm Olein. MSD GLOBAL Cp 10 is not only an ideal option for cooking but can also be utilised for Industrial purpose.

We are offering RBD palm olein to all over Africa, Far East and Middle East.



Triglycerides of super Palm Olein	
C. No	Palm Olein
C46	0.8
C48	3.3
C50	39.5
C52	42.7
C54	12.8
C56	0.7

Fatty Acid composition	
C12:0	0.3
C14:0	1.0
C16:0	40.9
C18:0	4.2
C18:1	41.5
C18:2	11.6
C18:3	0.3
C20:0	0.2

Sr. No.	Parameter	Measurement	Result
1.	Free Fatty Acid ( as palmitic)	%	0.10 max
2.	Moisture & Volatile Matters	%	0.1 % max
3.	Color ( 5.25")	R / Y	3.0/30 max
4.	Per – oxide value	Meq / Kg	2 max
5.	Density at 40 degree celcius	-	0.9000
6.	Unsaponification matter	%	0.2
7.	Saponification Index	-	195 – 205
8.	Iodine Value	-	54 min
9.	Slip melting point	Celcius degree	19
10.	Clouding point	Celcius degree	10
11.	Taste	-	OK
12.	Odour	-	OK
13.	Additives added	-	BHA, BHT

Inner Values per 100g	
Energy 3700 Kj	900 Kcal
Protein	0g
Carbohydrates	0g
Fat	100g
Saturate Fatty Acids	45g
Monounsaturate Fatty Acids	44g.5
Poly Unsaturated Fatty Acids	10g
Trans Fatty Acids	0g
Cholesterol	0mg



### Positional Distribution of Fatty Acids:

Positional Distribution	Saturated Fatty Acid	Oleic	Linoleic
Sn -2	13.7	66.3	19.9
Position 1.3	72.9	23.8	3.3

### Palm Olein: ( Two Types)

- IV 56 – 60
- IV > 60

## Fatty Acid Composition of Palm Olein:

IV	C14	C16	C18	C18: 1	C18: 2
< 60	1.0	37.9	4.1	43.4	12.5
60 – 64	1.0	34.9	3.8	45.5	14.5
> 65	1.0	30.9	3.6	47.9	15.4

### Yellow Big Mouth Jerry Can

- 5 Ltrs
- IV > 60

### White Jerry Can

- 5 Ltrs jerry can
- 20 Ltrs jerry can

### Printed Tin with Carton

- 1.8 Ltrs tin
- 3.8 Ltrs tin
- 5 Ltrs tin
- 16 Ltrs tin
- 1.8 Ltrs tin
- 1.8 Ltrs tin

### Tin with Carton

- 10 Ltrs tin
- 17 Ltrs tin
- 18 Ltrs tin



### Red Palm oil/ Olein:

- Palm olein with high amounts of B carotenes
- Deep reddish colour cooking oil
- Widely accepted in Japan for healthful benefits

### Benefits:

- Colourant which enhances food presentation
- Improves product shelf life.
- Adds nutritional value to foodstuffs.
- Clean labelling
- Easy dosing and mixing

### Red Palm super olein: A natural colourant

- Visual appeal of a product has an affect on our appetite
- When red palm super olein is added to food products it produces a yellow to red colour
- Examples of application: soups, potatoes, margarines, dressings, mayonnaise, seasoning, cheese, bakery products etc.

### Red Palm oil/ Olein Properties:

- Natural vegetable liquid oil
- Bright red colour
- Natural Beta carotene
- Source of provitamin A and Vitamin E

### Packaging Size

- 250 ML 48 PET bottles per carton
- 500 ML 24 PET bottles per carton
- 1 L 12 PET bottles per carton
- 2 L 6 PET bottles per carton
- 3 L 6 jerrycans per carton / 6 PET bottles per carton
- 5 L 4 jerrycans per carton / 4 PET bottles per carton
- 10 L per jerry can
- 18 L per jerry can / 1 can per carton
- 20 L per jerry can / 1 can per carton / per bag in box (BIB)
- 25 L per jerry can
- 190 KG per drum
- 198 KG per drum
- 21 MT per flexibag

## Few reasons to work with us

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### Production Capacity:

we are tied up with 4 factories in Malaysia and 3 factories in Indonesia, having total capacity of 10,000 metric tons per month production capacity of speciality fats.

### Third party Inspection:

Pre Shipment inspection for quality, quantity and weight at loading port. Gives comfort to customers also for their country rules and Regulation. We are tied up with SGS, Inertek and Geo chem.

### Competitiveness:

Reliable, Convenient and reasonable price based on daily global market pricing.

### Quality Assurance:

Our Company has invested heavily in globally benchmarked quality assurance system. MSD Global has its own backward integrated contractual refining and packing system for vegetable cooking oil and vegetable shortening to ensure they meet all regulatory and food safety issues in compliance with importing country regulatory authority.

### Fixed price contractual supply:

The Company has developed an in house state of the art commodity risk management capabilities enabling it to insulate its customers from the price fluctuation risks inherent to vegetable cooking oil

**Experience in Europe, Middle east and African continent:** MSD Global on continuous basis keeps updated on regulatory requirement to make sure that at all its products are meeting the regulatory requirements of importing countries in its region.

### Organic qualities reliable and comprehensive:

All starting materials of our manufacturer are carefully selected and free from genetically modified organisms. Our manufacturers attach great importance to controlling the entire production process and operating and controlling it in their own premises. We therefore guarantee top quality because of careful selection of seeds and crude oil. As we can guarantee the complete manufacturing process and have in-depth knowledge of the food sector and fat processing we can also guarantee the production of the top quality fats even without chemical hardening and transesterification and with a limited refining temperature our fats and margarines retain their taste and consistency characteristics.

### Halal control:

To ensure that our products are also guaranteed as being Halal, the end products as well as the raw material, ingredients and production equipment also need to be free from substances that the Quran forbids. Halal conformity has to be guaranteed from production right to the end product.

### Kosher Guaranteed vegetable based:

Vegetable based fats are kosher perse. However at no stage of the production chain may they come into contact with animal fats and the production process needs to be performed in accordance with certain regulation.

### End to End quality standards as a matter of principles:

As an Independent family owned trading company. MSD Global has been committed to a high level of quality awareness and sustainable business philosophy. We select the feed stock raw material with the utmost care and achieve the best possible quality standards with our manufacturer's state of the art production and bottling and packing plant and air conditioned high bay warehouse.

### GMO free, traceable and carefully processed:

we produce edible oils and speciality fats from responsible sourcing policy and are GMO free, sustainable, traceable supply chain. Guaranteed by regular, independent audits on site in the country of origin.

**Tested and certified manufacturing process:** A host of quality measures, ranging from our quality management system to automated and monitored production processes and the maintenance of an integrated crisis safety and environmental management system, ensure the quality of our products and protection of environment.

### Customised solution:

Oils, Fats and margarines can decisively influence specific properties of foods. With the utmost discretion, our customers involve us at an early stage in the product development process.

### Practical testing of new recipes:

we continuously undertake practical tests and check the composition and quality of our products in our manufacturer's in-house laboratory. We also offer to develop individual oil and fat blends for our customer. We meet the most diverse requirement using state of the art laboratory analysis, method, and test series and products tests.

### Industry:

All our manufacturers' plants is performed and tested on the basis of ISO 9000/ 2000 certified quality assurance system.

### Food service:

MSD Global food service division to a whole spectrum of end users with nutritious and hygienically processed cooking oils, margarines, shortening and other speciality fats. Our product development programs constantly endeavour to improve existing products to cater to shifting consumer trends. Our products are available with or without antioxidants as per the requirement of the customer.

All vegetable oil (Palm, Palm kernel and coconut oil) come from traditional cultivation. We do not use genetically modified starting materials and only obtain oils by heating and pressing.

The demands placed on our products are as versatile as their fields of use. This allows us to develop high grade margarines and fats for most diverse end products for our customers in the food Industry. The type of refining whether selective hardening, fractionation or transesterification essentially depends on the individual process.

# Confectioner Industry: CBS, Chocofat, CBR, CBE



## Chocolate fats and Ice cream fats:

MSD global offers range of speciality fats for chocolate and ice cream industry. The range includes speciality vegetable fats and cocoa butter equivalents to meet the needs of the confectionery, chocolate and snack food industries supported by a strong foundation of original formulations, utilising proprietary technical expertise and proven portfolio of standardised speciality fats, MSD Global offers strategic, unique and options for custom applications. The opportunities this provides to our confectionary and chocolate industry partners is a competitive new products development, advantage, as well as the ability to take control over recipe cost to achieve to better consistency in industrial production methods and to develop chocolate products with greater stability texture and enhanced flavour release characteristics.

Our Industry supplies a whole range of vegetable alternatives to cocoa butter know as cocoa butter alternatives ( CBA). These products have lower costs than cocoa butter at the same time as they offer technical advantages and improved quality all through the production, distribution, storage and consumption of chocolate and confectionery products. By entirely or partly replacing cocoa butter and/ or butterfat with CBA, processing advantages are gained at the same time as higher quality end products are achieved. The product is given longer shelf life, better heat resistance and improved storage stability at the same time as raw material costs are reduced.

CBA have the physical properties and chemical composition of cocoa butter. Cocoa butter alternative fats are often classified in to three categories

MSD Global is the supplier of speciality fats to the chocolate and confectionery industry with highly specialised cocoa butter alternatives of premium functionality.

The product offer advantages like steeper melting profile, improved shelf life with cost effective attributes. We offer advanced vegetable fats as replacer of the traditional cocoa butter

Our cocoa butter alternatives come in three Ranges.

- 1) Cocoa butter substitute ( CBS)
- 2) Cocoa butter replacer ( CBR)
- 3) Cocoa butter equivalent ( CBE).

These fats are used in the making of chocolates and prolines as they crystallize faster than cocoa butter and therefore give a better utilisation of cooling system, ensuring better and more stable product.

## Introduction of CBS and Chocofat:

MSD Global range includes speciality vegetable fats, cocoabutter substitute, Chocofat and Ice cream fats to meet the needs of the confectionery, chocolates and snack food industries supported by a strong foundation of original formulations.

Using technical expertise and a proven portfolio of standardised, speciality fats, MSD Global offers strategic, unique and customised speciality fats. This provides opportunity to our confectionery and chocolate industry partners in developing new competitive products as well as the ability to take control over receipe costs to achieve better consistencies in industrial production methods and to develop chocolate products with greater stability, new textures and enhanced flavour release characteristics.

Know how: The use of unhardened fats. The Transfatty acid content < 2% and associated use of unhardened fats which has been law since 2009, make compliance with the technological and sensory requirements of the most diverse applications extremely challenging.

Approach and services: An analysis of the process conditions and considerations of the other ingredients in the customers receipe form the basis for the selection of the most suitable fat. Among other things we take into account the crystallisation behaviour and the sensory impact on your product. The prevention of fat bloom places particularly exacting demands on the correct selection of the fats. In this sector, intensive collaboration between the parties involved is often very important in order to find the optimum solution in the shortest possible time. Our research and development department can support you with advice at your premises.



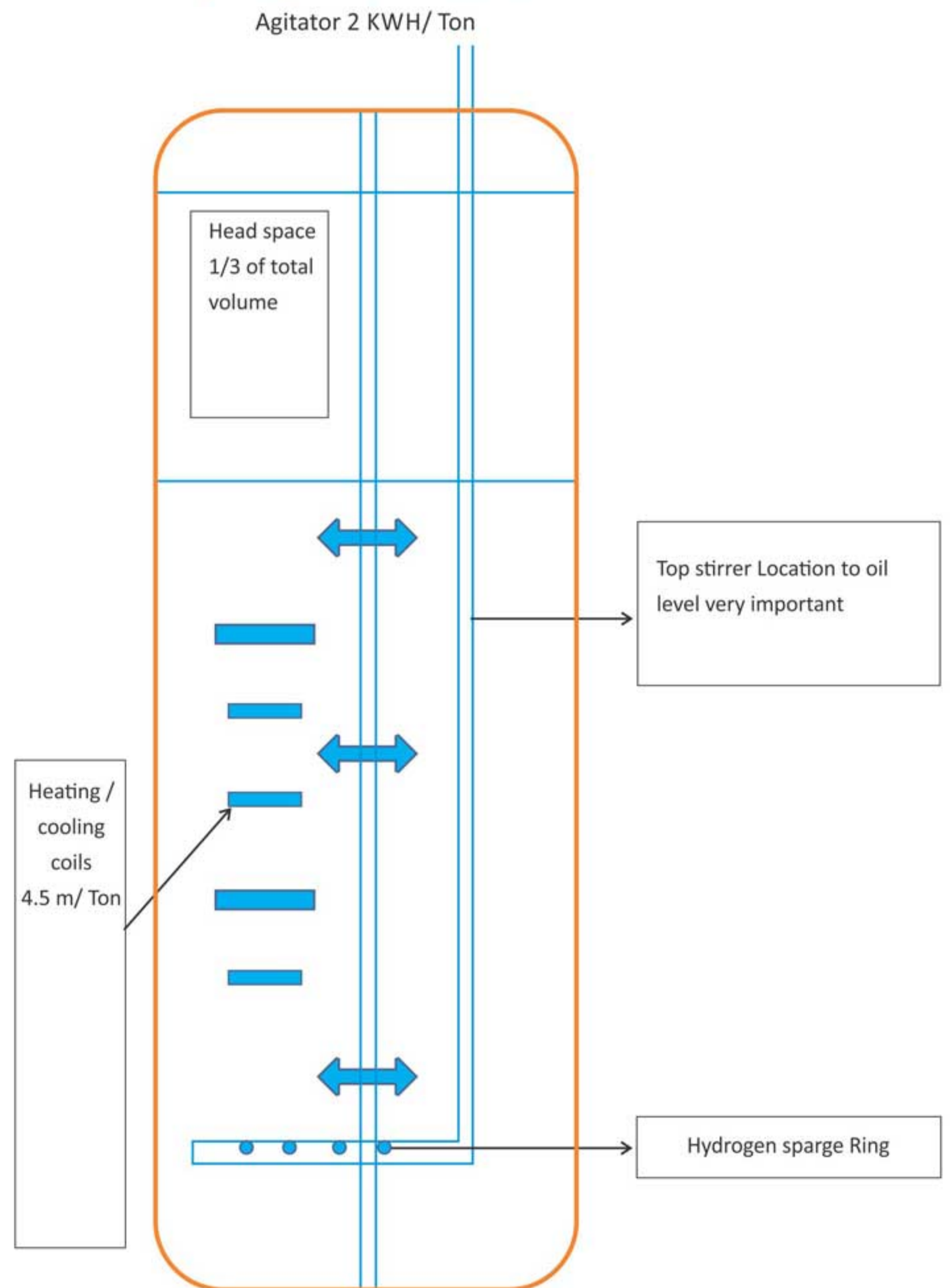
# Hydrogenation:



## Hydrogenation:

- Add hydrogen atoms into vegetable oil
- Reason: to modify hardness of the oil for various application
- Partial hydrogenation or full hydrogenation
- Partially hydrogenated fats widely used as confectionery fats
- But partial hydrogenation produces transfatty acids ( aka transfats)
- Transfats proven to raise cholesterol levels( unhealthy)

## Hydrogenation Reactor:



# Range of chocolate fats and Ice cream fats:

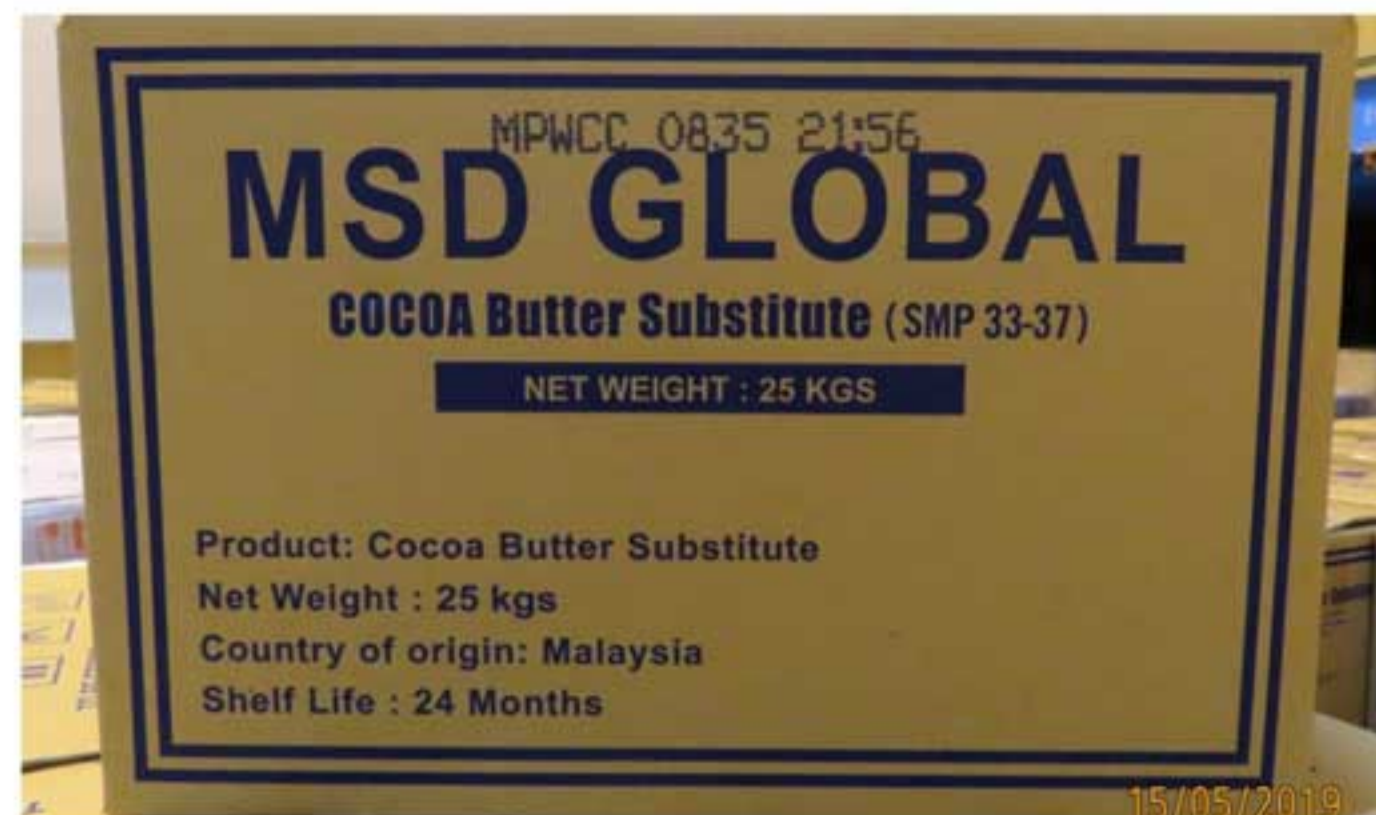
## Range of chocolate fats & Ice cream fats

Cocoa Butter Equivalent fats:

Cocoa Butter Improver fats

Cocoa Butter Substitute fats

Confectionary fats



## Cocoa Butter Substitute fats:

These lauric fats are different from other fats in that a complicated tempering process is not required during production there by lowering production costs. CBS fats are particularly suited for chocolate flavoured moulded products, compound coatings for enrobing and for semi solid centre fillings.

These are lauric based hardened, non tempered fats with not more than 0.5% transfat. They provide good elasticity, gloss retention and fat crystallization at lower viscosities. These fats are not compatible with cocoa butter and may only be used in formulations with very low content of cocoa butter.

Cocoa butter substitute (CBS) are based on lauric fats. The main rawmaterials in this group are coconut and palm kernel oil with palm kernel being the preference for CBS manufacture. The production of CBS involves special hydrogenation and fractionation techniques.

As CBS are showing a good contraction when crystallised it makes them suitable for moulding. CBS are also well suited for coating application, due to their quick setting. Due to the composition of a CBS differing a lot to a cocoa butter composition it is not possible to use a CBS in a recipe containing Cocoa liquor.

A superior quality cocoa butter substitute made from hydrogenated and fully refined vegetable oils and fractions.

It has excellent sharp melting profile.

It is a hydrogenated lauric fats and trans free.

- Based on palm kernel or coconut oil
- Produced by fractionation and/ or Hydrogenation
- Trans content either zero or low
- Completely different triglyceride composition to cocoa butter
- Incompatible with cocoa butter

## Characteristics:

- Zero trans CBS
- Lauric based premium quality CBS. Heat resistance, Bloom free superior shrinkage for good mould release.
- Impart Glossiness
- Lauric based coating fat. Steep melting profile imparts excellent mouth feel. Quick forming. Does not flake off when bitten.
- Lauric based coating fat. Steep melting profile imparts excellent mouth feel.
- Low trans lauric based fat.
- Excellent melting profile
- As total replacer of cocoa butter in compound for solid and hollow moulding, enrobing and couverture.
- Having brittle texture
- Have good glossiness and have excellent mouthfeel profile
- Good demoulding properties to the end product.

## Uses of Lauric CBS coatings:

- Wafer and Biscuit coatings
- Home bakery coatings
- Ice Cream coatings
- Thin Moulded candy bars

## Applications:

- 1) CBS in moulded chocolate compound
- 2) Enrobing Fat
- 3) Biscuits / wafer coating fat
- 4) Toffee fillings

## Lauric CBS Coatings:

- Effectively no tolerance to cocoa butter
- This prevents cocoa mass being used in the formulation and restricts cocoa usage to low fat cocoa powder.
- Milk fat also has a softening effect full cream milk powder should be kept to a maximum of 10





Parameters	General Description	Application Area	Fat content%	Melting Point C AOCSCc 3-25	Free Fatty Acids, FFA % ( as lauric acid) AOCSCa 5a-40	Perok side value (meq02/Kg)	Color (lovibond 5)	Solid fat content (NMR Values) %N 20c	Solid fat content (NMR Values) %N 30c	Solid fat content (NMR Values) %N 35c	Shelf Life	Packaging Specification	Storage Condition
MSDCBS 34-36	Fractionated and hydrogenated lauric vegetable cocoa butter substitute	Moulded chocolate products, tablets , all compound chocolate coatings ( biscuits, wafers, bars)	99.9% min	34-36	0.1 max	1.0 max	2 R max	95 min	48 min	5 max	12months	20 kg carton box with PE Bag	Keep in cool (9-14) clean dry, and odour less place, away from direct sunlight
MSD CBS 31-34		couverture, shell products	99.9% min	31-34	0.1 max	1.0 max	2 R max	80 min	32 min	2 max	12months		
MSD CBS 40-43			99.9% min	40-43	0.1 max	1.0 max	2 R max	75 min	36 min	18 min	12months		
MSD CBS 32-34			99.9% min	32-34	0.1 max	1.0 max	2 R max	60 min	10 min	6 max	12months		
MSD CBS 36-39			99.9% min	36-39	0.1 max	1.0 max	2 R max	68 min	16 min	11 max	12months		
MSD CBS 38-40			99.9% min	38-40	0.1 max	1.0 max	2 R max	80 min	30 min	16 max	12months		
MSD CBS 33-37			99.9% min	33-37	0.1 max	1.0 max	2 R max	71-81	27 min	10 max	12months		
MSD CBS 33-38			99.9% min	33-38	0.50 max	1.0 max	3 R max	72-81	27-35	9 max	12months		
MSD CBS 32-37			99.9% min	32-37	0.1 max	1.0 max	2 R max	71-80	25 min	10 max	12months		
MSD CBS 32-37			99.9% min	32-37	0.1 max	1.0 max	1 R max	89-98	41-56	7 max	12months		





## Advantages:

- 1) Lauric Fat
- 2) Trans free
- 3) Completely different triglyceride composition to cocoa butter
- 4) Incompatible with cocoa butter
- 5) Prevents cocoa mass being used in the formulation and restricts cocoa usage to low fat cocoa powder
- 6) Maximum % 5 of total fat in formulation can be cocoa butter
- 7) Milk fat also has a softening effect full cream milk powder should be kept to a maximum of 10%
- 8) Must be used with lipase free raw material
- 9) Hard and brittle
- 10) Non tempering
- 11) Neutral taste and odour
- 12) Not sensitive for oxidation and so good taste keepability
- 13) Steep N line (high N10 and Low N 35): good oral melt
- 14) Fast Crystallization
- 15) Good mouth feels and flavour release
- 16) Good bloom stability
- 17) They are produced from palm kernel/ and or coconut fats fractionation and also hydrogenation process sometimes
- 18) Does not require tempering
- 19) Unique crystallization properties ensure shelf stable products with good glossy surfaces.
- 20) Provides superior sensory results as confectionery products and coatings made with these fats have a rapid and clean melting curve with excellent flavours release characteristics.
- 21) Contain only non-hydrogenated component fats, no trans fatty acids to allow for clean labelling and to meet the demands of health conscious customers
- 22) Use of these fats results in reduced recipe costs and simplification of production methods
- 23) Texture and melting characteristics like cocoa butter
- 24) Having Brittle texture
- 25) Have good glossiness and have excellent mouth feel profile
- 26) Good demoulding properties to the end product.

Packing: 20 kg carton



# Logistics & Operations:

Our logistics and operations team specialises the sea transportation of cargoes from Malaysia, Indonesia, Thailand and Indian subcontinent to almost any part of the world. We conduct business in more than 90 countries around the world.

We specialise mainly in full container load vessels for oleochemicals. But if required we can also offer services for non unitisable (LCL, break bulk).



Our logistics and operations team are the people who make difference in trade because of the way that we engage with our customers. For us it is not what we do; it's how we do it. Our logistics team spend time with our customers to understand their business requirements. Our team are professionals and accountable who delivers the high level service and dedication that our customers expect from the delivery of their goods.

## Commitments:

- Commitments:
- Develop secure, safe and fast moving solutions
- Apply industry best practices
- Go above and beyond compliance with relevant rules and regulations

## Our Business:

We are tied up with leading liner companies who have most modern vessels, the world's largest and most sophisticated container pools as well as world class information systems. We specialise in sea transportation of oleochemicals, edible oils and speciality fats from Malaysia, Indonesia, Thailand and Indian subcontinent to Africa, middle east, Europe, USA and south American ports. Our core focus is on trades that connects these markets for oleochemicals and speciality fats.

## Delivering Value:

Our customers are extremely important to us because we understand that our future success will depend on their support we receive from them. And that by nurturing and helping their business we can and we will grow our own business.

We understand the importance of being true to our promise of being the people making the difference in their trade.

We provide specialise service developed to serve the needs of customers involved. For example safely transporting temperature sensitive cargo like refrigerated containers for speciality fats like shortening and margarine. Flexi with heat pads for PFAD and other distilled fatty acids; handling various packing like 25 kg bags, jumbo bags, drums both palletised and unpalletised cargo.

## Customer Care:

It's all about customer satisfaction, how to meet and exceed their expectations, our customers are placed at the heart of our corporate strategy.

At MSD Global our organisation is geared to offer the best solutions to our customers transportation requirement which ever, wherever, making safety and security top priority in our operations. We understand that the best services require the best tools in trade. Hence all our liners have modern and innovative vessel fleet, latest generation containers.

## Comprehensive Offering:

We offer comprehensive global logistics services offering world class ocean transportation expertise. Our long term partnership with numerous carriers, along with sophisticated cutting edge information technology and extensive global network that span over 90 countries, has today made MSD global leading oleochemical trading company. We ensure the very finest in full container load ( FCL shipments), less than container load ( LCL shipments), temperature controlled container load shipments, supply chain management.



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Toll Manufacturing Location



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