



IOI OLEOCHEMICAL

TECHNICAL APPLICATIONS

# Performance Chemicals

for Technical Applications





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## IOI Oleo GmbH

Expertise and Passion for Esters – Our credo of expertise and passion guides us in everything we do

We are the German subsidiary of the Malaysian IOI Oleochemical and one of the leading European suppliers of oleochemical specialties.

With over 330 employees at our headquarters in Hamburg and the two production sites in Witten and Wittenberge, we produce and market a wide range of oleochemical products for a variety of industrial applications. Under the brand name SOFTENOL®, IOI Oleo GmbH offers solutions especially for technical applications which are well-known throughout the world for their reliable performance.

In our R&PD centers we develop innovative, customized products that add value to your business. Our service includes competent technical support by our application department before and after sales.

Committed to their success we devote all our expertise and passion to our customers needs.

We invite you to take a look at our portfolio and look forward to hearing from you.

# Technical Applications

IOI Oleo GmbH offers a broad range of products for technical applications under the brand name SOFTENOL®. The majority of these products are manufactured from renewable raw materials, making them biodegradable, physiologically safe, and in many cases suitable for use in the food industry.

SOFTENOL® types perform in different application areas, such as

- Processing aids for the EPS industry: single components, ready-to-use solutions, anti-static agent
- deep drawing oils for aluminium and tin plates
- base oils for lubricant formulation, also suitable for the food industry
- lubricants for feeding cables

Besides the above mentioned examples other fields of applications are possible. Don't hesitate to contact us if you are interested in exploring new paths together with us.

In the EPS industry we are the expert for tailor-made coating solutions, perfectly fitted to your requirements. Your request for special modifications is always welcome.



# SOFTENOL® additives for the EPS industry

Technical Applications offers either single components for self-mixing purposes and all-in-one/ready-to-use solutions for direct use without further required processing.

## SINGLE COMPONENTS

For your own coating formulations. Our processing aids can be used for white/grey/black EPS from suspension and extrusion processes.

| Product name   | Chemical description    | Appearance  | Acid value mg KOH/g | Saponification value mg KOH/g | Iodine value g I <sub>2</sub> /100 g | Melting point °C | Hydroxyl value mg KOH/g | Monoglyceride content % | Glycerol content % |
|----------------|-------------------------|-------------|---------------------|-------------------------------|--------------------------------------|------------------|-------------------------|-------------------------|--------------------|
| SOFTENOL® 3118 | Triglyceride            | fine powder | max. 1              | 185–195                       | max. 2                               | ≈ 72             | max. 5                  | –                       | –                  |
| SOFTENOL® 3168 | Triglyceride            | fine powder | max. 5              | 190–205                       | max. 3                               | ≈ 62             | max. 10                 | –                       | –                  |
| SOFTENOL® 3169 | Triglyceride            | fine powder | max. 5              | 170–200                       | max. 2                               | ≈ 71             | max. 5                  | –                       | –                  |
| SOFTENOL® 3285 | Hydrogenated castor oil | fine powder | max. 4              | min. 170                      | –                                    | ≈ 85             | –                       | –                       | –                  |
| SOFTENOL® 3945 | Mono-di-glyceride       | fine powder | max. 3              | 158–175                       | max. 3                               | ≈ 60             | –                       | ≈ 45                    | max. 2             |
| SOFTENOL® 3995 | Monoglyceride           | fine powder | max. 3              | 155–170                       | max. 2                               | ≈ 70             | –                       | min. 90                 | max. 2             |
| SOFTENOL® 3941 | Monoglyceride           | fine powder | max. 3              | 150–170                       | max. 2                               | ≈ 78             | –                       | min. 90                 | max. 2             |

## READY-TO-USE SOLUTIONS

These processing aids can be used without any mixing for white/grey/black EPS from suspension and extrusion processes.

| Product name   | Chemical description                                                                     |
|----------------|------------------------------------------------------------------------------------------|
| Softenol® 0560 | Standard mixture of GMS, GTS and Zinc Stearate                                           |
| Softenol® 3783 | New technology coating agent of plant origin. Single use combined with full performance. |
| Softenol® 2100 | New technology coating agent of plant origin. Single use combined with full performance. |

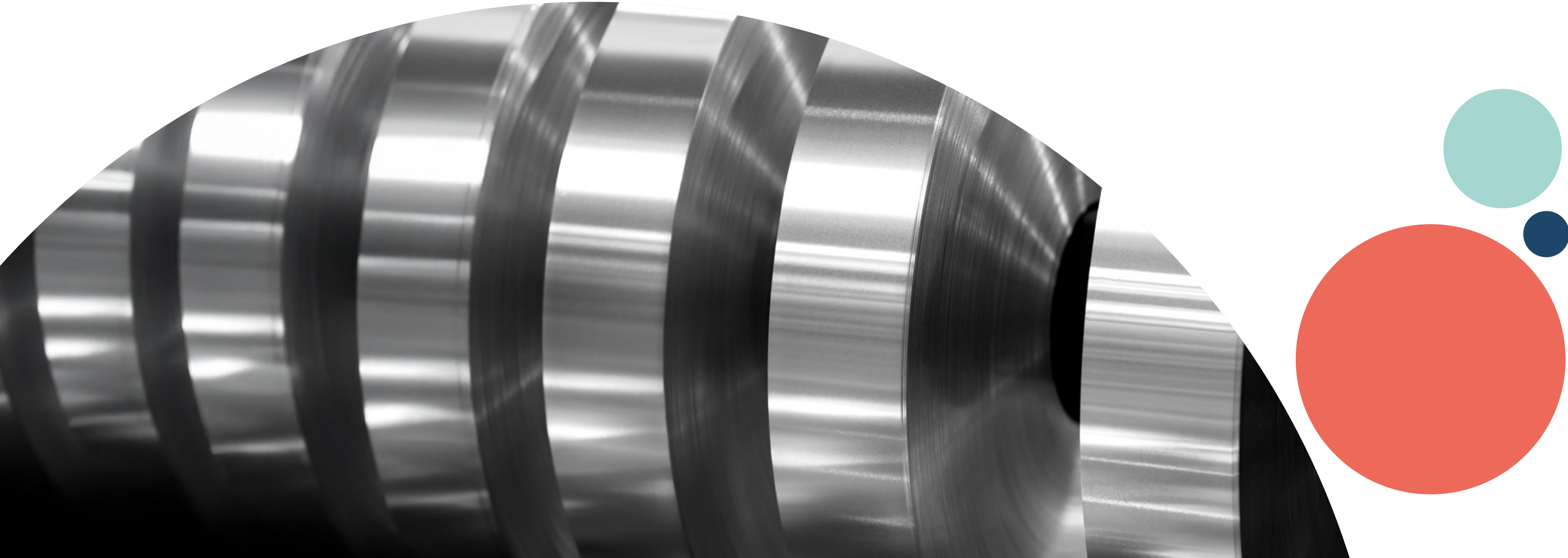
## ANTI-STATIC AGENT

| Product name   | Chemical description                                     | Application                                                     |
|----------------|----------------------------------------------------------|-----------------------------------------------------------------|
| SOFTENOL® 3767 | Oxyethylation product of medium chain partial glycerides | Antistatic agent for naked EPS beads to enable fraction sieving |



# SOFTENOL® lubricants and other applications

| Product name   | Chemical description                                                                       | Application/properties                                                                                               | Appearance | Acid value<br>mg KOH/g | Saponification<br>value<br>mg KOH/g | Iodine value<br>g I <sub>2</sub> /100 g | Hydroxyl<br>value<br>mg KOH/g | Dyn. Viscosity<br>20 °C mPas | Kin. Viscosity<br>40 °C mm <sup>2</sup> /s | Density<br>20 °C | APHA<br>Colour % | Water<br>% |
|----------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------|------------------------|-------------------------------------|-----------------------------------------|-------------------------------|------------------------------|--------------------------------------------|------------------|------------------|------------|
| SOFTENOL® 3108 | Glycerol-Tricaprylate-Caprate                                                              | - Multipurpose base oil<br>- Sliding and anti-blocking agent<br>- Lubricant for feeding cables<br>- NSF H1 lubricant | liquid     | max. 0.2               | 310-360                             | max. 0.5                                | -                             | 24-36                        | 12-17                                      | 0.92-0.96        | max. 100         | -          |
| SOFTENOL® 3408 | 1,2-Propanediol Dicaprylate/caprate                                                        | Lubricant, release agent for the food industry                                                                       | liquid     | max. 1                 | 300-340                             | max. 1                                  | -                             | ≈ 11                         | 5-7                                        | ≈ 0.92           | -                | -          |
| SOFTENOL® 3600 | Polyglycerol Polyricinoleate                                                               | Used as adhesive agent during dry coating,<br>applicable in the food industry                                        | liquid     | max. 6                 | 175-190                             | 75-95                                   | 80-100                        | 200-500 (60 °C)              | -                                          | -                | -                | -          |
| SOFTENOL® 3660 | Oleyl Erucate                                                                              | Additive for cutting and lubricating oils                                                                            | liquid     | max. 1                 | 95-110                              | 85-95                                   | max. 10                       | 25-35                        | -                                          | 0.86-0.87        | -                | -          |
| SOFTENOL® 3765 | Aqueous preparation based on<br>oxethylation product of medium<br>Chain partial glycerides | Release agent for gluethreads for the bonding<br>of veneers                                                          | liquid     | -                      | ≈ 50                                | -                                       | -                             | -                            | -                                          | -                | -                | -          |
| SOFTENOL® 3803 | Ester of saturated fractionated<br>plant fatty acids                                       | Deep drawing oil for forming of aluminium<br>foils and tin plates; NSF 3H lubricant                                  | liquid     | max. 2                 | 310-360                             | -                                       | -                             | 24-36                        | -                                          | -                | max. 150         | -          |
| SOFTENOL® 3829 | Ester of saturated fractionated<br>plant fatty acids                                       | Deep drawing oil for the forming of aluminium<br>foils and tin plates; NSF 3H lubricant                              | liquid     | max. 2                 | 400-450                             | max. 2                                  | -                             | 230-260                      | 70-80                                      | 1.00-1.02        | -                | -          |



## Notes

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