



ENERGY & RESOURCES

Demulsifiers

Effective solutions for challenges
in crude oil separation.

KEMELIX®

ULTROIL® EB

SURFONIC® OFD

INDORAMA
VENTURES

Indispensable Chemistry





Demulsifiers

In the oil production process, emulsions occur naturally due to emulsifying agents present in oil, water, and sediments. This can adversely affect the crude oil quality and process productivity. Therefore, it is imperative to effectively treat this emulsion to ensure efficient recovery and maintain the produced oil quality.

Indovina offers a comprehensive line of **emulsion breaking** components designed to meet every need in the emulsion breaking process. The core components include **droppers, treaters, and dryers**, while supplementary solutions such as **polishers, desalters, and sludge treaters** provide additional support. By combining these chemical solutions, rapid water separation, coalescence, and flocculation of smaller water droplets are facilitated, thereby increasing the dehydration of crude oil and ensuring its quality.

Core functions



DROPPER
Facilitates
faster water
dropping



TREATER
Enhances
interface quality
for cleaner
water



DRYER
Induces
flocculation of
fine emulsion
droplets

Supplementary functions



POLISHER
Boost the
water quality
and the speed
of water drop



DESALTER
Accelerates
water separations
in refinery
desalters



SLUDGE TREATER
Alters
wettability
of suspended
solids

Technical Datasheet

The effectiveness of demulsifiers is significantly affected by their solubility and compatibility in different solvents. Dissolution tests in **water, xylene, isopropyl alcohol (IPA), diesel**, among others, are a determining factor in choosing the ideal product, ensuring its effectiveness and consistent results in various challenging scenarios.

Along with solubility, our demulsifiers are evaluated based on other critical factors such as **flash point** and **viscosity**.

Furthermore, given the complexity and variability observed between different oils, standard tests help identifying the performance characteristics of each demulsifier in **Primary, Secondary or Tertiary** functionality according to the most observed requirement.

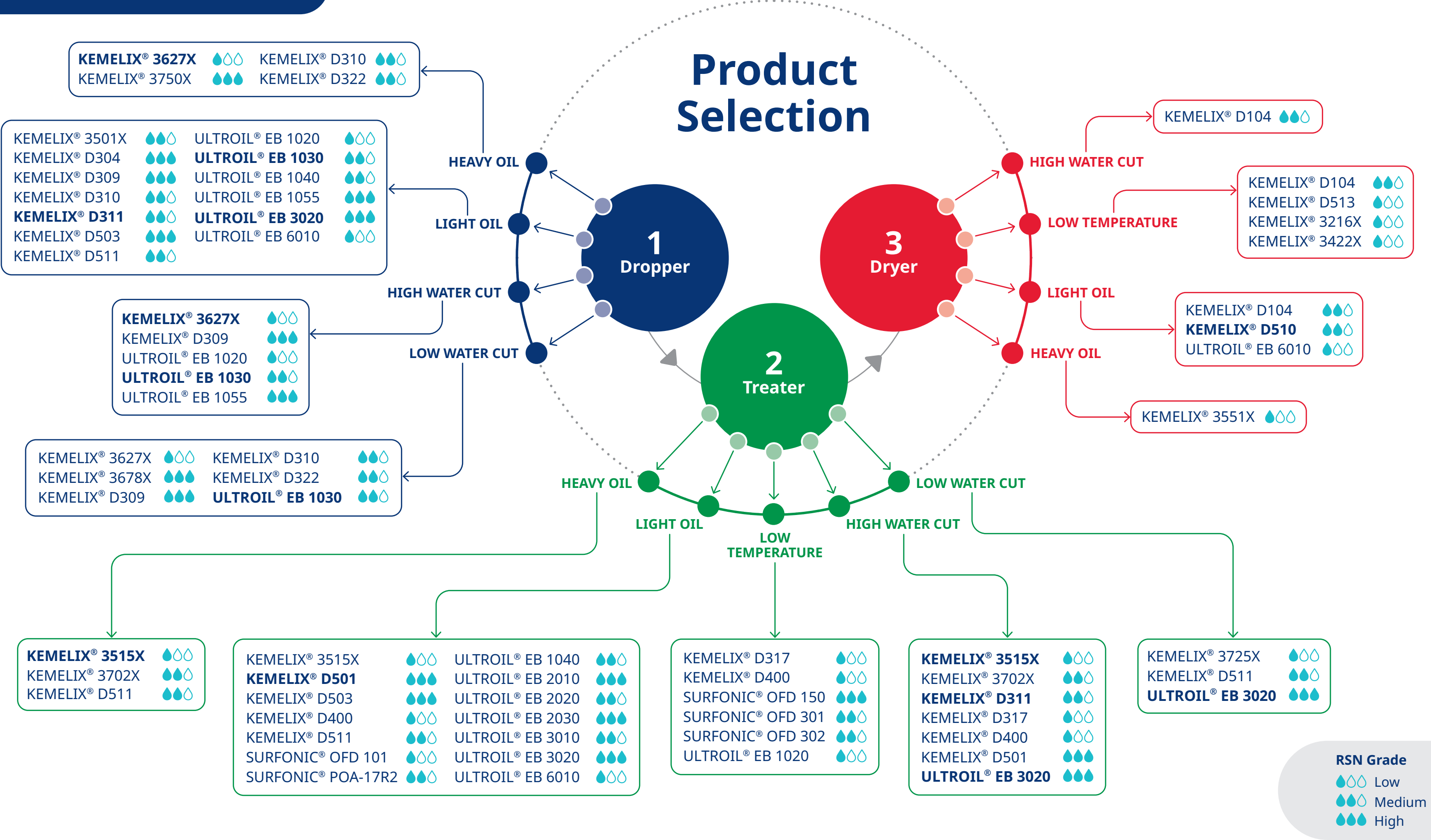


GUIDANCE FOR BETTER EVALUATION OF THE INDORAMA PORTFOLIO IN 3 STEPS

1. Use the following guideline and run a screening to identify the best **dropper, treater** and **dryer** for your fields conditions.
2. Combine the **dropper** with the **treater** and **dryer** as needed. **Dropper** to **Treater/dryer** ratios generally range from 75:25 to 50:50.
3. To refine the formulations, anionic surfactants can also be used in concentration below 5%.

Consider **ULTROIL® HFS 135** solvent to obtain a nonflammable and organic solvent free formulation.

Portfolio Guideline



In bold: First choice demulsifier, that presented good performance in many different systems conditions.

Technical Datasheet



		Function												Solubility ^{3,4}				Registration		
		Core			Supplementary									Water	Xylene	Diesel/Kerosene ⁵	IPA	EU (REACH)	USA (TSCA)	CANADA (DSL / n-DSL)
Product	RSN ¹	Droppers	Treaters	Dryers	Polishers	Desalters	Sludge treaters	Active content ² (%wt)	Appearance (25°C)	Viscosity (cP @ 25°C)	BTEX free	Flash Point (°C (°F))	Pour Point (°C (°F))							
PROPRIETARY																				
KEMELIX® 3702X	17		✓		✓			100	Amber Liquid	1,300	Yes	>160 (>320)	18 (64)	S	D	I	S	Yes	Yes	Yes
KEMELIX® 3725X	8		✓					100	Amber Liquid	1,100	Yes	>100 (>212)	-9 (16)	I	S	I	I	Yes	Yes	Yes
ULTROIL® EB 6010	11	✓	✓	△	□	□		80	Liquid	459	No	8 (46)	-	D	D	D	S	No	Yes	Yes
ALKOXYLATED RESINS																				
KEMELIX® 3501X	16	✓				✓		80	Amber Liquid	1,600	No	64 (147)	-24 (-11)	D	S	I	S	Yes	Yes	Yes
KEMELIX® 3627X	10	✓						80	Amber Liquid	>5,000	No	64 (147)	12 (54)	I	S	I	S	Yes	Yes	No
KEMELIX® 3678X	19	✓				✓		86	Dark Brown Liquid	2,300	No	64 (147)	-24 (-11)	D	S	I	S	Yes	Yes	Yes
KEMELIX® 3750X	20	✓						80	Amber Liquid	1,000	No	64 (147)	-30 (-22)	S	I	I	S	Yes	Yes	Yes
KEMELIX® D304	20	✓				✓		80	Amber Liquid	2,500	No	64 (147)	-21 (-6)	D	S	I	S	Yes	No	Yes
KEMELIX® D309	21	✓			✓	✓		80	Amber Liquid	1,400	No	64 (147)	-27 (-17)	S	S	I	S	Yes	Yes	Yes
KEMELIX® D310	17	✓			✓	✓		88	Amber Liquid	800	No	64 (147)	-33 (-27)	D	S	I	S	Yes	Yes	Yes
KEMELIX® D311	17	✓	✓			✓		80	Yellow Liquid	400	No	64 (147)	-39 (-38)	D	S	I	S	Yes	Yes	Yes
KEMELIX® D322	16	✓				✓		80	Amber Liquid	5,900	No	64 (147)	-15 (5)	I	S	I	S	Yes	Yes	Yes
ULTROIL® EB 1020	8	✓	△			△		80	Viscous Liquid	980	No	32 (90)	<-20 (<-4)	I	S	S	S	No	Yes	Yes
ULTROIL® EB 1030	14	✓				△		80	Viscous Liquid	7,200	No	34 (93)	-14 (7)	I	S	S	S	No	Yes	Yes
ULTROIL® EB 1040	16	✓	△		△	△		65	Viscous Liquid	2,020	No	39 (102)	-14 (7)	I	S	S	S	No	Yes	Yes
ULTROIL® EB 1055	19	✓				✓		90	Viscous Liquid	1,439	No	28 (82)	4 (39)	I	S	S	S	No	Yes	Yes
MODIFIED POLYOLS																				
KEMELIX® D104	14		✓	✓				100	Yellow Liquid	1,800	No	320 (608)	-30 (-22)	S	S	I	S	Yes	Yes	Yes
KEMELIX® D317	9		✓		✓		✓	80	Yellow Liquid	1,900	No	63 (145)	-27 (-17)	I	S	I	S	Yes	Yes	No
KEMELIX® D400	7		✓		✓		✓	80	Yellow Liquid	900	Yes	30 (86)	-45 (-49)	I	D	I	S	Yes	Yes	Yes
KEMELIX® D501	20		✓				✓	100	Colorless Liquid	800	Yes	>100 (>212)	1 (34)	S	S	I	S	Yes	Yes	Yes
KEMELIX® D503	20		✓		✓		✓	100	Colorless Liquid	1,100	No	>100 (>212)	9 (48)	S	S	I	S	Yes	Yes	Yes
KEMELIX® D506	10		✓					100	Colorless Liquid	900	No	224 (435)	-9 (16)	D	S	I	S	Yes	Yes	Yes

✓ – Primary △ – Secondary □ – Tertiary
S – Soluble D – Dispersible I – Insoluble

¹RSN values are based on dioxane/toluene as solvents, and temperature between 18-20 °C.

²RSN values are based on toluene/ethylene glycol dimethyl ether as solvents, and temperature 25 °C.

³Infrared radiation. 1g @ 105 °C, until mass loss stabilization.

⁴40% active @ 20-25 °C during 24 hours – ULTROIL® EB & SURFONIC®.

⁵10% active @ 20-25 °C – KEMELIX®.

⁶ULTROIL® EB & SURFONIC® – Diesel; KEMELIX® – Kerosene.



Product	RSN ¹	Function						Active content ² (%wt)	Appearance (25°C)	Viscosity (cP @ 25°C)	BTX free	Flash Point (°C (°F))	Pour Point (°C (°F))	Solubility ^{3,4}				Registration		
		Core			Supplementary									Water	Xylene	Diesel/Kerosene ⁵	IPA	EU (REACH)	USA (TSCA)	CANADA (DSL / n-DSL)
		Droppers	Treaters	Dryers	Polishers	Desalters	Sludge treaters													

MODIFIED POLYOLS

KEMELIX® D511	17		✓		✓	✓	✓	100	Colorless Liquid	1,100	No	>100 (>212)	3 (37)	S	S	I	D	Yes	Yes	Yes
SURFONIC® OFD 101	11	□	✓		△			100	Liquid	800	Yes	>100 (>212)	-23 (-9)	I	D	S	S	No	Yes	Yes
SURFONIC® OFD 150	32	△	✓					100	Liquid	180	Yes	>100 (>212)	-3 (26)	S	I	S	S	No	Yes	Yes
SURFONIC® OFD 301	17*	△	✓					100	Liquid	515	Yes	>100 (>212)	<-40 (<-40)	S	I	I	S	No	Yes	Yes
SURFONIC® OFD 302	16*	△	✓					100	Liquid	908	Yes	>100 (>212)	<-40 (<-40)	S	I	I	S	No	Yes	Yes
SURFONIC® POA-17R2	17	□	✓					100	Liquid		Yes	>100 (>212)	-43 (-45)	D	I	S	S	Yes	Yes	Yes
ULTROIL® EB 2010	19	□	✓					100	Liquid	1,840	Yes	>100 (>212)	-2 (28)	S	S	S	S	No	Yes	Yes
ULTROIL® EB 2020	18	□	✓					100	Liquid	795	Yes	>100 (>212)	-11 (12)	S	S	S	S	No	Yes	Yes
ULTROIL® EB 2030	21	□	✓					100	Liquid	1,013	Yes	>100 (>212)	19 (66)	S	S	S	S	No	Yes	Yes
ULTROIL® EB 3010	18	□	△		✓			100	Viscous Liquid	2,077	Yes	>100 (>212)	-17 (1)	S	S	S	S	No	Yes	Yes
ULTROIL® EB 3020	21	✓	△		✓			100	Viscous Liquid	1,550	Yes	>100 (>212)	19 (66)	S	S	S	S	No	Yes	Yes

ALKOXYLATED POLYIMINES

KEMELIX® 3216X	9	△		✓	✓			88	Yellow Liquid	1,400	Yes	100 (212)	-33 (-27)	D	D	I	S	Yes	Yes	No
KEMELIX® 3422X	7	△		✓				100	Yellow Liquid	3,900	Yes	>100 (>212)	-27 (-17)	I	D	I	S	No	No	Yes
KEMELIX® 3515X	10	△			✓		✓	100	Pale yellow Liquid	4,100	Yes	>100 (>212)	12 (54)	I	D	I	S	Yes	Yes	Yes
KEMELIX® 3551X	10	△		✓		✓		100	Pale yellow Liquid	4,400	Yes	>100 (>212)	3 (37)	I	D	I	S	Yes	Yes	Yes
KEMELIX® D510	12	△		✓	✓	✓		100	Pale yellow Liquid	1,900	Yes	>100 (>212)	-3 (27)	I	D	I	S	Yes	Yes	Yes
KEMELIX® D513	7	△		✓				100	Yellow Liquid	2,800	Yes	>100 (>212)	-30 (-22)	I	S	I	S	Yes	Yes	Yes

ANIONIC

LAVREX® 200 BP	-						✓	98	Liquid	1,200	Yes	>100 (>212)	-14 (7)	S	S	S	S	No	Yes	Yes
SURFONIC® OFD 750	-						✓	70	Liquid	200	Yes	39 (102)	-	S	I	S	S	No	Yes	Yes
XOF-22A	-						✓	92	Liquid	1,055	Yes	>100 (>212)	-17 (1)	S	I	S	S	No	Yes	Yes
XOF-26A	-						✓	92	Viscous Liquid	1,162	Yes	>100 (>212)	-11 (12)	D	D	S	S	No	Yes	Yes

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DISCLAIMER

This information is provided in good faith, based on Indorama Ventures' current knowledge of the subject and is purely indicative. No information, including suggestions for using the products, should preclude experimental testing and verification, which are essential to ensuring the suitability of the products for each specific application. Consult the contact from your region or country regarding the availability of each product. All users must also respect local laws and obtain all the necessary permits. When handling the product, consult the safety data sheet. If you have any questions or additional needs, please contact Indorama Ventures through our customer service channels.
OCTOBER/25.