



A taste of *Rdiamuls*[®] ice cream solutions

RADIAMULS
TRADEMARK OF OLEON

In the past ice cream was consumed mostly in the summer months and in warm climates, but now it is an indulgent treat enjoyed all year round and all over the world. The success of ice cream can be attributed to the fact that it is both aerated and frozen and it contains dairy products, making it refreshing and soft, yet creamy at the same time. However, producing the perfect ice cream is far from trivial as this utter complex food product is simultaneously an emulsion (fat droplets in aqueous matrix), a solid (ice crystals) and a foam (air bubbles). During the various processing steps, the (dairy) fat is partially coalesced creating a network strong enough to entrap both air bubbles and ice crystals.

OUR SOLUTIONS

OVERRUN

Increasing the amount of air entrapped in the network

Rdiamuls MG 2910K
Rdiamuls MG 2643K
Rdiamuls Lactem 2950K

FIRMNESS

Improving scoop ability and handling

Rdiamuls MG 2903K
Rdiamuls Sorb 2157K

HEAT SHOCK RESISTANCE

Better stability during transport and storage

Rdiamuls MG 2903K
Rdiamuls PG 2202K

EMULSIFIER FUNCTIONALITY

Emulsifiers have been used in ice cream mix manufacturing for many years in order to improve ice cream quality. They are usually integrated with stabilizers in premixes, but both have a different functionality and action mechanism. The emulsifiers are primarily responsible for an adequate **nucleation of fat**, efficient **fat destabilization** (to obtain the desired degree of partial coalescence), improved **whipping quality** and increased **meltdown resistance**.

MELTDOWN PROPERTIES

Increasing the strength of the fat network

Rdiamuls MG 2903K
Rdiamuls Sorb 2157K
Rdiamuls MS 2800K

SENSORIAL

Creating creaminess and improving mouthfeel

Rdiamuls MG 2903K
Rdiamuls PG 2202K
Rdiamuls MS 2800K

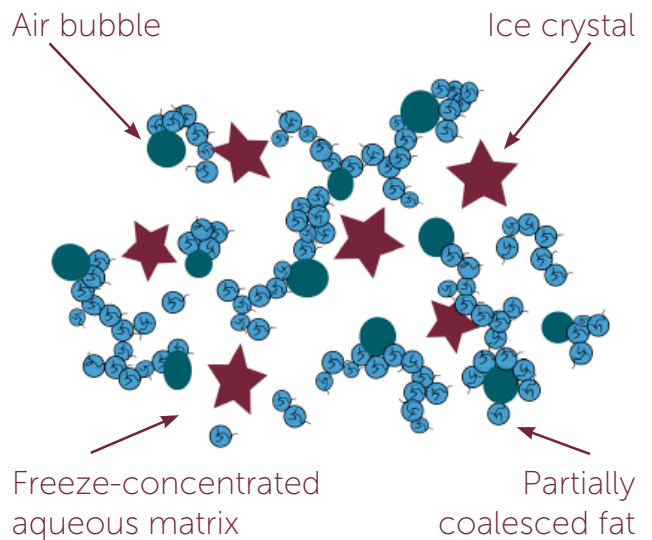
— RECIPE —

Water	63%
Fat	11%
Milk solids	10,5%
-non-fat (mainly protein)	
Sweeteners	15%
Stabilizer + emulsifier	0,5%



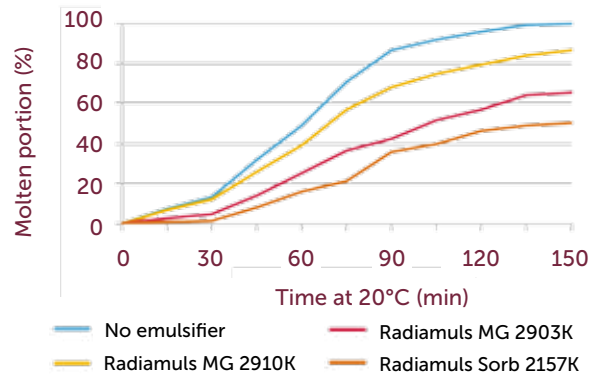
Typical ice cream mix composition

Ice cream structure



A stronger fat network reduces the meltdown and helps as such to maintain the body of the ice cream for a longer period of time.

Meltdown



PACKAGING

SHELF LIFE

Product	PACKAGING	SHELF LIFE
Radiumuls MG 2910K mono- and diglycerides	25kg bag	24 months
Radiumuls MG 2643K mono- and diglycerides	25kg bag	24 months
Radiumuls MG 2903K mono- and diglycerides	20kg bag in box 950kg IBC	18 months
Radiumuls Sorb 2157K polysorbate 80	180kg drum	24 months
Radiumuls PG 2202K propylene glycol mono ester (PGMS)	20kg bag in box	24 months
Radiumuls Lactem 2950K lactylated mono- and diglycerides (LACTEM)	25kg bag in box	12 months
Radiumuls MS 2800K polysorbate 80 + mono- and diglycerides	20kg bag in box	24 months

oleon
a natural chemistry

NUTRITION

Oleon NV

Assenedestraat 2 | 9940 Ertvelde | Belgium T +32 (0)9 341 10 11 | E info@oleon.com