



Antifoams

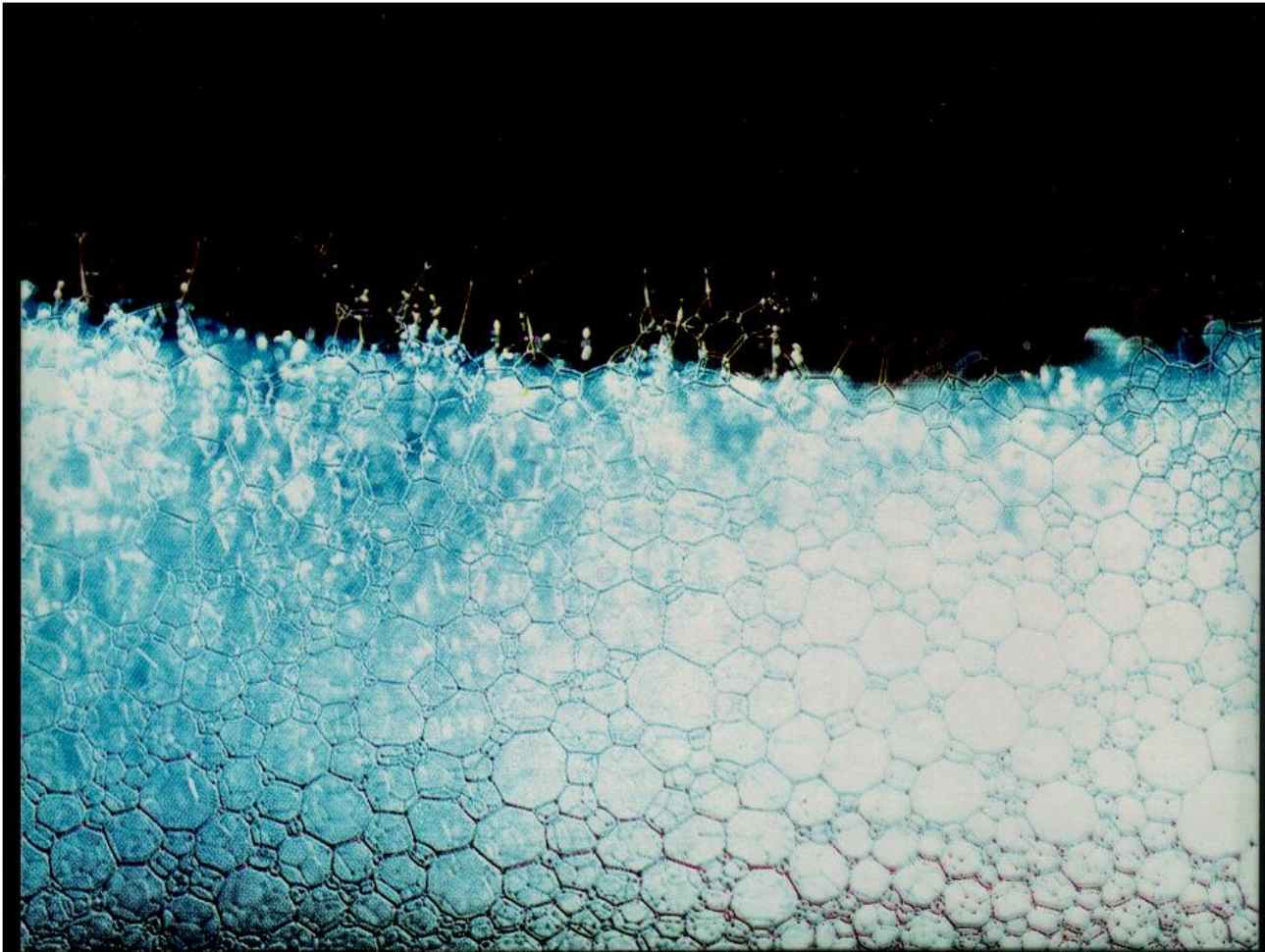
Mode of Action

Technical Service – Plastic Industries



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Stabilized Foam



Gas Bubbles in Pure Liquids

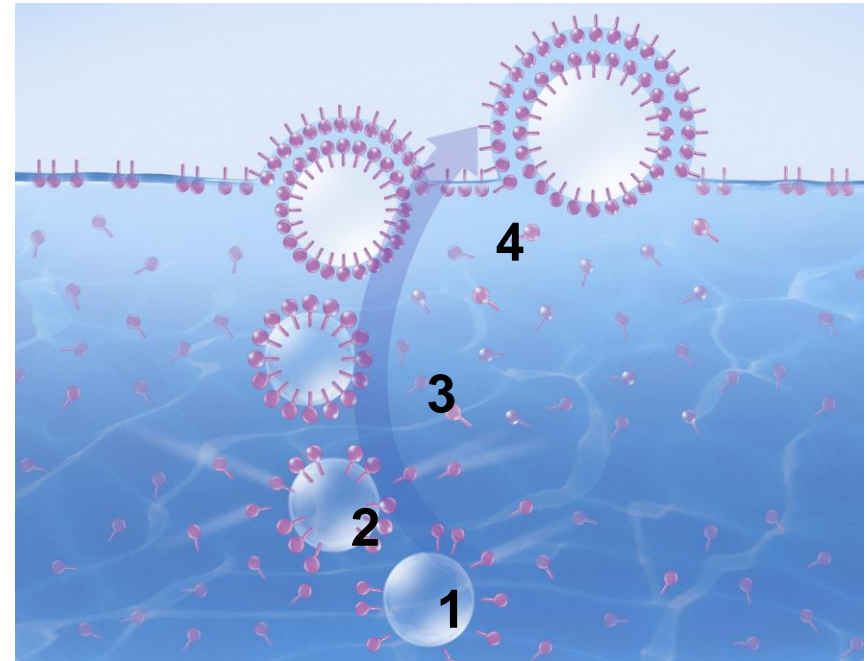
When the bubble reaches the surface it bursts immediately

No stable foam can be build

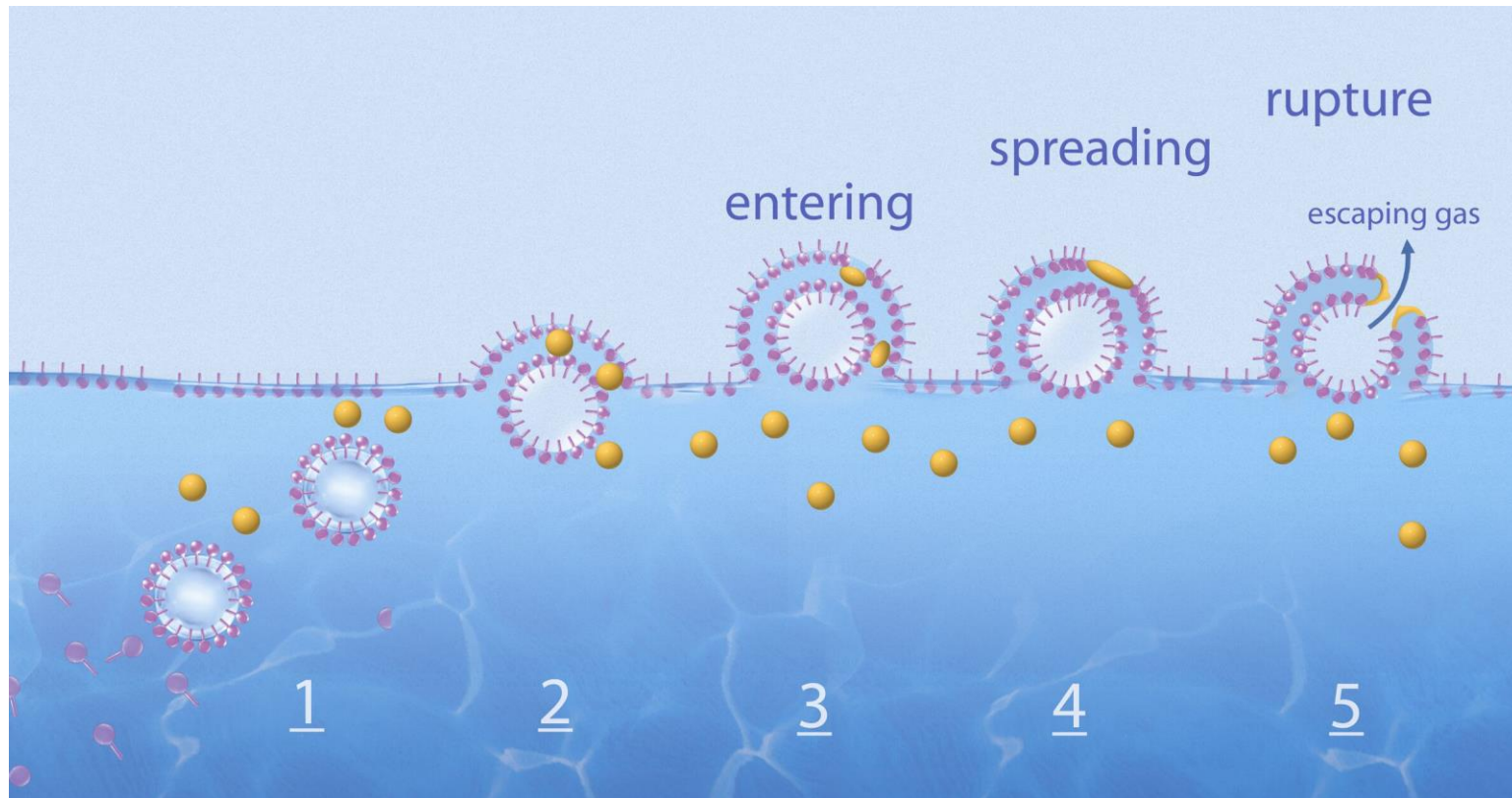


Foam Formation

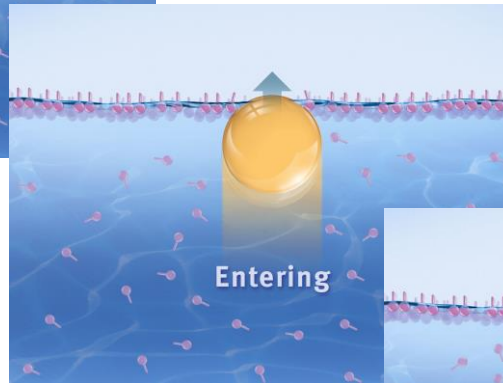
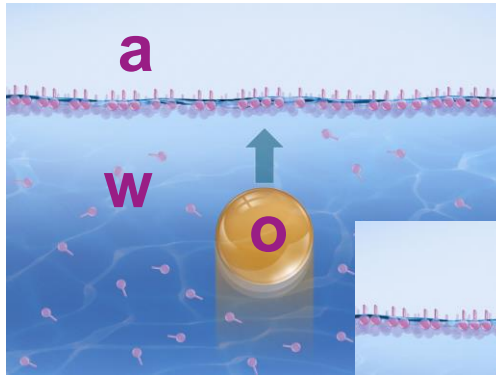
- ④ **Penetration of the surface formation of the double layer**
- ③ **Rising of stabilised bubbles**
- ② **Stabilisation by dissolved amphiphilic molecules**
- ① **Introduction and dispersion of gas or air - formation of bubbles**



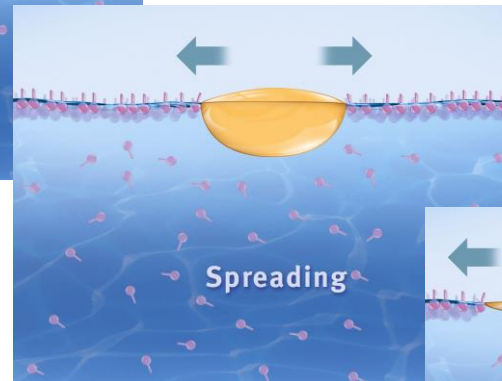
Defoaming: Mechanism Theory



Defoaming: Entering-Spreading

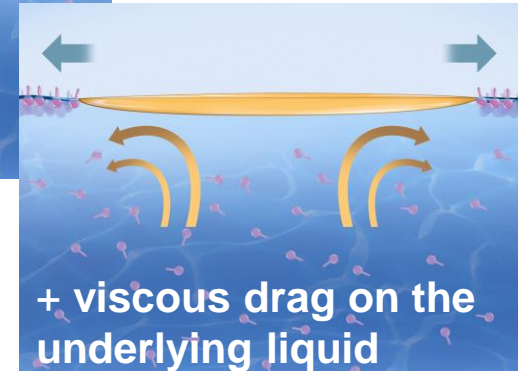


Entering - E
 $E = \gamma_{w/a} + \gamma_{w/o} - \gamma_{o/a} > 0$

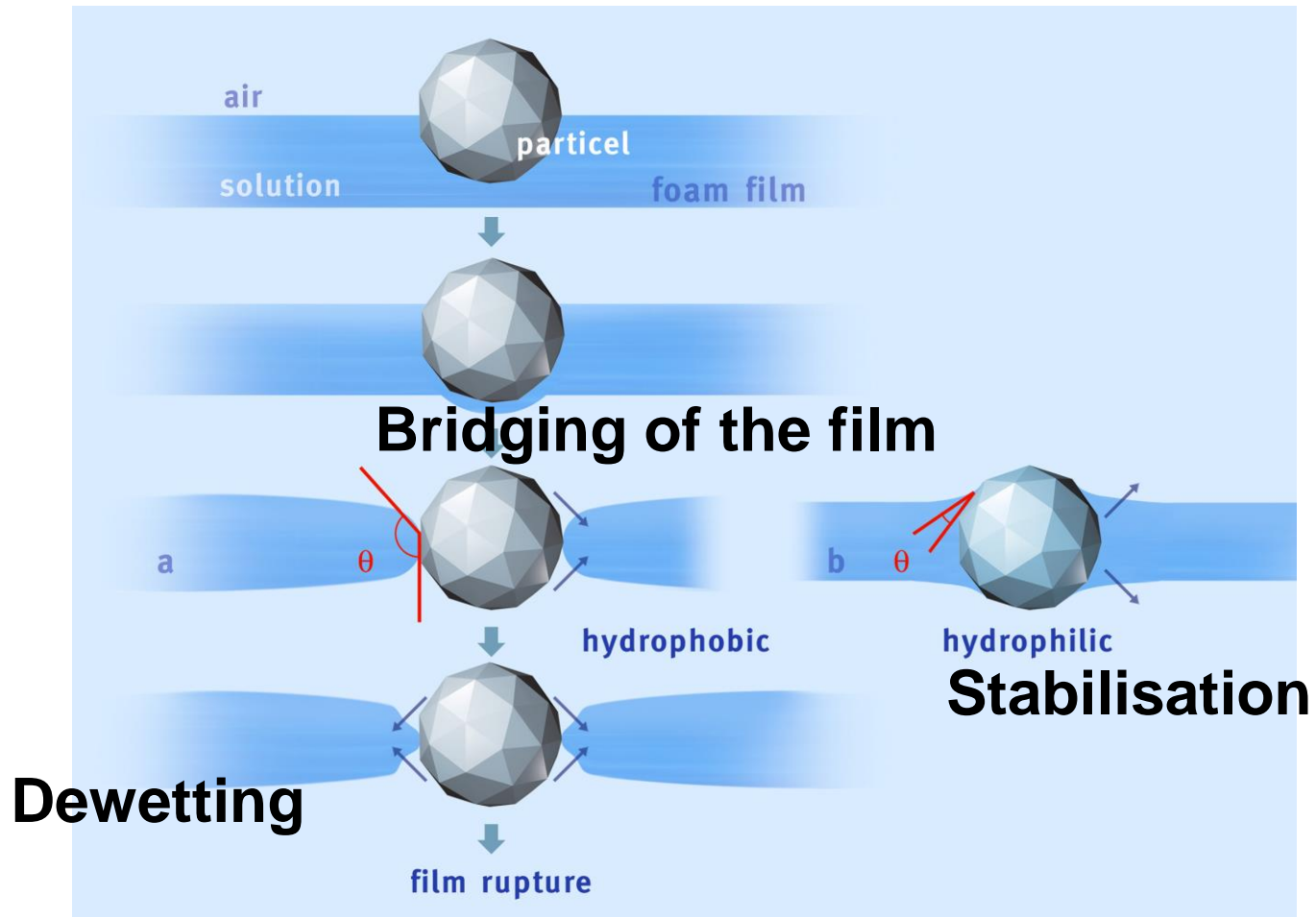


Spreading - S
 $S = \gamma_{w/a} - \gamma_{w/o} - \gamma_{o/a} > 0$

Destabilisation



Defoaming: Dewetting



- Antifoam must be insoluble in the foaming medium
- The antifoam droplet must have an entering effect (low surface tension)
- Hydrophobic particles support the "dewetting mechanism" and improve the defoaming



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