

Stability Problems & Method to

Overcome

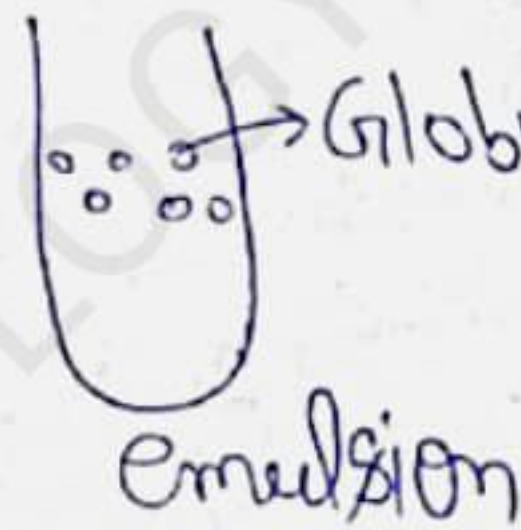
[DEPTH OF BIOLOGY]

① Flocculation $\Rightarrow$

Cause

— Decrease in repulsive force results in aggregation of globule.
Due to Inadequate quantity of emulsifying agent.

[DEPTH OF BIOLOGY]



Join together to form large or flocules.

Remedy $\Rightarrow$

A High energy barrier exist in the presence of High charged density on dispersed phase.

Use the conc. of or Emulsifier or adding Higher H.L. Emulsifier.

② Creaming $\Rightarrow$

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Surface $\uparrow$ $\downarrow$ Bottom

formation of Dense Layer of Globule.

Cause $\Rightarrow$

① Rate of Creaming $\propto$ radius of Globule.
② Diff. b/w Dispersed phase & Dispersion medium $\uparrow$ then Creaming also $\uparrow$ &c.

③ Rate of Creaming $\propto \frac{1}{\text{Viscosity of Dispersion med.}}$

④ Storage Condition $\Rightarrow$ Store in cool place.
Bcz. If Temp. $\uparrow$ then Viscosity $\downarrow$.

Remedy $\Rightarrow$

① Use Viscosity Enhancer

② Diff b/w Dispersed phase & Dispersion med. $\downarrow$.

③ Store in cool place at low Temp.

④ Reduce Globule size.

③ Cracking $\Rightarrow$ Means Separation b/w 2 Layers Dispersed Phase & Dispersion Medium.

Due to Integration of dispersed Phase Globule which are diff. to redispersed by shaking.

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Cause

Remedies.

① By addition of opposite type of emulsifying agent.

② By decompos. or pptn of emulsifying agent

$\downarrow$
Leads to cracking of emulsion.

③ By Microorg.

④ By Creaming $\Rightarrow$ Phase Inversion

[Change one type of emulsion into other type].

Means o/w $\rightarrow$ w/o emulsion.

Causes

① By Temp. Change.

② By changing emulsifying agent.

Remedy $\Rightarrow$

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① Manage Temp.

② Phase Inversion can be minimized by keeping the conc. of dispersed phase b/wn. 30-60%

Storage of Emulsion

- Meant for Int. Use = Should be packed in wide mouth bottle.
- Stored in airtight container, Protect from Light.
- Store in Cool Place.