

## EKÖLITE PGPR 90 FOR PAN RELEASE AGENTS

Tin Grease emulsion used for spreading in bread and cake tin. It is a combination of vegetable oil, emulsifier and water formulated specially, which makes bread load/cake can be released easily and minimises the carbon deposit.

Tin Grease is classified under non-food applications and is regulated under other legislations as the needed dosage of PGPR is higher. For tin grease formulations Ekölite PGPR 90 is the most suitable emulsifier as it:

- Forms very stable emulsions even when water content is as high as 60%,
- Helps retain stable W/O emulsion at high temperatures
- Gives low viscous type emulsions although used at high level (1.5 – 3.0%)

### REFERENCE FORMULATION

Ingredients	Dosage (%)
Packer Olein (IV 56 - 57.5)	40.80
Water	55.00
<b>Ekölite PGPR 90</b>	<b>4.00</b>
<b>Ekömul MG 95 HP</b>	<b>0.20</b>
TOTAL	100.0

### PROCEDURE

1. Weigh emulsifier and oil separately
2. Heat the oil to 55 - 60°C and maintain temperature for 15 minutes with intermittent stirring
3. Melt 1 part of emulsifier to 5 part of the heated oil at 55 - 60°C, or 5 - 10°C above the emulsifier melting point
4. Add the emulsifier and oil into the remaining oil sample
5. Weigh water phase ingredients into a separate beaker, and warm it to 50°C
6. Mix the oil phase ingredients at 3,500 rpm using a high shear mixer  
*Note: Mixing speed needs to be adjusted based on equipment set up to avoid bubble incorporation*
7. Add water gradually using plastic pipette, with mixing continues at 3,500 rpm
8. Once addition of water phase ingredients is completed, continue to mix for 30 minutes
9. Transfer into desired container for storage and use

Emulsifier &  
Recommended Dosage

**Ekölite PGPR 90**  
2 – 4%

**Ekömul MG 95 HP**  
0.2 – 0.5%

**Functionality**

Impart emulsion  
stability