

ACRYPOL 941
(Carbomer 941)

INCI Name: Carbomer

CAS No: 9003-01-4

US DMF Registration: 20139, 9th January, 2007

Description:

Acrypol 941 is a synthetic high molecular weight cross linked polyacrylate polymer. It gives permanent emulsions and suspensions at low viscosity, even with ionic systems. It is more efficient at low concentration compare to other grades.

The gel prepared by Acrypol 941 has excellent clarity. It is used in cosmetic industries for emulsion stabilization. It is used in solid dosage form as a binder and in sustained – release formulations in pharmaceuticals industries. It confirms USP/ NF specifications.

Typical Applications:

- Gives permanent emulsion & suspension at low viscosities.
- In ionic systems performance is better. More effective in hydrogen bonding mechanisms.
- Emulsion stabilizer.
- Rheology modifier for topical lotions creams and gels.
- Development of low viscosity sparkling clear gels and emulsion
- Stabilization of topical lotions.
- Moderately ionic systems.
- Hydro-alcoholic gel.
- Clear gel

Typical Physical Properties:

Parameter	Typical Properties
Appearance	White, fine, fluffy powder
Odor	Mildly acidic
Brookfield Viscosity (25°C, 0.5% aqueous gel neutralized)	4,000 -11,000 mPa.s.
pH 1 wt% dispersion	2.5 -3.0
pKa	6.0 ± 0.5
Carboxylic acid content	Between 56.0 % to 68.0%
Temperature Stability	Upto 75°C
Residual Solvent (Benzene)	≤ 0.5%

Advantages:

- High viscosity at low concentration.
- There is no significant effect of temperature on viscosity performance.

- Carbomer gives uniform viscosity performance.
- Excellent shelf life.
- Years of successful use of Carbomer.
- Resists bacterial attack and do not supports mould growth.
- Although primarily used in aqueous system with neutralization, it can also be used in solvent systems, with or without neutralization.
- Smooth and luxurious feeling.

Regulatory Status:

United States (USP/NF)

Carbomer 941

Europe (Ph. Eur.)

Not covered by the Carbomers Monograph Polymer in the European Pharmacopeia which includes a stipulation that benzene is limited to 2 ppm.

Japan (JPE)

Carboxyvinyl Polymer

Neutralizers:

Acrypol polymers are dry, highly coiled acidic molecules. After dispersion in water, it begins to hydrate and partially uncoil. Maximum thickening can be achieved by converting the acidic Acrypol polymer to neutral pH.

Neutral pH is easily achieved by neutralizing the Acrypol range with recommended neutralizers to adjust the pH of Acrypol range solution are:

- Sodium hydroxide (NaOH),
- Potassium hydroxide (KOH),
- Triethanolamine (TEA),
- Ammonia (28%) & other alkalies.

Toxicity:

Acrypol range is high molecular weight polymer. It does not absorbed by body tissues and is totally safe for human oral consumption.

Test for toxicological tolerance shows that it does not have any pronounced, physiological action and is non-toxic.

Storage and handling:

Store in a tightly closed container and away from direct contact with water and excessive humidity condition.

Shelf life:

Three years from the date of manufacturing in intact condition.

Packing:

20 kg net in corrugated box with polyethylene liner.