

## BULLETIN VC-940-1 (supersedes VC-940)

**aqualon™ EC-N200 PC ethylcellulose***oil-soluble thickener and film former***formulator benefits**

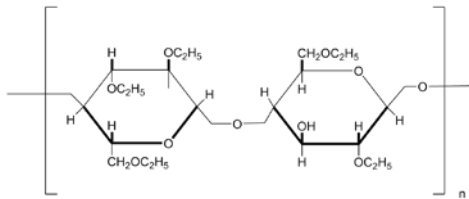
film former and thickener  
 can obtain clear oil gels

**formulation benefits**

multi-functional  
 add to the allure of makeup formulas with brightness and a subtle, satin shine  
 may be suitable for use in vegan and vegetarian formulas

**applications**

skin care

**product forms** emulsion, gel cream, gel, mousse, solution, spray, mask, wipe, solids/sticks, powder, oils**chemistry**

non-ionic ethyl ether of cellulose for personal care

INCI name: Ethylcellulose

does not contain preservatives

**typical properties**

appearance.....powder

solubility.....some polar esters, solvents and alcohol

color.....colorless

additional properties that are important for formulators.....solubility and thickening is formula dependent

## formulation guidelines

<b>recommended use levels</b>	1-10%
<b>temperature/mixing conditions</b>	heat (75° - 85°C) is required for solubilization in compatible solvents mix well until smooth
<b>when to add</b>	add to oil phase with heat premix in compatible solvent at high temperature (75° - 85°C)
<b>tips from our technical solvers</b>	soluble in alcohol at room temperature soluble in some materials at high temperature (75° - 85°C) no neutralization required disperse into compatible solvent at room temperature then add heat, mix until uniform and cool slowly suitable for anhydrous formulations list of compatible solvents available on page 3

## safety, handling, and storage

Additional information concerning safety, handling and storage is supplied in the safety data sheet, which can be made available upon request. Such information includes:

- o classification and labelling per regulation for transport and for dangerous substances
- o protective measures for storage and handling

A toxicology summary can also be made available, on a confidential basis, by contacting Ashland's toxicology department.

## regulatory

CAS No. 9004-57-3

INCI name ETHYLCELLULOSE is listed on the China IECIC-CFDA-2015.

other regulatory information available on request.

**known solvents<sup>1,2</sup>**

INCI	Average dissolution time	Clarity	Viscosity profile* (5% solution)
Esters & Glycerides			
Diisopropyl Adipate (Ceraphyl™ 230 ester)	20-40 min	clear	medium
Phenethyl Benzoate (X-Tend™ 226 ester)		clear	low
Cetyl Lactate (Ceraphyl™ 28 ester)	40-75 min	opaque at RT (wax)	medium
Lauryl Lactate (Ceraphyl™ 31 ester)		clear	low
C12-15 Alkyl Lactate (Ceraphyl™ 41 ester)		clear	low
Diethylhexyl Malate (Ceraphyl™ 45 ester)		clear	low
Myristyl Lactate (and) Myristyl Alcohol (Ceraphyl™ 50 ester)		clear	low
Cyclohexyl Toluate	more than 75 min	clear	high
Triethyl Citrate		hazy	low
Isoamyl Cocoate		hazy	
Dicaprylyl Carbonate		poor solubility	
Coco caprylate/ Caprate		very hazy	
C12-15 Alkyl Benzoate		hazy	very high
Isodecyl Neopentanoate (Ceraphyl™ SLK ester)		poor solubility	
Glyceryl Dilaurate (Emulsynt™ GDL ester)		opaque at RT (wax)	
Alcohols			
Ethanol	20-40 min	slightly hazy	very low
Isocetyl Alcohol (Ceraphyl™ ICA ester)	40-75 min	clear	high
Hexyldecanol		clear	high
Octyldodecanol		clear	high
Isostearyl Alcohol		clear	high
UV filters			
Ethylhexyl Salicylate (Escalol™ 587 UV filter)	40-75 min	clear	high
Ethylhexyl Methoxycinnamate (Escalol™ 557 UV filter)	More than 75 min	clear	very high
Homosalate (Escalol™ HMS UV filter)		clear	very high

\*Viscosity profile key (values are in cP): **low**= below 6000, **medium**= 6000- 30,000, **high**= 30,000-100,000, **very high**= above 100,000

<sup>1</sup> 1% Aqualon™ EC N200 added under strong agitation, heated to 75-80 °C, and mixed under strong agitation until dissolved.

<sup>2</sup> this is not meant to be an exhaustive list of potential solvents.