



# TECHNICAL DATA SHEET



## DewEco CSD-C3

### Description

CJ's DewEco™ CSD-C3 is made of highly purified Lysine and organic acid produced by fermentation, and chitosan of natural origin. CSD-C3 is environmentally friendly and nontoxic. DewEco™ CSD-C3 can be used for a wide range of applications and has an adhesive function. Labels finished using CSD-C3 can be easily removed by normal washing methods.

### Features

- ✓ bio-based and biodegradable material
- ✓ bio-based label certification mark
- ✓ wide range of applications
- ✓ Fast and easy wash-off

### Appearance

Brown Color Liquid

### Specification

Item	Unit	Typical value	Evaluation method
Color	-	Light orange ~ brown	
Dry Matter (Total Solid),	%	45 ~ 47	ASTM D2216
Moisture,	%	53 ~ 55	ASTM D2216
Specific Gravity(25°C)	-	1.15 ~ 1.25	ASTM D792
pH		2.0 ~ 3.0	EPA method 9041A
Viscosity	mPa.s	35,000~55,000	ASTM D2196
Bio Carbon Content	%	100	ASTM D 6866-16B

### Packaging

1 MT IBC Tank  
200 kg Open Drum  
Tank Lorry

### Shelf life

18 months from manufacture date under normal temperature and atmospheric pressure condition(1~30°C, 20~60%RH). (RH- stands for "Relative Humidity")

### Storage

Store in dry conditions and fresh place in a sealed  
Keep away from direct sunlight  
Do not store continuously for more than 1 months at over 30°C and 1weeks at over 60°C  
Keep the remaining product well sealed and kept out of the reach of livestock and children  
After opening the product is not guaranteed, because discoloration or deposits may occur.

CJ Cheiljedang Center, 330, Dongho-ro, Jung-gu, Seoul 04560, Korea | [www.cjbio.net](http://www.cjbio.net)

This information and recommendations contained herein are comply to our best knowledge. Nothing herein is to be construed as to the warranty, accuracy, currency or completeness of this information. The content of this document is subject to change without previous notice.

Revision date: 8/2019



# TECHNICAL DATA SHEET

## DEWECO\_ ADHESIVE

### Description

CJ's DewEco™ Adhesive is an environment-friendly bio-based material, composed entirely of fermentation-based natural ingredients – amino acid and organic acid. DewEco™ Adhesive, when mixed with water-based acrylic pressure sensitive adhesive, can be applied to sticker type label for use in packaging industry.

### Recommended Application

DewEco™ Adhesive is a bio-based material that is best compatible with water-based acrylic emulsion type adhesive. DewEco™ Adhesive has a good coating property and can be applied by roll coating method (Roll-to-Roll; R2R).

### Features

- Ease of Use – Simple Mixing
- 100% natural material and contains No VOCs
- Demonstrate strong adhesiveness to various types of substrates (PP, Glass)
- Applicable to most types of label materials (PE, PP, PET Film, Coated Paper, Vellum Paper)
- Can acquire bio-based label certification mark
- High sensitivity to strongly alkaline material and to organic solvent

### Physical Properties

Dry Matter (Total Solid)	%	55-60	ASTM D2216
Moisture	%	45-40	ASTM D2216
Color	-	Light orange	-
pH		2.0-2.4	EPA Method 9041A
Viscosity	mPa.s	500-5000	ASTM D2196

### Packaging

1 MT IBC Tank  
100 kg Open Drum  
20 kg Open Drum

### Shelf Life

Six months when stored at a temperature range of 0~30°C and humidity range of 20~60% RH in a cool, dry location in original unopened containers.  
(RH - stands for "Relative Humidity")

### Storage Condition

DewEco™ Adhesive should be stored in a dry location in original unopened containers and should be kept away from direct sunlight.

Once containers are opened, the material is no longer guaranteed and for further use should be kept free from moisture, dust, and high & low temperatures.

Do not store for more than 1 month at over 40°C and for more than 2 weeks at over 60°C.

CJ Cheiljedang Center, 330, Dongho-ro, Jung-gu, Seoul 04560, Korea | [www.cjbio.net](http://www.cjbio.net)

This information and recommendations contained herein are comply to our best knowledge. Nothing herein is to be construed as to the warranty, accuracy, currency or completeness of this information. The content of this document is subject to change without previous notice.

Revision date: 8/2019



# TECHNICAL DATA SHEET

## Mixing Guideline

- When mixed with water-based acrylic emulsion type pressure sensitive adhesive (psa),
  1. Measure the total solid content of water-based acrylic emulsion type adhesive (70~75%), and stir it at a low-speed.
  2. Measure the total solid content of DewEco™ Adhesive (25~30%), and slowly pour it into the mixing vessel where water-based acrylic adhesive is being mixed.
  3. Using overhead mixer, stir them at a speed of 100~300 rpm for about an hour.

Note : Water-based acrylic emulsion adhesive refers to an adhesive that consists mainly of two or more type of acrylate polymer with an addition of small amount of initiator, emulsifier, pH regulator, and defoamer. This very type of adhesive is characterized by total solid content of 50% or more, pH range of 4~9 and viscosity of less than 2,500mPa-s. The physical properties may vary depending on the type and amount of additives in the acrylic adhesive.

In addition, the viscosity of the final product may spike up, thereby losing its adhesiveness, when mixed at a high-speed or at a low-speed for more than an hour.

## Adhesive Property :

### 1. Water-based Acrylic Pressure Sensitive Adhesive(PSA) :

	Total Solid (wt%)	pH	Viscosity (mPa-s)	Adhesiveness (gf/in) Facestock: PP film	Adhesiveness (gf/in) Facestock: PET film
Model A	65	6.68	> 1400	> 500	> 600
Model B	60	7.16	> 600	> 600	> 700
Model C	60	7.90	> 1300	> 500	> 600
Model D	55	7.21	> 1600	> 500	> 600

### 2. Mixed Product :

- Water-based Acrylic PSA & DewEco™ Adhesive mixed at "Mix Ratio of 70 : 30 (wt%)"

	Total Solid (wt%)	pH	Viscosity (mPa-s)	Adhesiveness (gf/in) Facestock: PP film	Adhesiveness (gf/in) Facestock: PET film
Model A + DewEco™ Adhesive	65	6.68	> 1400	> 500	> 600
Model B + DewEco™ Adhesive	60	7.16	> 600	> 600	> 700
Model C + DewEco™ Adhesive	60	7.90	> 1300	> 500	> 600
Model D + DewEco™ Adhesive	55	7.21	> 1600	> 500	> 600

Note : Above data has been acquired by conducting an experiment using DewEco™ Adhesive with the following property

(Total Solid 60%; pH 2.0~2.3; Viscosity > 3,000mPa-s). As DewEco™ Adhesive is composed of monomers, compatibility problems may arise when mixed with polymer-based adhesives.

## Additional Information

As DewEco™ Adhesive is a bio-based material, it is highly sensitive to the surrounding environment compared to conventional chemical products. After mixing, the product should be used immediately and make sure that the product is stored at a recommended temperature and RH condition.