



OPTOOL™ DAC-HP

OPTOOL™ DAC-HP is an antifouling agent that develops an antifouling function on the surface, which DAIKIN has developed based on our original technology raised in fluorine chemistry. Simply by applying to acrylic hard-coating agents of the UV curing type, it has an antifouling effect, especially preventing fingerprinting on processed surfaces.

1. Characteristics

The surfaces of hard-coats, where OPTOOL DAC-HP is added to hard-coating agents and UV curing occurs, have the following characteristics:

- It helps avoid fingerprinting, and is easy to wipe off.
- It can repel water and oil property.
- It turns to low friction surfaces.

2. Example of surface characteristics

Here are examples of hard-coat surface characteristics, which were hardened by adding OPTOOL DAC-HP.

Table I Example of hard-coat surface characteristics to which OPTOOL DAC-HP was added.

Items to be measured		Unit	DAC-HP added	DAC-HP not added
Contact angle of water		°	107	66
Contact angle of n-hexadecane		°	60	>10
Sliding angle of n-hexadecane		°	11	None
Magic ink to be repelled ¹⁾	Initial		Good	Poor
	After ethanol rubbing ⁴⁾		Good	Poor
Magic ink to be wiped ²⁾	Initial		Good	Poor
	After ethanol rubbing ⁴⁾		Good	Poor
Resistance to fingerprinting ³⁾	Adhesion		Not easily adhered	Adhere
	(Sensory evaluation)			
	Wiping property (Sensory evaluation)		Good	Poor

*The above numeric values are representative and not guaranteed.

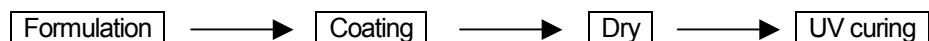
Note 1) Oil-based Macky, black ink by Zebra was used.

2) After magic ink was applied, it was left for 5 minutes and wiped with Kimwipe.

3) Evaluated with human fingerprints. (For wiping, Kimwipe of Nippon Paper Industries Co., Ltd, Cresia.)

4) Ethanol was used as a rubbing agent. 50 round-trip rubbings (49 kPa) were conducted. **3.**

Processing method (Example)



Usage

It is used by adding to an UV curing acrylic hard-coat agent.

Recommended amount to add

Active ingredients between 0.5 percent and 2.0 percent on hard-coat agent

Method of coating

It can be applied using general methods including spin-coater, dipping, spraying, and brushing

Pre-drying

Pre-drying between 40°C and 120°C, from 2 to 15 minutes is recommended.

- * Conditions of drying and hardening change according to the hard-coat agent used, the film thickness processed and the types of equipment.

[Example of use]

Composition

Raw materials	Composition (mass%)	Remarks
Beamset 575CB	39.2	Polyfunctional acrylate (Manufactured by Arakawa Chemical Industries, Ltd.)
OPTOOL DAC-HP	2.0	Antifouling agent
PGME *	58.8	Dilution agent
Total	100.0	

* Propylene glycol monomethyl ether

Coat polycarbonate plate with Dip-coater



Dry 5 minutes at 65°C



UV curing (Irradiation level: 500mJ/cm²)

4. Handling instructions

Please be sure to refer to the material safety data sheet (MSDS) before use the agent.

- Wear glasses during use, and be careful to avoid contact with eyes. In case it occurs, wash your face with copious running water immediately, and consult your doctor.
- Wear rubber gloves during use. If it comes into contact with skin, wash with soapy water immediately, and rinse sufficiently.
- Avoid inhaling vapors. Work in a well-ventilated place.

5. Forms of products, unit of packaging

It is diluted in agent of fluorine system. (Concentration of effective ingredients: 20%)

Volume of contents: 100g (in glass container)

Appearance: Colorless ~ light yellow clear liquid

Flashing point: 25.5°C measured by a tag closed cup method

- The products described in this material are supplied for use by general industry, not designed and manufactured for medical purposes. Their adequacy and safety for medical use has not been tested, and cannot be assured by our company. With this in mind, for medical use, you must judge the applicability of use for medical purpose yourself based on testing, the views of medical experts, and legal restrictions of the authorities concerned. Also, if you use products for such purposes, we will only provide them if you consent to the conditions and contents of the contracts which we offer.
- The data released in this material represent one example of the actual value, and the example of usage written in this material does not guarantee the results of application of this product for such usage.

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