

# DuPont™ Capstone™ 303 D

## FLUORINATED ACRYLIC COPOLMER

### LEATHER APPLICATIONS

#### Description

DuPont™ Capstone™ 303 D is an acrylic fluorinated emulsion used for finishing of leathers in drums. It is based on six fluorinated carbon molecules that cannot break down to PFOA in the environment.

#### Features

Capstone™ 303 D is also suitable for the formulation of leather care products and provides the following benefits:

- Excellent water repellency
- Excellent oil repellency
- Excellent resistance to watery and oily stains
- Meets the voluntary "EPA 2010/15 PFOA Stewardship Program" targets for PFOA
- Targeted below LOD\* for PFOA

Capstone™ does not affect:

- the shade or suppleness of the skin
- the texture
- the nap of suede when dried

#### Typical Characteristics

Please refer to the product specifications data sheet for guaranteed commercial specifications.

Appearance	Milky white
Type	Anionic
Active solids, %	30
Density at 20°C (68°F)	1.03
pH	4.5–6.5
Flash point (closed cup)	No flash point
Freeze/thaw stability	No stability
Boiling point, °C (°F)	Approx. 100 (212)
Freezing point, °C (°F)	-5 (23) (nonreversible)

\*Below the limit of detection (LOD) based on the published analytical method found in *The Journal of Chromatography A*, 1110 (2006) 117–124.

#### Handling and Storage (see Safety Data Sheet)

Capstone™ 303 D must be stored in original closed drums at temperatures of 5–40°C (41–104°F).

Minimum storage stability under normal conditions: 6 months.

#### Formulating Guidelines

Capstone™ 303 D is particularly useful for making the following items oil- and water-repellent:

- sheepskin and lambskin nappa and suede for gloves and clothes
- calf suede
- suede splits
- double face woolskins
- full grain sides
- vegetable tanned leathers

Treatment with Capstone™ 303 D has to be the last stage of the wet process, in order to achieve the best performances.

It is possible to carry out this treatment in a separate bath. If necessary, Capstone™ 303 D can be added to the dyeing or retanning bath, or even to the fat liquor bath, provided that the acidification after treatment (pH 3–3.5 obtained with formic acid) fixes the Capstone™ 303 D.

Although the temperature may not greatly affect the performance of Capstone™ 303 D, we recommend working at 50°C (122°F), a temperature which allows reproducible results to be obtained.



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## Example of Procedure

One-step treatment mixing DuPont™ Capstone™ 303 D with fat liquors

Suggested procedure for 100 kg of wet skins:

After retanning, dyeing, acidification, and rinsing:

1. Put 100 kg of wet skins in the drum.
2. Add 200 kg of hot water (50°C [122°F]).
3. Rotation: 5 minutes.
4. Prepare in two separate vessels:
  - 3 kg of Foraperle® 303 D diluted with 27 kg of hot water (50°C [122°F]).
  - 6 kg of fat liquor (anionic or nonionic) diluted with 54 kg of hot water (50°C [122°F]).
5. Mix the two solutions, and put the mixture into the drum.
6. Rotation: 60 minutes.
7. Acidify the bath with diluted formic acid (1/10 in water) in order to obtain a pH of 3–3.5.
  - pH must be <3.5 to obtain maximum water and stain resistance.
8. Rotation: 40 minutes.
9. Rinse.
10. Dry at room temperature.

It is possible to improve water resistance by using chromium stearate.

In that case, before rinsing and drying:

1. Add 2.5 kg of chromium stearate.
2. Rotation: 30 minutes.
3. Rinse and dry at room temperature.

## Formulation of Leather Care Products

Creams, polishes for leather (shoes, clothes, furnishing)

In this application, Capstone™ 303 D is generally used at a ratio of 3% in the formulated product.

## DuPont Chemical Solutions Enterprise

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