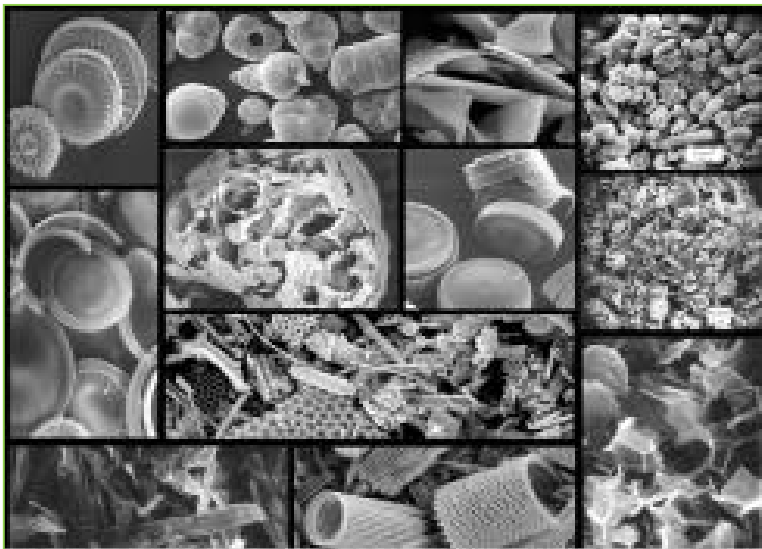


# Diatomite for Cosmetics



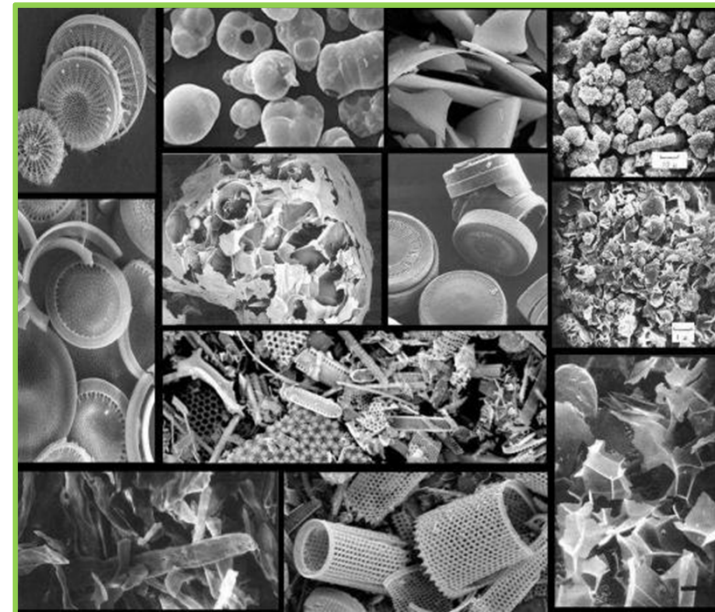
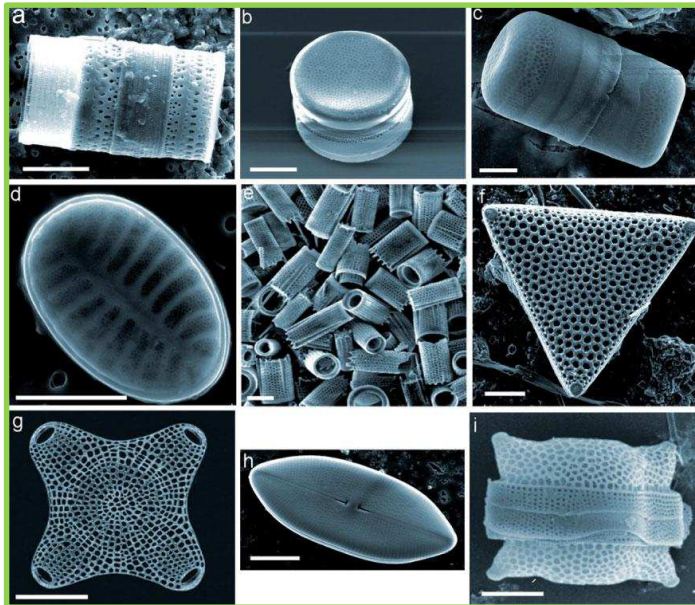
INCI name: Diatomaceous Earth

IMERCARE™  
P A R I S



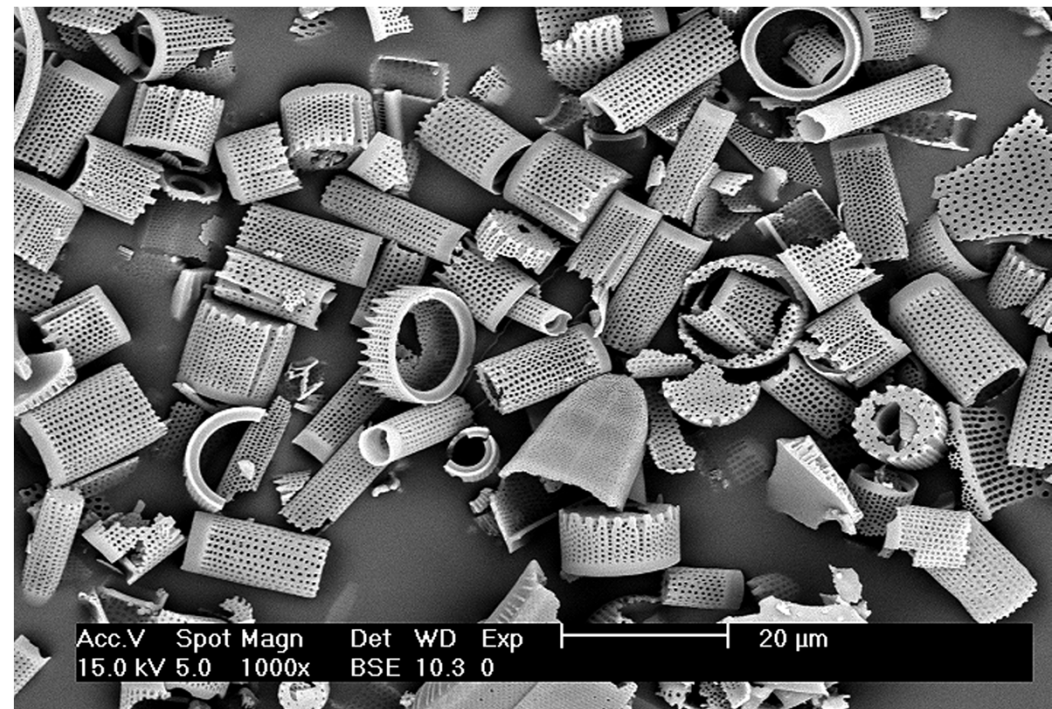
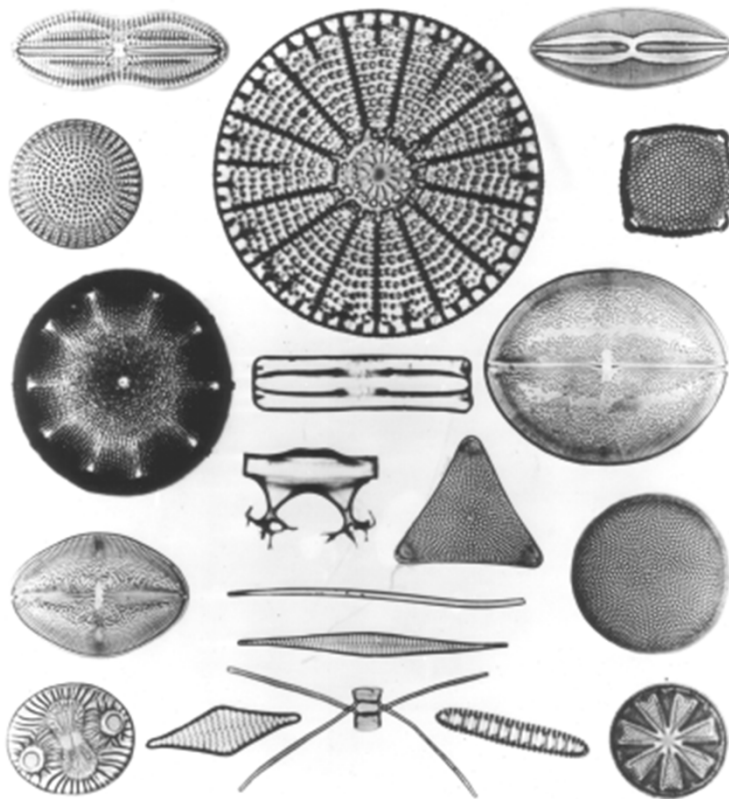
# Diatomite or Diatomaceous Earth

- Diatomaceous Earth (DE) is a mineral consisting of siliceous fragments of various species of fossilized remains of diatoms.
- It is divided into categories based on its source: freshwater or saltwater.
- Freshwater DE is mined from dry lake beds and saltwater DE from dry sea beds.



# Typical diatomaceous earth structure

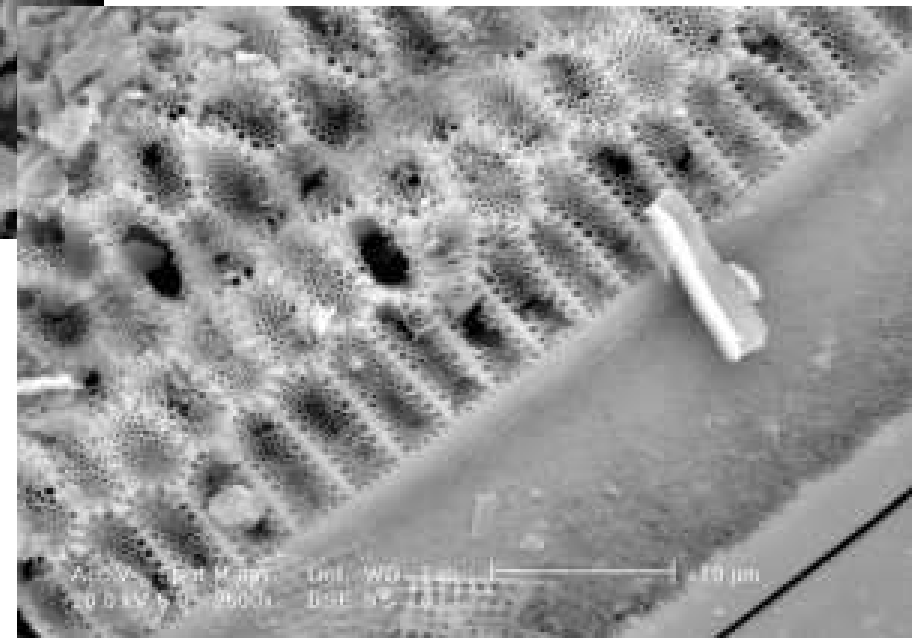
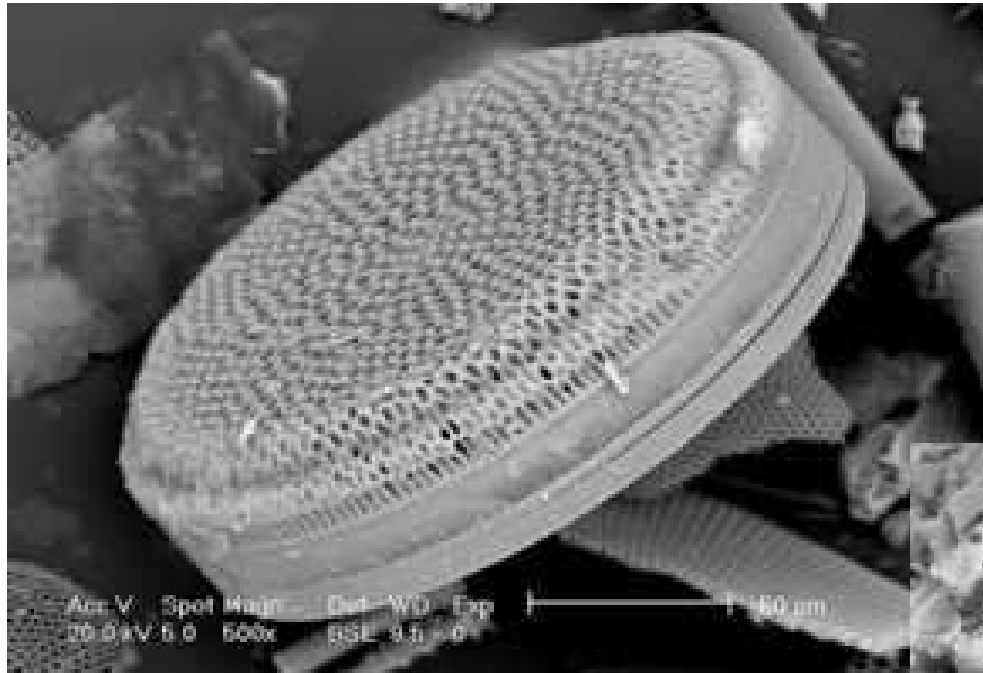
- Various species, all with an intricate silicate structure and high microporosity
- Each deposits have their own specific properties





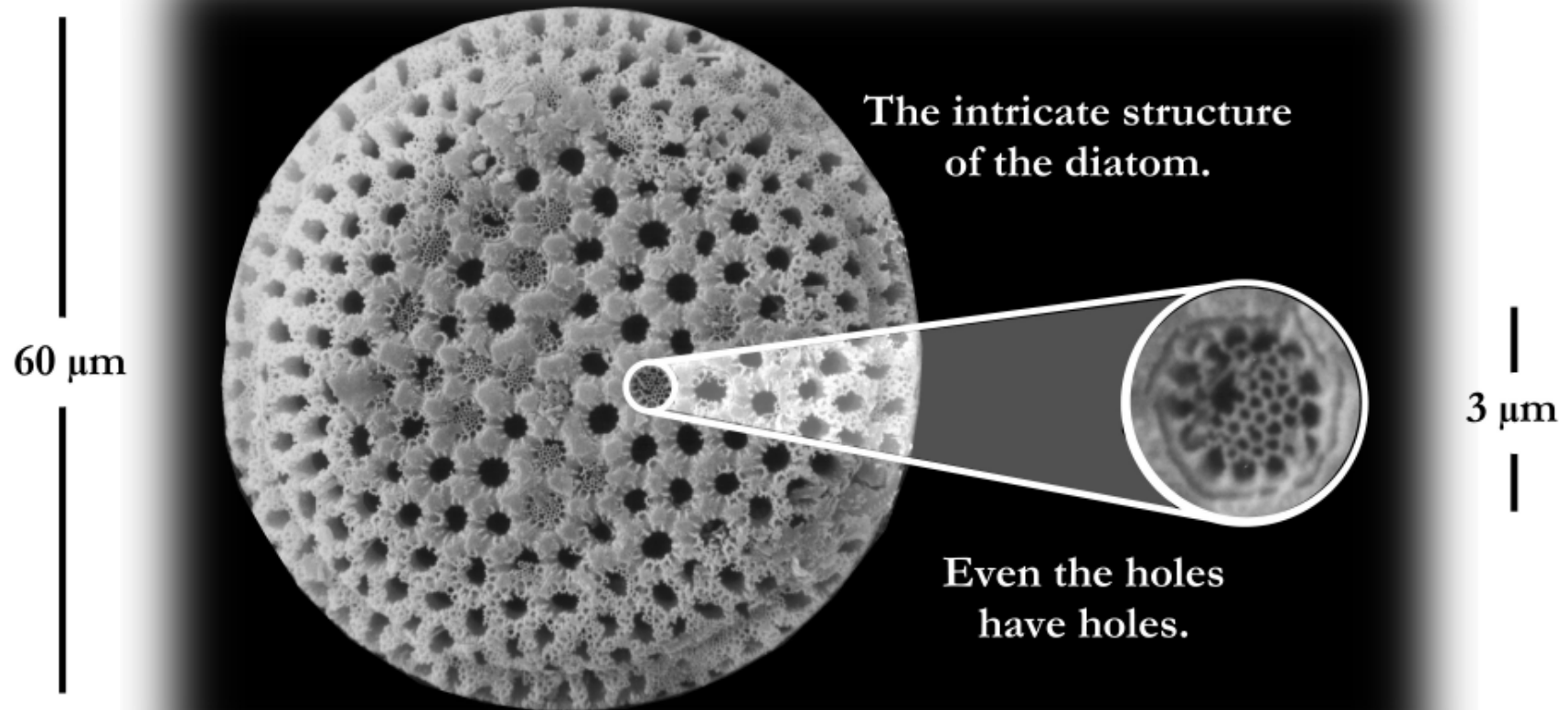
# Typical Diatomaceous Earth Structure

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PARIS

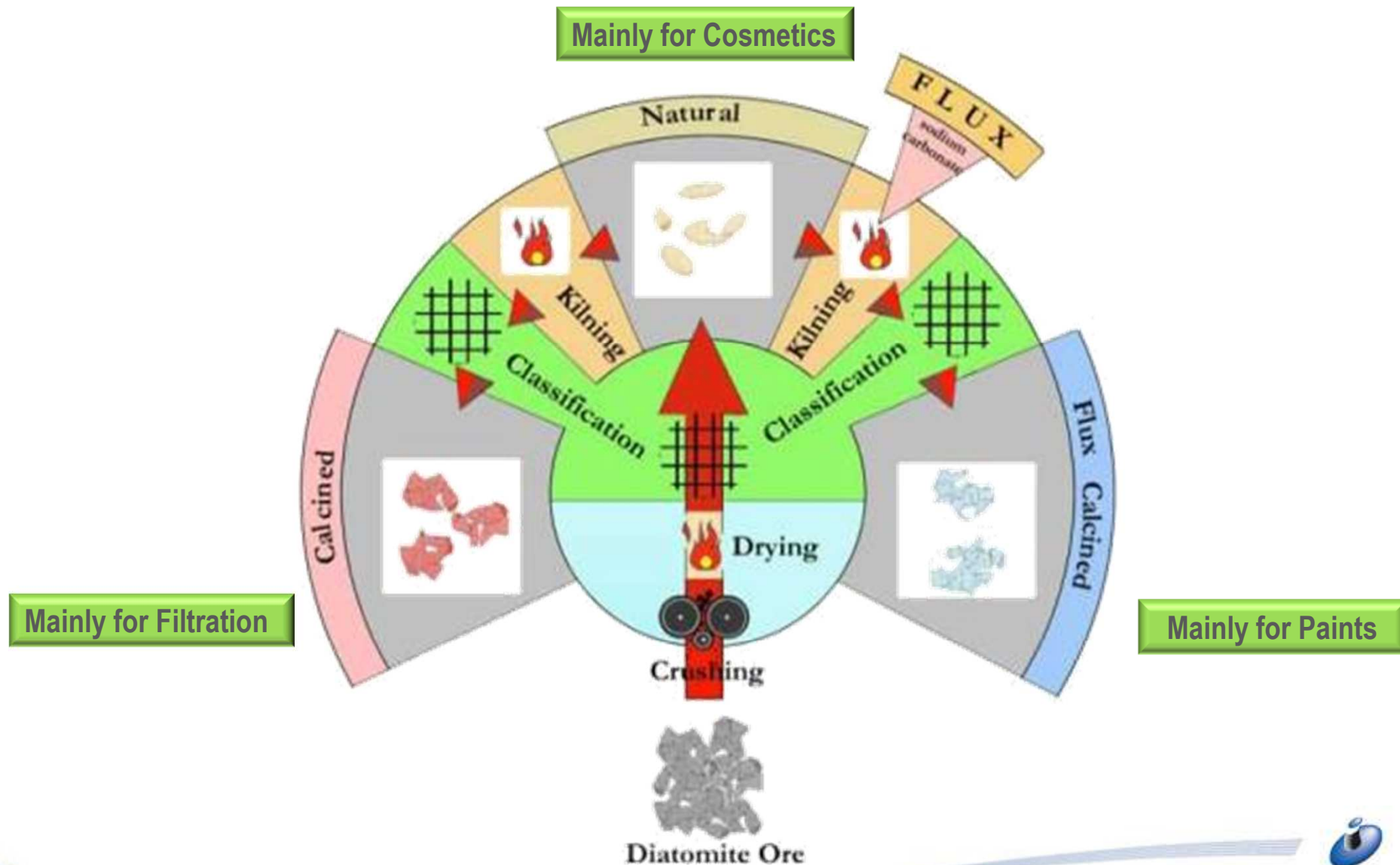


## Typical Diatomaceous Earth Structure

IMERCARE<sup>™</sup>  
PARTS



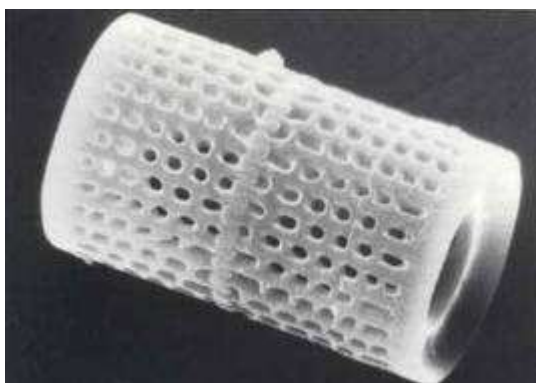
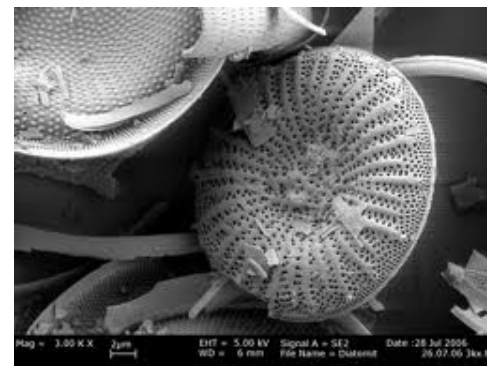
# Processing routes for diatomaceous earth



# Diatomaceous Earth Properties

## ■ Main properties

- High oil and water absorption
- Transparent on skin
- Low density => lightweight
- Gentle abrasive
- Matting effect



## Main applications

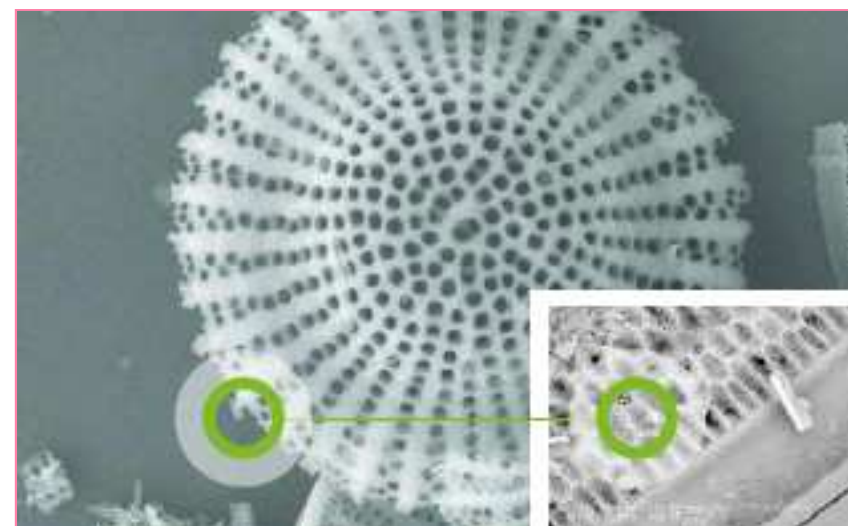
- Gentle scrub, detox effect (face mask)
- Make-up (matting)
- Skin care (matting)
- Toiletries (deodorants)
- Hair care (hair styling, matting)

# Diatomite in Deodorant

## ■ ImerCare<sup>™</sup> 400D

- Unique micro-porous structure conferring unparalleled oil and water absorption

Water and oil absorption of different minerals		
	Oil absorption (ml/100g)	Water absorption (ml/100g)
ImerCare <sup>™</sup> 400D	220	230
Perlite	180-270	170-250
Kaolin	40-50	40-60
Talc	30-50	30-50

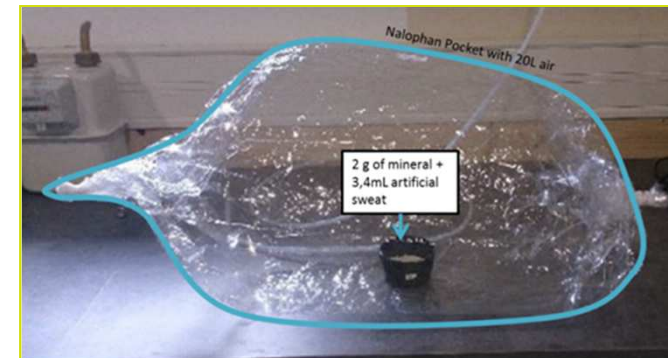




# ImerCare™ 400D : Odor Tests

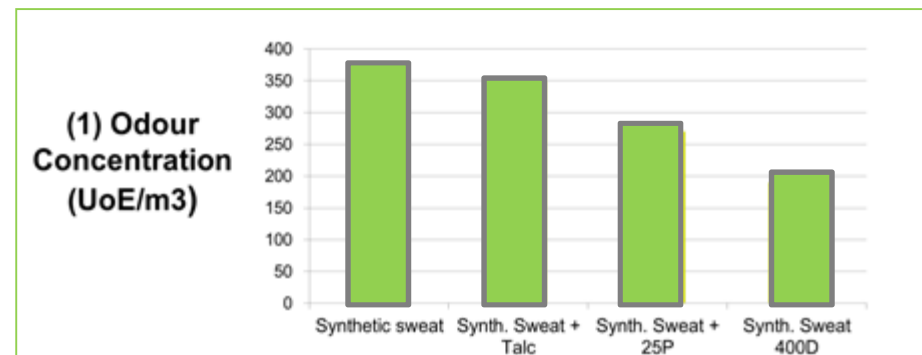
## Test Protocol:

- Comparative testing made by independent institute specialised on odour measurement
- Test consisting in mixing 2 gr of each selected mineral into 3,4mL of synthetic sweat. After a period of time into closed system, odour concentration and odour intensity are measured by experts.



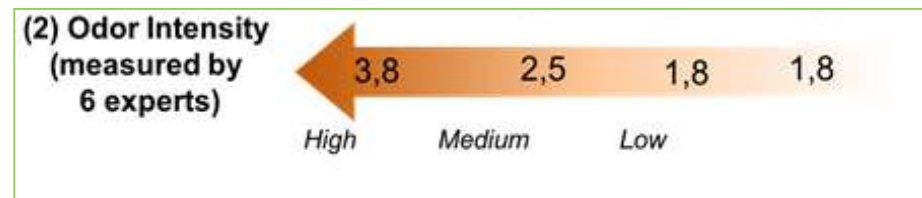
## 1/ Olfactometric analysis:

- Persistence of an odour and its resistance to dilution. The higher the odour concentration value, the more difficult it is to dissipate the smell.
- Expert panel of six people selected according to EN 13725



## 2/ Intensity measurements: standard VDI 3882

- The individuals smell the product samples directly and assess their intensity on a scale of 0-5.
- Expert panel of six people selected according to EN 13725



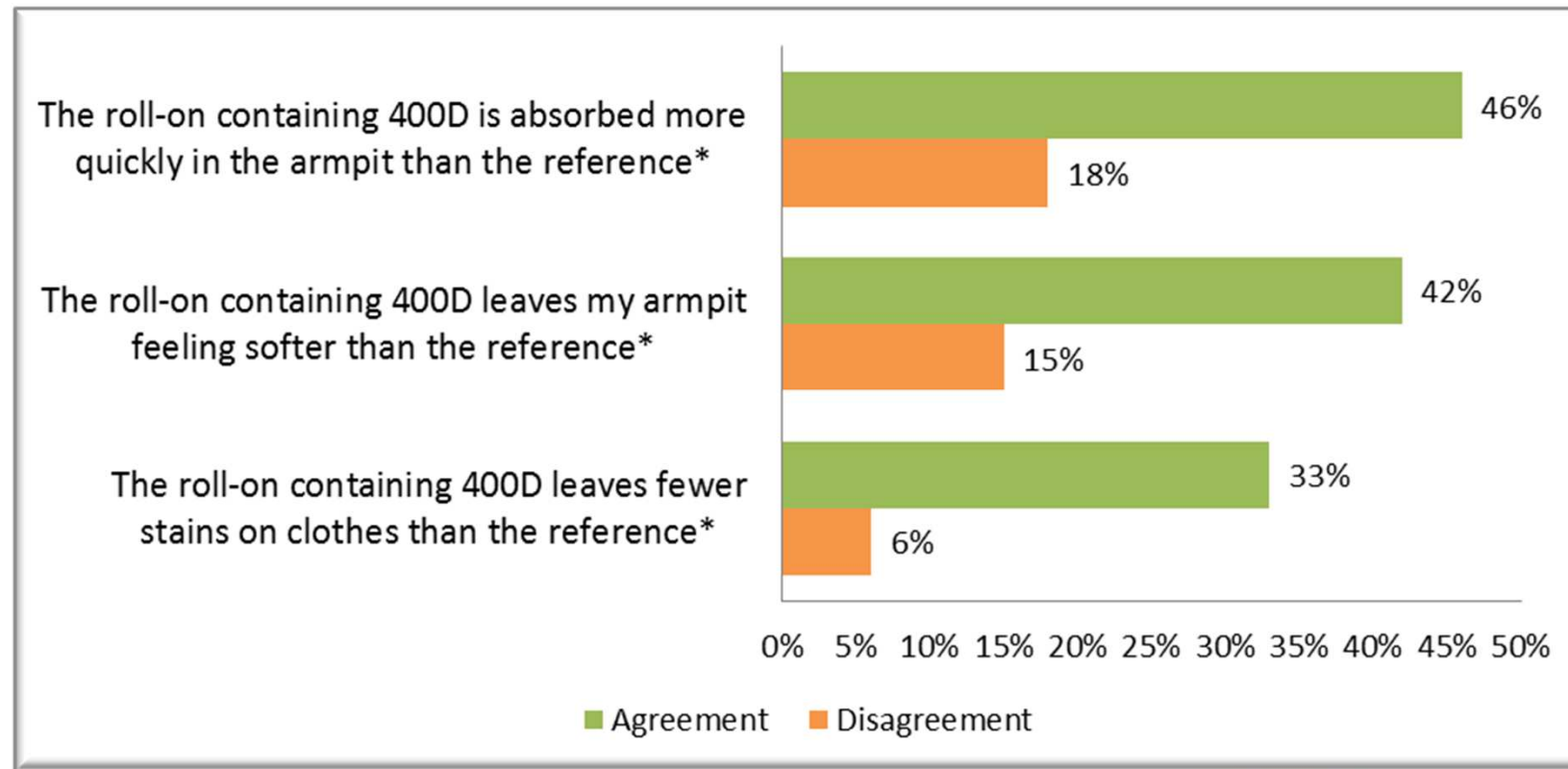
**ImerCare™ 400D offers the best anti-odour benefits among minerals tested**

# ImerCare™ 400D : Panel tests

## Test Protocol:

- Panel tests done by independent institute (proDERM) on 33 persons.
- Test consisting in applying roll on deodorant once a day for a period of 7 days. One roll on with ImerCare 400D at 2% on weight (pdt A) and another roll on without mineral (pdt B).
- The full panel study integrating “no opinion” responses is available upon request.

Reponses to questions comparing the two roll-on formulations:



\*significant results (p-Value<0.05) - test conducted by proDERM on 33 panelists

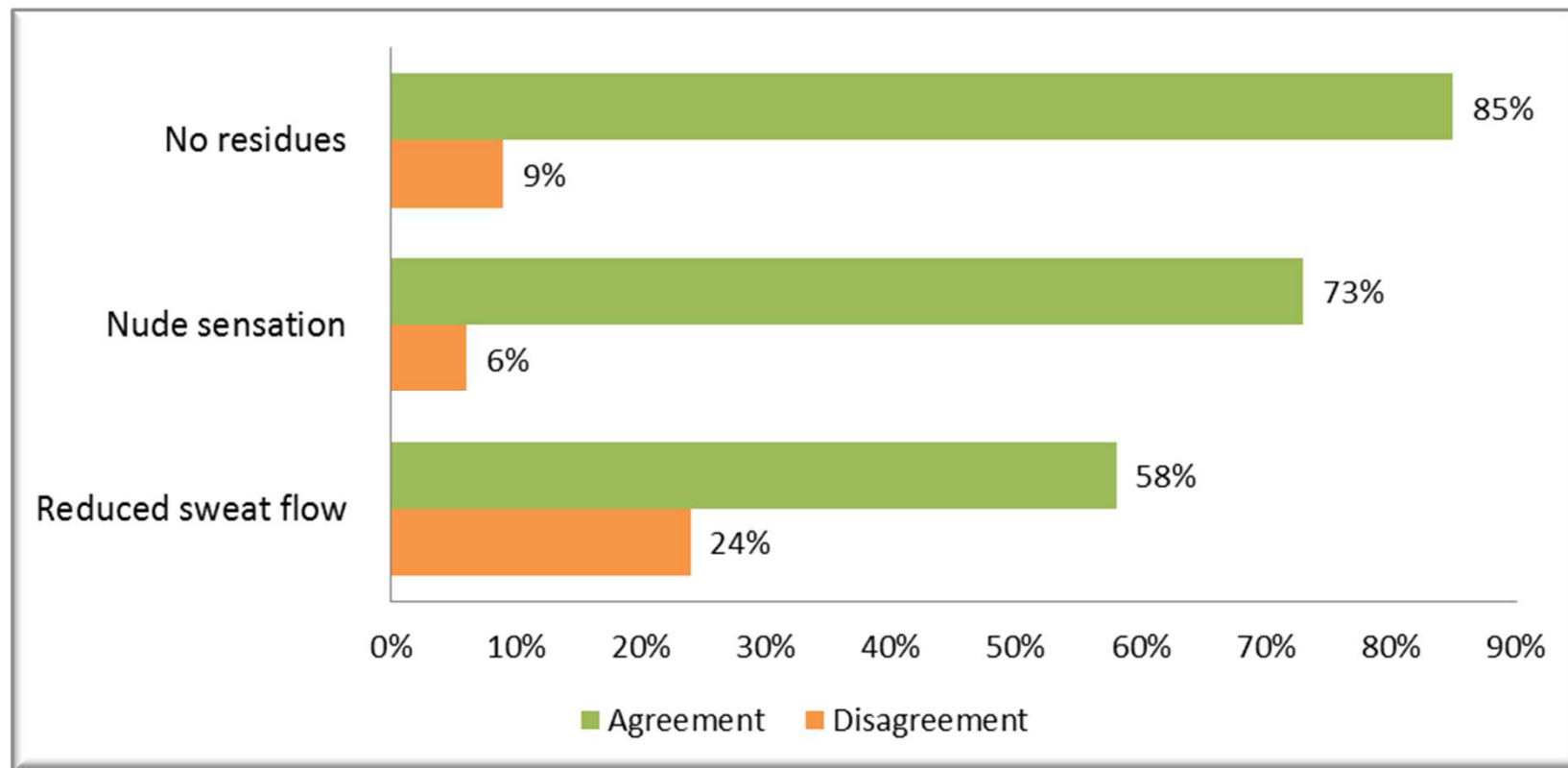


## ImerCare™ 400D : Panel tests

IMERCARE  
PARIS

Panel test  
SENSATION - TESTS

Responses to questions concerning roll-on formulation containing ImerCare™ 400D only:



\*\*significant results (p-Value<0.001) - test conducted by proDERM on 33 panelists

# ImerCare™ 400D : Roll on formulation & conclusion



## High absorbency mineral deodorant formulation

INCI name	Commercial name	% weight
Water	-	qsp 100
Glycerine	-	1.5
Propylen Glycol	-	1.5
Alkyl Acrylate Crosspolymer	Carbopol® Ultrez 20 (Lubrizol)	0.1
Alkyl Ester	Xalifin - 15 (Vevy)	4
PPG - myristyl ether	Tegosoft® APM (Evonik)	15
<b>Diatomaceous earth</b>	<b>ImerCare™ 400D (Imerys)</b>	<b>2</b>
Tocopheryl acetate (vitamin E)	-	0.5
Phenoxy ethanol & propanediol	Euxyl PE 9010 (Schülke)	1
Octanediol & propanediol	Sensiva SC 10 (Schülke)	1
Triethanolamine	-	0.15



**Based on the odour and user tests described above, the roll-on deodorant containing ImerCare™ 400D:**

- Demonstrates high perspiration absorbency for body odour control
- Dries quickly , imparting a nude skin sensation
- Leaves skin feeling soft



# Imerys diatomite range

IMERCARE<sup>™</sup>  
P.A.T.S.

ImerCare<sup>™</sup> 03D

Particle size distribution  
D50 3µm

Oil absorption 120%



ImerCare<sup>™</sup> 18D

Particle size distribution  
D50 18µm

Oil absorption 90%



ImerCare<sup>™</sup> 266D

Particle size distribution  
D50 12µm

Oil absorption 140%



ImerCare<sup>™</sup> 400D

Particle size distribution  
D50 11µm

Oil absorption 220%



Soft feel  
Detox in face mask  
Matting in make-up



Oil absorption and matting effect



Deodorant