Odour Classification of Fragrance Materials
Classification on basis of their origin
Perfumery Materials

Mainly following groups

NATURAL SOURCE

1. Essential Oils – Citronella oil, Lemon grass oil, Sandalwood Oil, Orange Oil, Eucalyptus Oil, Lavender Oil, Clove Oil, Patchouli Oil etc.

2. Semi-synthetic Materials – Origin will be natural – Subject to reactions Ionone, Hydroxycitronellal, Vanillin

3. Animal Origin – Musk, Civet
SYNTHETIC FRAGRANCE CHEMICALS

# Synthetic fragrance chemicals began in the first half of the last century and ran parallel to the rapid development of organic chemistry

# Some plant fragrance materials are difficult to extract from natural sources and therefore chemists have successfully produced them synthetically.

# Total range of synthetic fragrance is very vast and many of them are made from coal tar and petroleum routes.
Purely Synthetic Materials – Lilial, Aldehyde C12MNA, Amyl Cinnamic Aldehyde Galaxolide etc.
Classification by Functional Groups

- Hydrocarbons – Open, Cyclic, Aromatic (Saturated or unsaturated)
- Alcohol – Primary, secondary, tertiary
- Aldehydes / Ketones
- Esters
- Ethers
- Lactones
- Phenols
Contd:

- Halogen containing compounds – Rose crystals
- Nitrile – Geranyl nitrile
- Sulphur contg – Dimethyl Sulphides
Perfume is a mixture of fragrant essential oils and aroma compounds, fixatives, and solvents used to give the human body, objects, and living spices a pleasant smell. Perfume is associated in many cultures with the sensual and romantic side of life.
Typical >3000 material perfumer’s palette, 24% natural, 11% nature identical
Balance – Mainly synthetics, semi-synthetics

The increased availability of natural and organic ingredients of course provides perfumers more hedonically acceptable products, but there remain problems with coloration, limits of certain notes such as musks, allergens, cost, etc.
**Top Notes**
- First impression
- Most volatile
- Few minutes
- Fresh, citric, green, clean
  - 15-25%

**Middle Notes**
- Heart of the perfume
- Recognized
- 4-6 hours
- Floral, oriental, fruity, spicy
  - 30-40%

**Base Notes**
- Underlying scent
- Fixatives
- Several hours
- Vanilla, woody, musk, warm
  - 45-65%
Classification on —FRAGRANCE FAMILY

1. FLORAL
2. CITRUS
3. FRUITY
4. WOODY
5. HERBAL
6. SPICY
7. MUSKY / ANIMALIC
8. ALDEHYDIC
FLORALS

ROSE
JASMINE
LAVENDER
WHITE FLOWER
(MUGUET, LILY, TUBEROSE)
CITRUS

- LEMON
- ORANGE
- BERGAMOT
- GRAPE FRUIT
• APPLE
• RASBERRY
• STRAWBERRY
• PEACH
• GRAPE FRUIT

Example: Boss and Happy
• CEDARWOOD
• SANDALWOOD
• VETIVER
• PATCHOULI

Example: Fahrenheit and Samsara
HERBAL

• LEMONGRASS
• CITRONELLA
• PEPPERMINT
• SPEARMINT
• CINNAMON
• CLOVE
• NUTMEG

Example: Opium, Tommy Hilfiger
• Aldehyde C-10
• Aldehyde C-11
• Aldehyde C-12
• Aldehyde C-14

Example: Chanel no.5
- CIVET
- MUSK
- CASTORIUM
- SYNTHETIC MUSKS
Conclusions

• Fragrances are made by blending individual fragrant materials
• These Ingredients can be Natural or Semi-synthetic or synthetics
• Materials can be classified based on their Origin, Chemical Structure and Functional groups
• The most common and practical approach –
• Materials are generally classified based on their odour character
Demo
Individual’s Association with each odour class is very important and key for creativity