Chemicals in Cosmetics

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Problem Statement

There are ingredients and chemicals that are found in cosmetic products that can be harmful and can cause long-term health issues such as cancer and allergies. This can affect all people of all ages across the world.

How can we help consumers make better choices that will benefit their health?

Dataset

California Safe Cosmetics Program (CSCP) in the California Department of Public Health (CDPH)

1. Brand Name

2. Product Name and Cosmetic Categories

3. Chemical Name

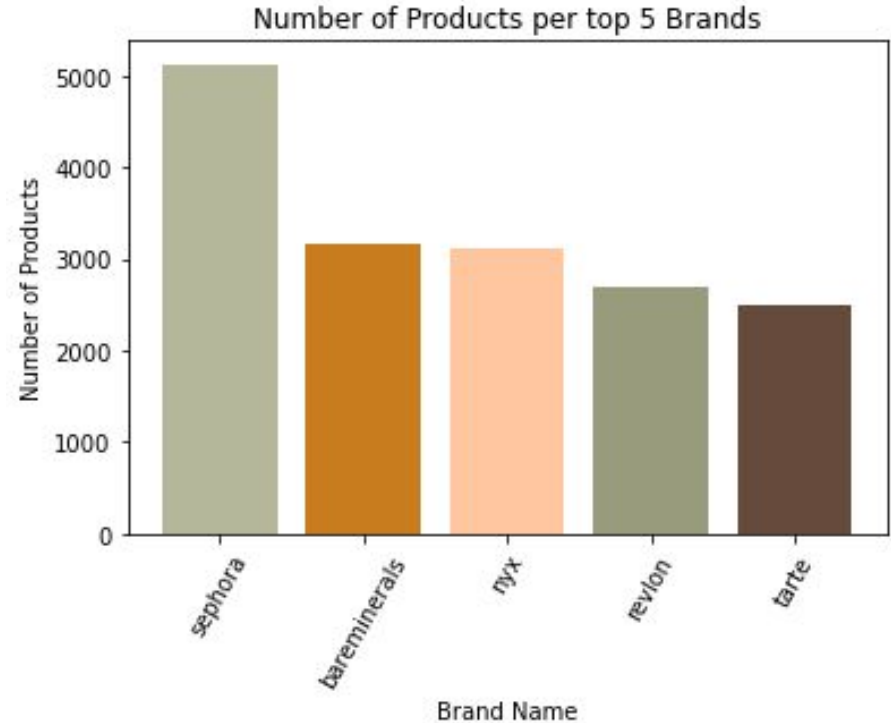4. Dates Reported and Discontinued Date

Methods/Functions

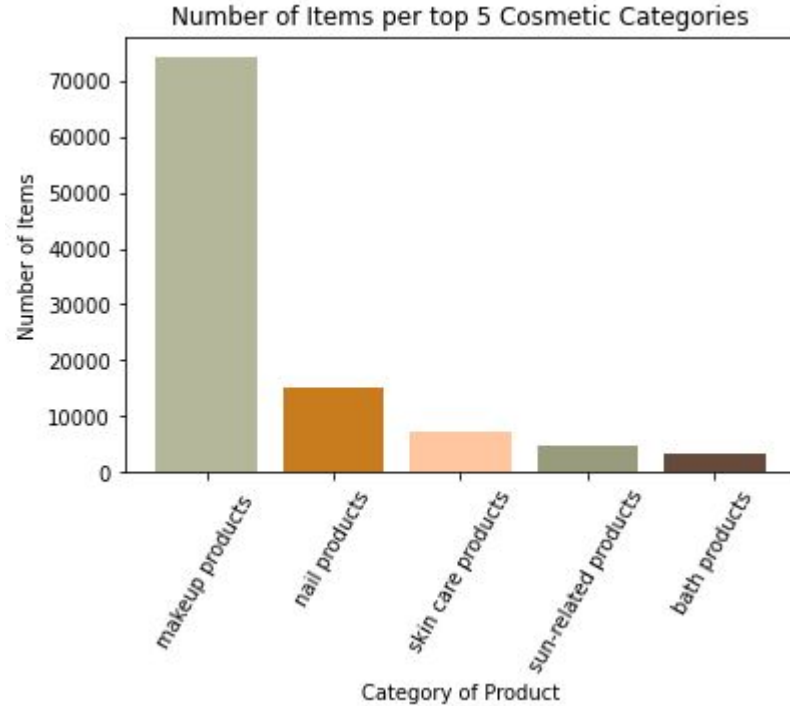| read_file	get_stats	bar_chart	pie_chart
Reads in data from a file	Gets data from a specific column, used Counter() Gets the top 5 counts, used most_common()	Creates a bar chart using the data from the 5 top counts of a column	Creates a pie chart using the data from the 5 top counts of a column
Parameters: filename	Parameters: data, column (int), top (int)	Parameters: name (2D list), amount (2D list)	Parameters: name (2D list), amount (2D list)

Graph 1

Sephora, NYX, bareMinerals, Revlon, and Tarte are the brands to especially look out for when making cosmetic purchases
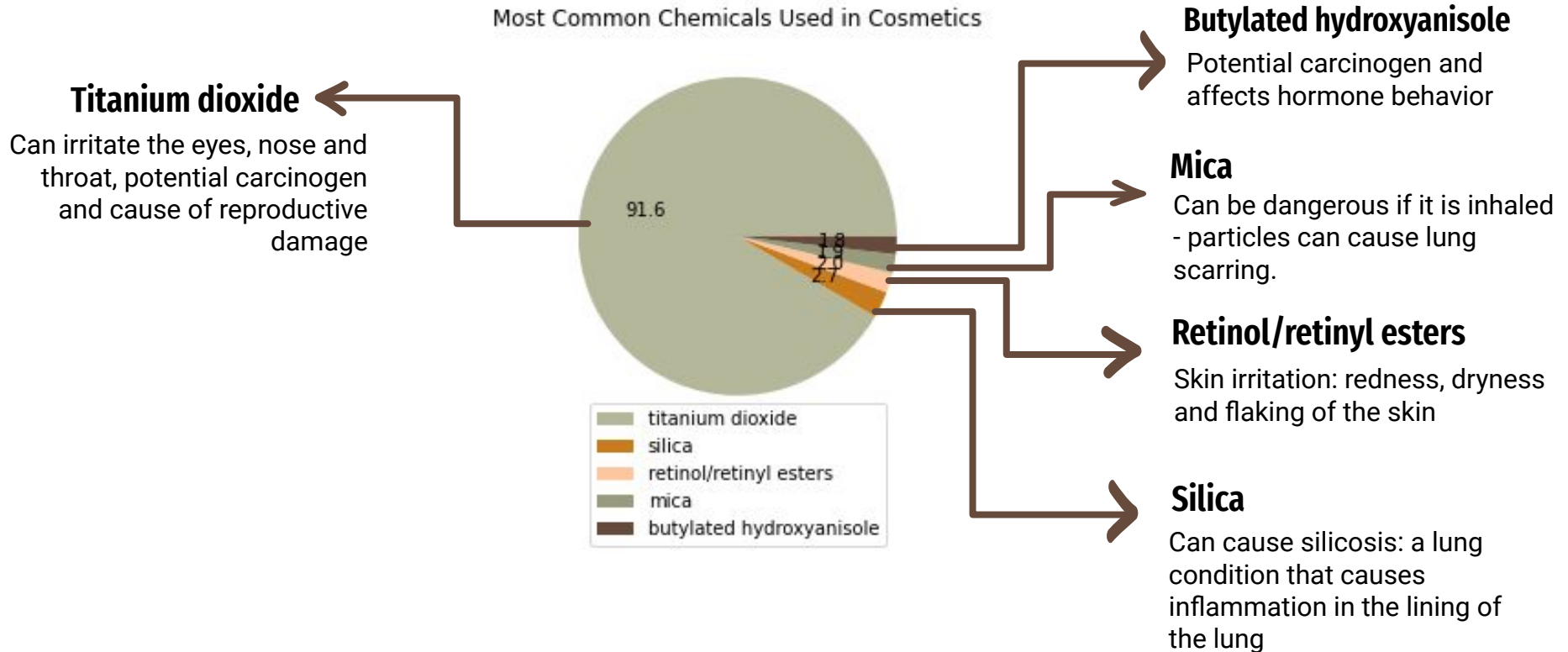
Number of Products per top 5 Brands

Graph 2

Graph 3

Most Common Chemicals Used in Cosmetics

Titanium dioxide

Can irritate the eyes, nose and throat, potential carcinogen and cause of reproductive damage

Butylated hydroxyanisole

Potential carcinogen and affects hormone behavior

Mica

Can be dangerous if it is inhaled - particles can cause lung scarring.

Retinol/retinyl esters

Skin irritation: redness, dryness and flaking of the skin

Silica

Can cause silicosis: a lung condition that causes inflammation in the lining of the lung

91.6
1.8
1.9
2.0
2.7

Legend:
- titanium dioxide
- silica
- retinol/retinyl esters
- mica
- butylated hydroxyanisole

🧴 🍊 **Future Work** 🧴 🌿

- Filter out chemicals proven to not be harmful in certain amounts approved by FDA
- Analyze the dataset again in the future
  - Examine possible significant changes
  - Compare it to laws and regulations

Conclusion

- It is crucial that consumers are aware of what they are putting onto and/or into their bodies, and this data is beneficial in that way

Works Cited

1. "Count Elements in a List with Collections.counter in Python." Count Elements in a List with Collections.Counter in Python, https://note.nkmk.me/en/python-collections-counter/.
2. Pozo Ramos, Leodanis. "Python's Counter: The Pythonic Way to Count Objects." Real Python, Real Python, 25 Jan. 2023, https://realpython.com/python-counter/.