

## What is an Oleoresin?



An oleoresin is a natural flavoring ingredient prepared by extracting a botanical (spice) with a non-potable volatile solvent, which is later removed. The typical solvents used for extraction are acetone, CO<sub>2</sub>, ethyl acetate, ethylene dichloride, methanol and methylene chloride. India is the largest producer of Oleoresins.

Oleoresins contain the following components:

### ESSENTIAL OIL

(volatiles which provide aroma and flavor)

### NON-VOLATILES

(products which provide pungency or warmth)

### FIXED OIL

(typically found in seeds)

### PIGMENTS

(chlorophyll and carotenoids)

### NATURAL ANTIOXIDANTS

(which inhibit flavor and color degradation)

Oleoresins are prepared from spices, such as basil, capsicum (for spicy heat, or paprika for red color), cardamom, celery seed, cinnamon bark, clove bud, fenugreek, ginger, mace, marjoram, nutmeg, parsley, pepper (black and white), pimento (allspice), rosemary, sage, savory (summer and winter), thyme, turmeric (for yellow color), vanilla and bay (west Indian). The choice of solvent used in extraction is determined by the particular starting material or spice used.

Oleoresins are added into almost every food application to contribute the attributes of the natural spice such as flavor, color or as a natural antioxidant. Because oleoresins are highly concentrated, they are usually diluted before use in a final application. They can be blended on a dry crystalline ingredient such as salt, sugar or dextrose or they are liquid blended with other vegetable oils. In water based application such as in beverages or pickling, oleoresins can be blended with emulsifiers to make them water dispersible.

There are several advantages of using spice oleoresins verse ground spices. Oleoresins are natural, cost effective, clean (no microbiological growth) and have a long shelf life. Since they are concentrated they are easier to store and transport.



\*Spices used to make Oleoresins

Please remember your feedback and additional ideas are always welcome at [CAAS@citrusandallied.com](mailto:CAAS@citrusandallied.com)