

ANEMONOL (Oil of Anemone).—This is familiar as the acrid principle, already often mentioned by us. Some writers have spoken of anemonin as being acrid, and we accepted that view when we employed the term on page 22, but now find that this oil of anemone is the principal acrid substance.

Preparation.—Place the ethereal liquid (obtained in preparing anemonin, p. 64) in a shallow vessel, and evaporate the ether by means of a current of cold air. When the odor of ether is no longer apparent, anemonol remains, but evaporates quickly by exposure.

Properties.—Anemonol is exceedingly pungent and irritating. The vapor will stifle a person who carelessly inhales it, and will inflame the eyes, and even close them. It reminds us of volatile oil of mustard, but, according to Erdmann, is free from sulphur. Those who experiment with oil of anemone in considerable amounts, must exercise care and avoid exposure. Some of the oil was accidentally spilled on the skin of the ball of the writer's thumb. It produced a deep inflammation, and in two days blistered the point of contact as effectually as could have followed the application of a hot iron.

In diluted form, it produced watery blisters when sprinkled over the skin. This is the oil recorded by Heyer, Schwarz, Müller, Erdmann, and noticed by others, and has been obtained by the distillation of *Anemone Pulsatilla*, *Anemone nemorosa*, *Ranunculus Flammula*, *Ranunculus bulbosus*,

and *Ranunculus sceleratus*. It is recorded as the substance that decomposes under certain conditions to form anemonin and anemonic acid.

OIL No. 2.—This seems to have escaped the notice of others. It is not as volatile as anemonol. It is obtained in small amount by cautiously evaporating anemonol from crystals of anemonin, as obtained from the crude chloroformic solution. After the anemonol has vaporized, this (No. 2) remains, and will adhere to the crude crystals of anemonin for days, and even weeks.

This second oil has a pleasant odor and a sharp taste. It exists in very small amount, unless it be that the intense pungency of the other oil (anemonol) overcomes it.

The second oil of anemone seems to be a product of chemical action after or during the condensation of the distilled water of the plant. At any rate, we failed to perceive it any part of the plant, or to obtain it direct from the herb.

Summary.—In conclusion, we sum the entire matter up as follows :

The peculiar acrid principle of many plants of the *Ranunculaceæ* is a volatile oil. This oil preëxists in the plant.

Anemonin is a crystalline product of the distillation of the plants with water. It is not acrid. As associated with the other substances obtained from the distillate, it will decompose upon exposure, especially if moist, several undetermined substances resulting from the reactions. One of these is a fragrant volatile oil ; another a soluble acid ; a third, the substance recognized as anemonic acid ; and the probabilities are that other bodies arise. The connections between these various substances, and the changes which take place in their formation, are still obscure, and we now hesitate to do more than present the results of the work of others as recorded in the preceding pages, and add thereto our own experiences ; and in thus temporarily closing the subject, we regret its very incomplete condition.*

Disease Genesis

Although alkaloids and low concentrations of cyanogenic glycosides are present in some species, toxicity appears to be due mainly to ranunculin, a glycoside that is hydrolyzed to protoanemonin when the plant tissues are macerated and then subsequently polymerized to form the inactive anemonin (Hill and Van Heyningen 1951). The identity of the glycosidic precursor to protoanemonin has been questioned, with ranunculin suggested to be only an artifact, but there is little question of the ultimate vesicant (Tschesche et al. 1972). Protoanemonin is a potent vesicant, but anemonin, which forms when the plant is dried, is inactive in this respect ([Figure 62.23](#)).

Figure 62.23. Chemical change from ranunculin to protoanemonin to anemonin.