

## Equilibrium partitioning of organic compounds

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# 3 phase system: 2 condensed phases and a gas phase

If all three phases - water, oil and gas phase - occur together then water and oil molecules will partition into the two other phases in the same way as they did in the two-phase scenarios. That means the presence of the oil phase has no influence on the partitioning of water into the gas phase and the presence of the gas phase has no influence on the partitioning of water into the oil phase. And the same is true, of course, for the oil molecules. A situation similar to this three-phase problem occurs in the environment if crude oil or gasoline leaks into the environment. The organic molecules that constitute the crude-oil or gasoline phase will then partition into the air and any available aqueous phase.

