Crimes in which a potentially dangerous poison is used or a food item is adulterated can take many different forms. Cases of product tampering can occur with the primary goal of receiving attention for a cause, damaging the reputation of a company, or in order to gain funds through an extortion attempt. Poisoning may be used to murder a family member or acquaintance, or to target a number of random victims to achieve some political goal. In addition, threats of action or cases of hoax tampering may also be used in order to fulfil one or more of the goals listed above. In order to better understand these different crimes and the motivations behind them, a multidimensional unfolding procedure was used on 384 cases of malicious contamination occurring since 1970, using variables indicative of poisoning and product tampering. From this analysis ten different criminal categories involving the use of poisonous agents were identified, each of which based on both the specificity involved in victim selection, as well as the personal or impersonal nature of the act. Each of these categories will be described along with their defining behavioural characteristics, and the implications for law enforcement agencies will be discussed.