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The effects of two household accelerants on burned bone

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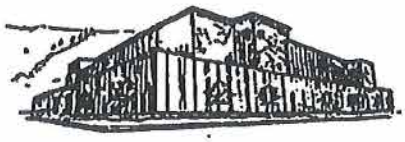

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Chapter 3: Nature of Fire

Many fires that achieve extremely high temperatures are fueled by some sort of accelerant. Gasoline has been found to be the most widely used accelerant (Brettell, no date). In 1990, 287 murders were found to be the result of fire (Ubelaker and Scammell, 1992). The following chart is from the most recent publication (2002) of the Uniform Crime Report put out by the Federal Bureau of Investigation indicating murder victims by weapon from 1998 to 2002.

Without the addition of gasoline or some other flammable liquid, experiments have shown that house fires usually do not exceed 1600°F (871°C) (Bass and Jefferson, 2003: 77-78). In a fire that is fueled by gasoline or some other flammable accelerant, fire temperatures can reach as high as 2000°F (1093°C) (Bass and Jefferson, 2003). When bones are burned at this high of a temperature, they will undergo both chemical and structural changes. A body that is saturated with gasoline or another accelerant may lead to total or partial cremation, but usually the surface of the body is burned, leaving the body a charred mass (Eckert et al, 1988: 200). Many times the fire will be extinguished by the fire department or some other source before complete cremation has taken place.