

University of Montana
ScholarWorks at University of Montana

Graduate Student Theses, Dissertations, &
Professional Papers

Graduate School

2004

The effects of two household accelerants on burned bone

Trisha L. Brown
The University of Montana

Let us know how access to this document benefits you.

Follow this and additional works at: <https://scholarworks.umt.edu/etd>

Recommended Citation

Brown, Trisha L., "The effects of two household accelerants on burned bone" (2004). *Graduate Student Theses, Dissertations, & Professional Papers*. 6633.
<https://scholarworks.umt.edu/etd/6633>

This thesis is brought to you for free and open access by the Graduate School at ScholarWorks at University of Montana. It has been accepted for inclusion in Graduate Student Theses, Dissertations, & Professional Papers by an authorized administrator of ScholarWorks at University of Montana. For more information, please contact scholarworks@montana.edu.



**Maureen and Mike
MANS:FIELD LIBRARY**

The University of
Montana

Permission is granted by the author to reproduce this material in its entirety, provided that this material is used for scholarly purposes and is properly cited in published works and reports.

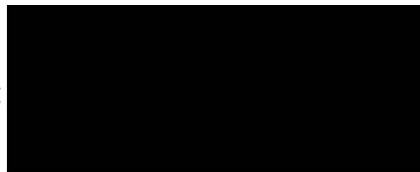
****Please check "Yes" or "No" and provide signature****

Yes, I grant pennission

X

No, Ido not grant permission

Author's Signature:



Date: 12/20/08 vaj

Any copying for commercial purposes or financia! gain may be undertaken only with the author's explicit consent.

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.