

## Accepted Manuscript

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PII: S0379-0738(18)30191-9

DOI: <https://doi.org/10.1016/j.forsciint.2018.04.033>

Reference: FSI 9272

To appear in: *FSI*

Received date: 13-12-2017

Revised date: 9-4-2018

Accepted date: 16-4-2018



Please cite this article as: F.Veit, W.Martz, C.G.Birngruber, R.B.Dettmeyer, Fatal accidental inhalation of brake cleaner aerosols, Forensic Science International <https://doi.org/10.1016/j.forsciint.2018.04.033>

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## Fatal accidental inhalation of brake cleaner aerosols

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### Highlights

- Inhalation of brake cleaner aerosols can cause multiorgan failure.
- Histology revealed severe haemorrhagic lung edema and brain edema with encephalomalacia.
- Gastric content appears to be a suitable matrix for postmortal volatile substance analysis.
- Sudden sniffing death might prevent ability for self-rescue.

### Abstract

Brake cleaner liquid is commonly used for cleaning of engines and motor parts. The commercially available products usually contain mainly volatile organic compounds. As a consequence brake cleaner evaporates fast and almost completely from the cleaned surface. This case report presents a fatal accidental inhalation of brake cleaner liquid aerosols due to the attempted cleaning of a boat engine. A 16 year old boy was found lifeless in the engine compartment of a boat engine. In close proximity to the body, the police found cleanings wipes soaked with brake cleaner as well as a pump spray bottle filled with brake cleaner. Essentially the autopsy revealed a cerebral edema with encephalomalacia, no coagulated blood as well as increased blood and tissue fluid content of the lung. Toxicological analysis revealed brake cleaner fluid in the lung, gastric content and heart blood.

**Keywords:** Brake cleaner; aerosols; volatile organic compounds; hydrocarbon vapours; accidental inhalation, sudden sniffing death

## 1. Introduction

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