

Human Neurobehavioral Effects of Hydrogen Sulfide

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Workers and downwind residents of some petroleum and pulp and paper facilities are sometimes exposed to hydrogen sulphide (H₂S). While H₂S is lethal at persistent high concentrations (more than 500 parts per million), little is known about the neurobehavioural effects from ambient or occupational levels. While some believe H₂S has an adverse effect at these low levels, others doubt it has any effect. A recent U.S. study showed that rats exposed to low levels (around 10 parts per million) of H₂S showed no signs of developmental, neurological or reproductive impairment. But similar research on humans has not been done until now, although a recent review by Alberta Health¹ concluded that little evidence of any effect in humans exists at levels below 10 parts per million. This project involves exposing, under carefully controlled conditions, human subjects to short periods of hydrogen sulphide at low concentrations and then assessing them for various neurobehavioural effects. Such research should help address health concerns of those who work at or live

near sour gas facilities in Alberta. The results could also help determine if existing guidelines for exposure to ambient levels of H₂S are adequate.

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