substances such as wood or paper since its concentrated solutions may cause explosion or combustion on contact

In the oxidation of most organic materials, concentrated nitric acid will produce dense clouds of red or brown oxides of nitrogen Since inhalation of these oxides in dangerous quantities produces only a mild irritation of the respiratory organs, it is possible to inhale a dangerous concentration without much discomfort or apparent injury

Symptoms from the affected lungs will appear after a lapse of several hours The result of the exposure may be extremely grave Anyone known to have inhaled nitrogen oxide fumes should be kept under medical observation for at least 24 hr whether or not he shows symptoms

The effects of nitric acid on the skin are not different from those of other strong acids except for the characteristic, and apparently harmless, yellow stains produced by minor burns

Nitroaniline occurs as three isomers, ortho, meta, and para, but their physiological effects are essentially the same They all are readily absorbed through the respiratory system or through the intact skin They are powerful methemoglobin formers and cause hemolysis of red blood cells They are comparable in all respects to nitrobenzene and should be used with the same precautions

Nitrobenzene is a light yellow liquid with the odor of almonds and a high boiling point so that the probability of poisoning by inhalation of vapor from the cold liquid is not great A highly toxic substance, it will produce either acute poisoning by absorption of a large amount in a short time or chronic poisoning by continued exposure to small amounts

It can be absorbed by inhalation and ingestion, but, in industry, the major hazard is absorption through the skin Absorption by inhalation can also occur and produce serious poisoning, it is especially likely where vapor escapes from a hot process or during the cleaning of tanks and lines by steam or hot water

Nitrobenzene is primarily a blood and nervous system poison It combines with the hemoglobin to produce methemoglobin, which will not transport oxygen and consequently leads to asphyxiation of the tissue It also generally depresses or paralyzes the central nervous system

Acute poisoning, which rapidly follows contact, is marked by the deep blue color of the lips, fingernails, and ears and by labored breathing In a milder case the signs are drowsiness, headache, and unsteady gait suggesting drunkenness Recovery is likely to be slow, partly because of the slowness with which nitrobenzene is eliminated from the system and partly because of the time required to replace the red blood cells which have been destroyed

Repeated skin contact or inhalation over a long time may produce chronic nitrobenzene poisoning with fatigue, headache, loss of appetite, and mild anemia Exposure to levels of 40 to 80 ppm will produce slight symptoms after a few hours

After acute exposure to nitrobenzene, the first step is to remove all contaminated clothing immediately and to wash the skin liberally with soap and water The only other measures to take pending medical care are to keep the individual at complete rest and to administer oxygen if breathing is labored

To minimize the possibility of skin contact, men working with nitrobenzene should have two lockers and should be required to keep work clothing separated from street clothing Work clothing should preferably be issued by the plant management and laundered on the premises A complete bath with warm water and soap and a complete change of clothing, from the skin outward, should be required at the end of each shift No food or tobacco should be permitted in the work area

Nitroethane is typical of the nitroparaffins in that it acts as a mild irritant to the lungs, upper respiratory tract and central nervous system Nitroparaffins do not seem to be absorbed through the skin In animal experiments, all animals fatally poisoned by nitroethane also showed some liver damage Rabbits, guinea pigs, and monkeys were not affected by exposure for 140 hr to 500 ppm of nitroethane, but rabbits and guinea pigs were affected by a single 6-hr exposure to 1000 ppm

Nitrogen dioxide is the toxic constituent of