ally appears within the first few weeks of exposure but may occur in an individual who has worked with the material for a number of years Probably anyone with sufficient exposure will eventually develop the dermatitis There are also some persons with a true hypersensitivity to TNT who should be permanently removed from exposure

Inhalation or ingestion of TNT in excessive quantities will produce systemic poisoning

Some of the earliest signs of excessive absorption of TNT are digestive disturbances and mild cyanosis The digestive signs include nausea, sometimes vomiting in the early morning, loss of appetite, and sometimes constipation with colic

The cyanosis probably starts with the formation of methemoglobin or similar pigment This indication of overexposure is not in itself dangerous, but it is commonly followed by a reduction in red cells and a severe anemia, which may develop into a typical aplastic anemia

TNT also affects the liver and produces a toxic jaundice Young people and people with previous liver disease are the most susceptible

To prevent both the dermatitis and the systemic poisoning, the most scrupulous housekeeping and dust control measures should be observed TNT handlers should wear complete work uniforms, change them daily, and never take them from the plant They should also be required to wash thoroughly before leaving the plant Soap is not effective Liquid soap with 5 percent potassium sulfite and a small quantity of sulfonated higher alcohol provides a good medium

Triorthocresylphosphate (TOCP) is a colorless, odorless high-boiling liquid and is usually found in liquid mixture with the meta and para isomers Any route of exposure in single or repeated doses constitutes a high health hazard TOCP is readily absorbed through the skin, but there is little vapor hazard at ordinary temperatures

Ingestion of the compound, either as the liquid or the fog or mist, produces symptoms of paralysis without sensory effect Shortly after ingestion, there may be gastro-intestinal symptoms, including nausea, vomiting, diarrhea, and abdominal pain The majority of victims never again regain normal function of the central nervous system

Turpentine is the most familiar solvent for oil paints Although there are cheaper substitutes, it is still widely used in fine exterior painting Many painters formerly had chronic kidney disease, which they attributed to turpentine vapor but which was probably due to lead It has not been possible to produce chronic kidney disease experimentally with turpentine

Turpentine hydrocarbons are not particularly irritating in themselves but some grades contain highly irritating impurities

These differences depend on the method of preparation and probably are a measure of the amount of decomposition produced in the refining It has been generally believed in this country that gum turpentine, obtained by tapping trees, is less irritating than the steam-distilled variety

U

Uranium and its compounds are radioactive, and they are toxic when ingested or inhaled The effects on the body depend upon the solubility of the uranium compound concerned

The soluble compounds are eliminated from the body rather rapidly, but if ingested in sufficient amounts, they will cause a chemical poisoning, primarily affecting the kidneys One investigator has reported that long before a radiologically hazardous amount of uranium could be deposited in the bone structure, the chemical toxicity to the kidneys would be fatal

Insoluble uranium compounds are primarily an inhalation hazard They are dangerous not because of chemical toxicity to the kidneys, but because radioactive particles may accumulate in the lungs in an amount exceeding permissible tissue tolerance

Urethanes—see **Toluene 2,4-diisocyanate.**

V

Vanadium pentoxide is used as a catalyst for chemical reactions and also may be found in ash from burning certain petroleum oils, such as Bunker C Apparently it is more significant in derivatives from foreign crudes

In one extensive study, a group of 50 to 90