According to NIOSH, the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness, occupational hearing loss is one of the most common work-related illnesses in the United States. Each year, about 22 million U.S. workers are exposed to hazardous noise levels at work. More than 30 million U.S. workers are exposed to chemicals, some of which are harmful to the ear (ototoxic) and hazardous to hearing.

In addition to damaging workers’ quality of life, occupational hearing loss carries a high economic price to society. Millions of workers are exposed to noise in the workplace every day and when uncontrolled, noise exposure may cause permanent hearing loss. Research demonstrates exposure to certain chemicals, called ototoxicants, may cause hearing loss or balance problems, regardless of noise exposure. Substances including certain pesticides, solvents, and pharmaceuticals that contain ototoxicants can negatively affect how the ear functions, causing hearing loss, and/or affect balance. The risk of hearing loss is increased when workers are exposed to these chemicals while working around elevated noise levels. This combination often results in hearing loss that can be temporary or permanent, depending on the level of noise, the dose of the chemical, and the duration of the exposure. This hearing impairment affects many occupations and industries, from machinists to firefighters.

Ototoxic chemicals (and examples) include:

- Solvents (styrene, trichloroethylene, toluene, ethylbenzene, hexane, xylene)
- Metals and compounds (mercury compounds, lead, organic tin compounds)
- Asphyxiants (carbon monoxide, hydrogen cyanide)
- Nitriles (3-Butenenitrile, cis-2-pentenenitrile, acrylonitrile)
- Pharmaceuticals (certain antineoplastic agents)

The first step in preventing exposure to ototoxicants is to know if they are in the workplace. One way to identify ototoxicants in the workplace is by reviewing Safety Data Sheets (SDS) for ototoxic substances and/or chemicals, and ototoxic health hazards associated with ingredients in the product. Section 11 on the safety data sheet is labeled as Toxicological Information; look for the words neurotoxicant or ototoxicant or nephrotoxic (harmful to the renal system) to determine if your product contains harmful toxicants.

Information taken from NIOSH’s SHIB (Safety & Health Information Bulletin) 03-08-2018