

BioPharma Briefs



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Are Material Safety Data Sheets Reliable?

The Material Safety Data Sheet (MSDS) is a summary bulletin of the properties and hazards of a chemical. Prepared by the manufacturer or importer of a chemical, the MSDS contains information on its physical properties, known hazards and recommended handling practices.

The MSDS is a mainstay in Environmental Health and Safety (EHS) programs for learning the hazards of an unknown material. When no other information is available about a chemical, the EHS professional will rely heavily on the MSDS for guidance on correct handling recommendations. But how complete is the typical MSDS?

There are three shortcomings that limit the value of typical MSDS sheets for EHS professionals:

1. These summaries tend to mention very limited health effects of concern to workers using the material, such as reproductive hazards. Often, little research has been performed on the health hazards of materials prior to a chemical appearing on the market. Occasionally a manufacturer maintains a high threshold for information appearing on the MSDS until the health effect is well established. A recent journal article noted that 50% of reviewed MSDS sheets for toluene diisocyanate, a recognized asthma-inducing chemical, listed asthma as a health effect (follow [link](#) to read).
2. When a list of health effects does appear on the MSDS, the EHS professional may have difficulty establishing which are relevant for their operations. If there is a laundry list of health effects, how does one determine which are most important? Key information is often missing, such as the estimate of dose for a listed effect. Most materials do not have an exposure limit established. When a large manufacturer establishes an internal exposure limit or control band range, they may not list this information on the MSDS because it is considered proprietary information.
3. The EHS professional may have limited training in toxicology or occupational health, and consequently may not be comfortable critically interpreting health information provided on the MSDS.

There is one key piece of information that the MSDS consistently provides: the identity of the chemical. While this allows for researching from texts and databases, there often remains a significant “data gap.” The **BarnesCare BioPharma Support Services** team can help by collecting further data and providing interpretations that will help you make better informed decisions on chemical handling.

The BarnesCare BioPharma Support Services team can help you with your specific MSDS issues. For more information, please contact a BJC Corporate Health Consultant at **314-747-5846**.