

POSITION STATEMENT

USE OF CONCENTRATION RANGES ON SAFETY DATA SHEETS

Question

How does the compressed gas industry use concentration ranges on safety data sheets (SDSs) for gas mixtures that do not have components that are trade secrets to ensure safety and full compliance with both the U.S. Occupational Safety and Health Administration's (OSHA) *Hazard Communication Standard* and Health Canada's (HC) *Workplace Hazardous Materials Information System* 2015 [1, 2]?

Answer

The use of a generic SDS for gas mixtures is allowed provided that:

- There is no negative impact on safety information in the workplace;
- The gas mixtures are of similar composition and are classified in the same hazard class (or classes) and category (or categories) or subcategory (or subcategories);
- The actual concentration range(s) of the gas mixture component(s) are provided in Section 3 of the SDS under Composition/Information on ingredients;
- The information provided on the SDS corresponds to the most hazardous concentration(s) in the range(s) used; and
- All the hazardous products to which the SDS applies are identified in Section 1 of the SDS under product identifier.

NOTE—HC's *Hazardous Product Regulations* require the use of the prescribed concentration ranges when the mixture is claimed as a trade secret unless the actual concentration is disclosed [3]. When the mixture is not a trade secret, the use of prescribed concentration ranges is not allowed.

Reasons

- 1) Gas suppliers make gas mixtures of all combinations and concentrations per customer specifications.
- 2) Due to the infinite variety of gas mixtures that can be manufactured, use of a generic SDS and concentration ranges offers gas suppliers an effective and efficient method of managing SDSs and of conveying hazard information to end users of gas mixtures.
- 3) The hazards of a gas mixture can be identical over a broad range of concentrations. For example, a mixture of 100% inert gases poses identical hazards of gas under pressure and simple asphyxiation regardless of the inert component and regardless of the concentration of each inert component.
- 4) Many gas mixtures are made up of an active hazardous component balanced by an inert gas. When there is a clearly defined concentration level of an active component that delineates a hazard classification, it is used by gas suppliers. For example:
 - Any binary gas mixture with an oxygen content less than 19.5% in an inert balance has hazard classifications "gas under pressure" and "simple asphyxiant"
 - Any binary gas mixture with hydrogen content greater than 5.7% in nitrogen balance has hazard classifications "flammable gas," "gas under pressure," and "simple asphyxiant".
- 5) Both OSHA and HC allow the use of a generic SDS [1, 2].

References

Unless otherwise specified, the latest edition shall apply.

[1] *Code of Federal Regulations*, Title 29 (Labor), U.S. Government Printing Office. www.gpo.gov

[2] *Workplace Hazardous Materials Information System*, Health Canada, Canadian Government Publishing. www.hc-sc.gc.ca

[3] *Hazardous Products Act; Controlled Products Regulations*, Health Canada, Canadian Government Publishing. www.hc-sc.gc.ca

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