Ten Decades of Chemical Hazard Communication: Guidance for Labels and Material Safety Data Sheets from the 1920s through the 2020s

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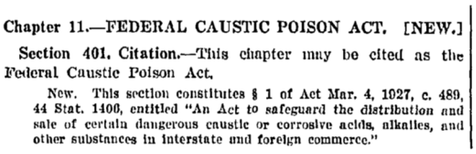
Beginning with the passing of legislation during the 1920s, continuing with the development of a growing number of regulations and voluntary standards in the 20th century, and ending with the incomplete adoption of the Globally Harmonized System during the 21st century, this timeline describes key milestones in guidance for chemical hazard communication in occupational and consumer settings. Important activities by various governmental and non-governmental organizations including the U.S. Food and Drug Administration, the U.S. Public Health Service, the Manufacturing Chemists' Association Labels and Precautionary Information Committee, the U.S. Environmental Protection Agency, and the U.S. Occupational Safety and Health Administration are examined.

1920s



Chapter 11.—FEDERAL CAUSTIC POISON ACT. [NEW.]

Section 401. Citation.—This chapter may be cited as the Federal Caustic Poison Act.

New. This section constitutes § 1 of Act Mar. 4, 1927, c. 489, 44 Stat. 1400, entitled "An Act to safeguard the distribution and sale of certain dangerous caustic or corrosive acids, alkalies, and other substances in interstate and foreign commerce."

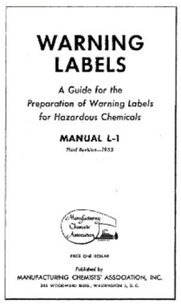
1927 – The Federal Caustic Poison Act establishes labeling requirements for hydrochloric acid, sulphuric acid, nitric acid, carbolic acid, oxalic acid, oxalic acid salts, acetic acid, hypochlorous acid, potassium hydroxide, sodium hydroxide, silver nitrate, and ammonia.

1930s

Early 1930s – The U.S. Surgeon General enters into agreements with certain chemical manufacturers regarding warnings to be used on containers of methanol, carbon tetrachloride and other chlorinated hydrocarbons, carbon disulfide, aniline, benzene, and chlorinated naphthalenes, diphenyls, and diphenyl oxides. / 1938 – The Federal Food, Drug, and Cosmetic Act enlarges the scope of the Food and Drug Administration's jurisdiction to include labeling of cosmetics.

1940s

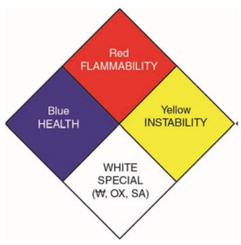
1945 – The Manufacturing Chemists' Association publishes the first edition of its Manual L-1, *Guide to Precautionary Labeling of Hazardous Chemicals*. / 1947 – The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) is passed, initially enforced by the Department of Agriculture.



1950s

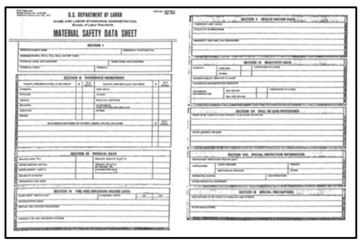
1952 – The Surgeon General's Agreements are rescinded, and the Surgeon General endorses the principles of labeling set forth in part I of MCA Manual L-1. The U.S. Public Health Service reactivates the Chemical Products Labeling Committee to serve in an advisory capacity to the MCA LAPI committee and state health and labor departments. / 1953, 1956 – MCA publishes the third and fourth revisions of Manual L-1.

1960s

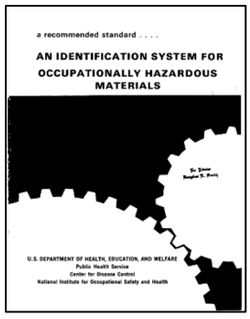


1960 – The Federal Hazardous Substances Act is passed, initially enforced by the Food and Drug Administration. / 1961 – The National Fire Protection Association (NFPA) adopts the first edition of NFPA 704

1970s



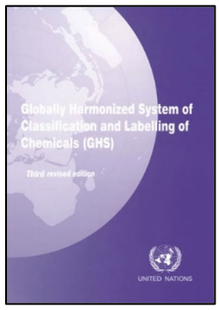
1970 – The U.S. Department of Labor (DOL) establishes safety and health regulations for ship repairing, shipbuilding, and shipbreaking, requiring that "no … hazardous material … shall be used until the employer has ascertained the potential fire, toxic, or reactivity hazards which are likely to be encountered in the handling, application, or utilization of such a material" and requiring that this information be recorded on a Material Safety Data Sheet. / 1970 – The Poison Prevention Packaging Act of 1970 requires certain household substances to be packaged in child-resistant packaging, significantly difficult for children under five years of age to open within a reasonable time, and not difficult for normal adults to use properly. / 1970 – President Nixon establishes the Environmental Protection Agency (EPA) under executive order approved by the House and Senate. / 1970 – The Occupational Safety and Health Act establishes the Occupational Safety and Health Administration (OSHA). / 1972 – The Consumer Product Safety Act establishes the Consumer Product Safety Commission (CPSC), with authority to enforce the Poison Prevention Packaging Act, the Federal Hazardous Substances Act, and portions of the Federal Food, Drug, and Cosmetic Act. / 1974 – OSHA forms a Standards Advisory Committee on Hazardous Materials Labeling to "develop guidelines for categorizing and ranking hazards of materials, and guidelines for prescribing the required warning … by such means as labels, data sheets and training requirements". NIOSH and others also provide recommendations. / 1976 – The ANSI Z129.1 standard for precautionary labeling of hazardous industrial chemicals, based on MCA Manual L-1, is published. / 1977 – OSHA issues an Advance Notice of Proposed Rulemaking (ANPR) for its Hazard Communication Standard.



1980s

1981 – OSHA issues a Notice of Proposed Rulemaking (NPR) for its Hazard Communication Standard, which is withdrawn a month later. / 1982 – OSHA issues a second NPR for its Hazard Communication Standard. / 1983 – OSHA issues a Final Rule for its Hazard Communication Standard. Coverage is limited to the manufacturing sector. / 1986 – California voters approve Proposition 65, requiring businesses to provide "clear and reasonable" warnings about exposures to chemicals that can cause cancer, birth defects, or other reproductive harm. / 1987 – OSHA issues a revised Final Rule for its Hazard Communication Standard, with expanded coverage to include all employees under OSHA's jurisdiction.

1990s



1992 - Chapter 19 of Agenda 21, adopted at the United Nations Conference on Environment and Development, provides an international mandate to develop a single, globally harmonized system to address chemical labeling, classification, and safety data sheets (SDSs). / 1993 – The ANSI Z400.1 standard for preparation of Material Safety Data Sheets, developed by a technical committee of the Chemical Manufacturers Association (CMA), is published. / 1994 – OSHA issues a final rule clarifying and modifying its Hazard Communication Standard.

2000s

2003 – The United Nations publishes the first edition of the *Globally Harmonized System for Classification and Labeling of Chemicals* (GHS). / 2006 – OSHA issues an ANPR for its Hazard Communication Standard as a first step in adopting the GHS.

⚠ **WARNING:** This product can expose you to chemicals including [name of one or more chemicals], which is [are] known to the State of California to cause cancer, and [name of one or more chemicals], which is [are] known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

2010s, 2020s, and Beyond

2010 – ANSI Z129.1 for labels and Z400.1 for SDSs are combined and harmonized with the GHS. / 2012 – OSHA issues a Final Rule revising its Hazard Communication Standard for consistency with the GHS (Revision 3). / 2018 – The California Office of Environmental Health Hazard Assessment (OEHHA) revises its standards for "clear and reasonable" warnings. / 2021 – OSHA issues an NPR to revise its Hazard Communication Standard for consistency with the 2017 Revision 7 of the GHS.