



## HOW TO USE THE NIOSH GUIDE

The Guide has been designed to provide chemical-specific data to supplement general industrial hygiene knowledge. Individual tables for each chemical present this data in the Chemical Listing section (page 1). To maximize the amount of data provided in the limited space in these tables, abbreviations and codes have been used extensively. These abbreviations and codes are discussed for each field in these chemical tables in the following subsections.

### Chemical Name

The chemical name found in the OSHA General Industry Air Contaminants Standard (29 CFR 1910.1000) is listed in the blue box in the top left portion of each chemical table. This name is referred to as the “primary name” in the Chemical, Synonym, and Trade Name Index (page 383).

### Structure/Formula

The chemical structure or formula is listed in the field to the right of the chemical name in each chemical table. Carbon-carbon double bonds ( $-C=C-$ ) and carbon-carbon triple bonds ( $-C\equiv C-$ ) have been indicated where applicable.

### CAS Number

This section lists the Chemical Abstracts Service (CAS) registry number. The CAS number is unique for each chemical and allows efficient searching on computerized data bases. A page index for all CAS registry numbers listed is included (page 374).

### IDLH

This section lists the immediately dangerous to life or health concentrations (IDLHs). The purpose for establishing an IDLH value in the Standards Completion Program was to determine the airborne concentration from which a worker could escape without injury or irreversible health effects from an IDLH exposure in the event of the failure of respiratory protection equipment. The IDLH was considered a maximum concentration above which only a highly reliable breathing apparatus providing maximum worker protection should be permitted. In determining IDLH values, NIOSH considered the ability of a worker to escape without loss of life or irreversible health effects along with certain transient effects, such as severe eye or respiratory irritation, disorientation, and incoordination, which could prevent escape. As a safety margin, IDLH values are based on effects that might occur as a consequence of a 30-minute exposure. However, the 30-minute period was NOT meant to imply that workers should stay in the work environment any longer than necessary; in fact, every effort should be made to get out immediately.



## Synonyms and Trade Names

This section contains an alphabetical list of common synonyms and trade names for each chemical. A page index for all chemical names, synonyms, and trade names listed in the Pocket Guide is included on page 383.

## Exposure Limits

The NIOSH recommended exposure limits (RELs) are listed first in this section. For NIOSH RELs, "TWA" indicates a time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek. A short-term exposure limit (STEL) is designated by "ST" preceding the value; unless noted otherwise, the STEL is a 15-minute TWA exposure that should not be exceeded at any time during a workday. A ceiling REL is designated by "C" preceding the value; unless noted otherwise, the ceiling value should not be exceeded at any time. Any substance that NIOSH considers to be a potential occupational carcinogen is designated by the notation "Ca".

## Physical Description

A brief description of the appearance and odor of each substance is provided in the physical description section.

## Chemical and Physical Properties

The following abbreviations are used for the chemical and physical properties given for each substance. "NA" indicates that a property is not applicable, and a question mark (?) indicates that it is unknown.

MW..... Molecular weight

Fl.P..... Flash point (i.e., the temperature at which the liquid phase gives off enough vapor to flash when exposed to an external ignition source), closed cup (unless annotated "(oc)" for open cup), °F

Sp.Gr..... Specific gravity at 68°F\* referenced to water at 39.2°F (4°C)

RGasD..... Relative density of gases referenced to air = 1 (indicates how many times a gas is heavier than air at the same temperature)

VP..... Vapor pressure at 68°F\*, mm Hg;

UEL..... Upper explosive (flammable) limit in air, % by volume (at room temperature\*)

LEL..... Lower explosive (flammable) limit in air, % by volume (at room temperature\*)

Class IA flammable liquid..... Fl.P below 73°F and BP below 100°F.

Class IB flammable liquid..... Fl.P below 73°F and BP at or above 100°F.

Class IC flammable liquid..... Fl.P at or above 73°F and below 100°F.

Class II combustible liquid..... Fl.P at or above 100°F and below 140°F.

Class IIIA combustible liquid..... Fl.P at or above 140°F and below 200°F.

Class IIIB combustible liquid..... Fl.P at or above 200°F.

The NIOSH Guide is provided as a reference and must be used in conjunction with other appropriate reference materials, product identifiers and available professional resources.