How to Read A Safety Data Sheet (SDS)

Safety Data Sheets (SDS) are an important requirement of the OSHA Hazard Communication Standard. SDS are essential documents that are used to inform employees, students, and the general public about how materials can be safely handled, used, and stored. Since Flinn provides chemicals only to schools, we have written Flinn SDS specifically for teachers and their students. Using clear and straightforward language, each Flinn SDS provides all the relevant safety and hazard information in a consistent, useful, and easy-to-read two-page format. Flinn SDS follow the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The 16 sections are divided into four major areas, each designed to answer a specific question.

What is the material and what do I need to know immediately in an emergency? Sections 1–3.

A It is important that the chemical name on the label match the name on the SDS. Many chemicals have similar names, but very different properties.

B The most important section! Provides an overview of the physical and health hazard risks associated with using the material.

C Signal words, either Danger or Warning, heighten the awareness of the relative risk when using certain chemicals. Danger is the more severe warning!

D Eight pictograms exist in the GHS classification scheme to call attention to physical and health hazards. See page 1238 for more information about GHS pictograms.

E This section includes the formula, formula weight, concentration, and CAS#. The CAS# is the single identifying number for each specific substance. CAS# should match the CAS# on the bottle label.

What should I do if a hazardous situation occurs? Sections 4–6.

F Seek medical attention. These first-aid measures are only meant for immediate first aid and should always be followed up with professional medical care. The CAS# is the single identifying number for each specific substance. CAS# should match the CAS# on the bottle label.

G This section is written for the firefighter. Flash point (the lowest temperature at which enough vapor is present to form an ignitable mixture with air); upper and lower flammable limits; and the auto ignition temperature (AIT) are common properties included in this section.

H The NFPA code is a numerical code established by the National Fire Protection Association. It rates the substance under fire conditions in four categories. Health, Flammability, Reactivity, and unusual reactivity: 4 is a severe hazard, 0 is no hazard.

I How to clean up a spill. Always remove unprotected personnel from area and make sure all students are safe. Contain the spill with sand or absorbent materials.
How to Read A Safety Data Sheet (SDS), continued

Each Flinn SDS follows the same format and the information is always found in the same location, making it a valuable resource in the event of an emergency. With your first chemical order of the year, every teacher will receive a CD from Flinn Scientific containing all of our SDS. You may also request another CD at any time. Flinn SDS are updated on a regular basis, guaranteeing the most up-to-date safety information possible. Flinn sells a complete SDS Library in two versions, a hard copy version in two binders (Catalog No. AP7703, page 1206) or as part of the Flinn Online Chemventory program. For a more detailed description of the Flinn Online Chemventory program, please refer to pages 1196–1197. For our customers’ convenience, Flinn has also placed a free complete set of SDS on our website. Simply go to www.flinnsci.com and click on the Free SDS button—individual SDS are easy to find and copies may be printed from your computer.

**FLINN SCIENTIFIC, INC.**

**n-Butyl Alcohol**

**SDS #:** 181.00  
**Revision Date:** September 25, 2015

**SECTION 7 — HANDLING AND STORAGE**


**SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION**

Wear protective gloves, protective clothing and eye protection (P280). Wash thoroughly after handling (P264). Use ventilation to keep airborne concentrations below exposure limits. Exposure guidelines: PEL 100 ppm (OSHA) TLV 20 ppm (ACGIH).

**SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES**

Clear colorless liquid. Wine-like odor. Boiling point: 117.7°C. Melting point: −89°C. Refractive index: 1.3988. Specific gravity: 0.81

**SECTION 10 — STABILITY AND REACTIVITY**

Avoid contact with aluminum, chromium trioxide, and oxidizing materials. Substance may develop explosive hydroperoxides. Shelf life: Fair, substance may oxidize. See Section 7 for further information.

**SECTION 11 — TOXICOLOGICAL INFORMATION**

Acute effects: Absorbed through skin. Eye, skin, respiratory tract irritation. Dizziness. CNS depression. Chronic effects: N.A. Target organs: Eyes, skin, respiratory system, central nervous system. N.A. = Not available, not all health aspects of this substance have been fully investigated.

**SECTION 12 — ECOLOGICAL INFORMATION**

Data not available. (P)

**SECTION 13 — DISPOSAL CONSIDERATIONS**

Please review all federal, state and local regulations that may apply before proceeding. Flinn Suggested Disposal Method #1B is one option.

**SECTION 14 — TRANSPORT INFORMATION**

Shipping name: Butanols. Hazard class: 3. Flammable Liquid. UN number: UN1120. N/A = Not applicable (R)

**SECTION 15 — REGULATORY INFORMATION**

TSCA-listed, EINECS-listed (200-751-6), RCRA code U031. (S)

**SECTION 16 — OTHER INFORMATION**

This Safety Data Sheet (SDS) is for guidance and is based upon information and tests believed to be reliable. Flinn Scientific, Inc. makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. Any use of this data and the products described shall be at your own risk and Flinn Scientific, Inc. shall not be held liable for any damages relating thereto. Please review all federal, state and local regulations that may apply before proceeding. Flinn Suggested Disposal Methods. Flinn Scientific has an ongoing program to update its SDS. As professional chemists, we try our best to provide science teachers with the most accurate and useful safety information. Call Flinn if you have any questions. We can help!

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**How can I prevent hazardous situations from occurring?**

**Sections 7–11.**

**J** Use the Flinn Suggested Chemical Storage Pattern to prevent accidents and improve safety. Special storage and usage tips are also included.

**K** Wear personal protective equipment such as goggles, gloves, and an apron. See page 1226–1227 for an explanation of exposure guidelines.

**L** Clear, concise, and useful physical and chemical properties help you learn more about the chemicals you use. The first part describes the material’s appearance. If it doesn’t look like this, STOP. Do not use it. It may be more or less hazardous.

**M** Describes the conditions or reactions to be avoided. Also provides some indication about anticipated shelf life.

**N** More detail on how the material may injure you. Acute (short exposure) and chronic (long-term) effects are listed along with their target organs.

**O** Oral (ORL), inhalation (IHL), and skin absorption (SKN) toxicity data on test animals is included. For more information on LDs, see pages 1228–1229.

**Other useful information. Sections 12–16.**

**P** Ecological impact if large amounts (e.g., tank car) of the chemical spill near a river or lake.

**Q** Suggested disposal methods for laboratory quantities of chemicals. See pages 1268–1298 for Flinn Suggested Disposal Methods.

**R** Department of Transportation shipping information is included for your school district, emergency responders, and transport/shipping departments.

**S** Regulatory information used by regulatory compliance personnel.

**T** Flinn Scientific has an ongoing program to update its SDS. As professional chemists, we try our best to provide science teachers with the most accurate and useful safety information. Call Flinn if you have any questions. We can help!