

How to Read an MSDS

Material Safety Data Sheets (MSDS) are an important requirement of the OSHA Hazard Communication Standard. MSDS have become important documents 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 MSDS specifically for teachers and their students. Using clear and straightforward language, each Flinn MSDS provides all the relevant safety and hazard information in a consistent, useful, and easy-to-read two-page format. Flinn MSDS follow the American National Standards Institute (ANSI) and Chemical Manufacturer Association (CMA) 16-section MSDS format, which exceeds OSHA requirements. 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.

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

2 The CAS# is the single identifying number for each specific substance. CAS# should match the CAS# on the bottle label.

3 The most important section! 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. The second part provides an overview of the most significant and immediate concern when using this material. It will include reactivity, adverse health effects, and flammability information.

4 Flinn At-A-Glance™ provides a numerical guide in five categories. If 2's and 3's are present, read the MSDS for further information.

What should I do if a hazardous situation occurs?

Sections 4–6.

5 Seek medical attention. These first-aid measures are only meant for immediate first aid and should always be followed up with professional medical care.

6 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.

7 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.

8 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.

FLINN SCIENTIFIC, INC.

Material Safety Data Sheet (MSDS)

MSDS #: 5.00

Revision Date: September 24, 2002

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Acetic Acid; Glacial **1**

Flinn Scientific, Inc. P.O. Box 219 Batavia, IL 60510 (800) 452-1261
CHEMTREC Emergency Phone Number: (800) 424-9300

SECTION 2 — COMPOSITION, INFORMATION ON INGREDIENTS

Acetic Acid; Glacial
Synonyms: vinegar acid, ethanoic acid
CAS#: 64-19-7 **2**

SECTION 3 — HAZARDS IDENTIFICATION

Clear colorless liquid, strong vinegar odor.
Corrosive, causes severe burns to eyes and skin. Moderately toxic by ingestion, inhalation and skin absorption. Fumes can be suffocating.
Class II Combustible Liquid. **3**

FLINN AT-A-GLANCE

Health-2
Flammability-2
Reactivity-2
Exposure-3
Storage-3

0 is low hazard, 3 is high hazard

SECTION 4 — FIRST AID MEASURES

Call a physician, seek medical attention for further treatment, observation and support after first aid.
Inhalation: Remove to fresh air at once. If breathing has stopped give artificial respiration immediately. **5**
Eye: Immediately flush with fresh water for 15 minutes.
External: Wash continuously with fresh water and mild liquid soap for 15 minutes.
Internal: Give 1 to 2 cups of water or milk, followed by a gastric antacid, such as milk of magnesia. Do not induce vomiting. Call a physician or poison control at once.

SECTION 5 — FIRE FIGHTING MEASURES

Class II Combustible liquid. When heating to decomposition, emits irritating fumes. **6**
Flash Point: 103 F (OC) Upper: 19.9% Lower: 4.0% AIT: 867 F
Fire Fighting Instructions: Use triclass, dry chemical fire extinguisher. Firefighters should wear PPE and SCBA with full facepiece operated in positive pressure mode. **7**

NFPA CODE

H-3
F-2
R-0

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Restrict unprotected personnel from area. Remove all ignition sources and ventilate area. Contain spill with sand and absorbent material, neutralize with sodium bicarbonate or calcium hydroxide and deposit in sealed bag or container. See Sections 8 and 13 for further information. **8**

SECTION 7 — HANDLING AND STORAGE

Flinn suggested chemical storage pattern: Organic #1. Store with acids, anhydrides and peracids. Store away from Nitric Acid. Store in a dedicated acid cabinet and away from any source of water; if an acid cabinet is not available, store in a Flinn Saf-Cube. Use and dispense in a hood. **9**

SECTION 8 — EXPOSURE CONTROLS, PERSONAL PROTECTION

Avoid contact with eyes, skin and clothing. Wear chemical splash goggles, chemical-resistant gloves and chemical-resistant apron. Use ventilation to keep airborne concentrations below exposure limits. Always wear a NIOSH-approved respirator with proper cartridges or a positive pressure, air-supplied respirator when handling this material in emergency situations (spill or fire). **10**
Exposure guidelines: TWA 10 ppm, STEL 15 ppm (OSHA, NIOSH)

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How can I prevent hazardous situations from occurring?

Sections 7–11.

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

10 Wear personal protective equipment such as goggles, gloves, and an apron. See page 1034–1035 for an explanation on TWA and STEL.

