Lab Safety Resources at NLM

Stephanie Publicker, MLS
Who We Are
## Enviro-Health Links

### Pathways for Public Health Information

Selected links to information on environmental health and toxicology, disasters, chemicals, drugs, and special populations.

See our [Selection Criteria](#) to learn how we choose the materials for these guides.

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<td></td>
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<td>▶ Avian Influenza A(H7N9) 2013</td>
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<td>▶ H1N1 Flu (Swine Flu)</td>
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Guide to Web Resources in Laboratory Safety

Enviro-Health Links - Laboratory Safety

- Overview
- Chemical Laboratory Safety
- Biological Laboratory Safety
- Nanomaterials in the Laboratory
- K-12 School Laboratory Safety
- Hazard Analysis
- Material Safety Data Sheets (MSDS)
- Regulations and Standards
- Laboratory Waste Management
- Organizations
- Blogs, News, Podcasts, and Videos
- Topic-related Searches of National Library of Medicine Resources
- Disclaimer

Overview

- Laboratory Quality Management System Training Toolkit
- World Health Organization
- Safety and Health in Laboratories
- Occupational Safety and Health Administration, U.S. Department of Labor

Chemical Laboratory Safety

Basic Chemical Safety

- Chemical Laboratory Safety and Security: A Guide to Prudent Chemical Management
  Board on Chemical Sciences and Technology, National Research Council of the National Academies of Science
  Committee on Chemical Safety and Division of Small Chemical Businesses, American Chemical Society
  Committee on Chemical Safety, American Chemical Society
- Safe Science: Promoting a Culture of Safety in Academic Chemical Research (2014)
  Committee on Establishing and Promoting a Culture of Safety in Academic Laboratories
Welcome to TOXNET
Your resource for searching databases on toxicology, hazardous chemicals, environmental health, and toxic releases

**SEARCH TOXNET** Search all or select specific databases
**ADVANCED SEARCH**

- **ALL DATABASES**

- Search

**TOXNET Databases**

**MOST VISITED BY TOXNET USERS**
- **HSDB**: Hazardous Substances Data Bank. Peer-reviewed toxicology data for over 5,000 hazardous chemicals
- **TOXLINE**: 4 million references to literature on biochemical, pharmacological, physiological, and toxicological effects of drugs and other chemicals
- **ChemIDplus**: Dictionary of over 400,000 chemicals (names, synonyms, and structures)

**BREASTFEEDING & DRUGS**
- **LactMed**: Drugs and Lactation Database. Drugs and other chemicals to which breastfeeding mothers may be exposed

**DEVELOPMENTAL TOXICOLOGY LITERATURE**
- **DART**: Developmental and Reproductive Toxicology Database. References to developmental and reproductive toxicology literature

**CHEMICAL RELEASES & HAZARDS**
- **TOXMAP**: Environmental Health Map service available via TOXMAP

**Did you know**
- **Questions to choose a database**
  - There is a guide to choosing a database
  - Which Resource Should I Use can help you pick the right resource for your search

**More FAQs**
HSDB Record

SODIUM ALUMINUM HYDRIDE
CASRN: 13770-96-2

This record contains information specific to the title compound. Users with an interest in this substance are strongly encouraged to retrieve the ALUMINUM COMPOUNDS record, which has additional information on toxicity and environmental fate of aluminum ions and compounds. For information on the metal itself, refer to the ALUMINUM ELEMENTAL record.

CLOSEST MATCH TO SEARCH TERMS
Displays excerpts in the record that contain your search words.
For other data, click on the Table of Contents

Hazardous Reactivities & Incompatibilities:

Strong reducing agent, strong water reactive substance: Extremely reactive. Do not mix with any chemical or waste material (from table).
ChemIDplus
ChemIDplus Record

Substance Name: Sodium aluminum hydride
RN: 13770-96-2

Classification Code
TSCA Flag P [A commenced PMN (Premanufacture Notice) substance]

Molecular Formula
\[ \text{AlH}_4\cdot\text{Na} \]

Molecular Weight
64.0036

Links to Resources

NLM Resources (File Locators)
- HSDB
- RTECS
- TOXLINE
- TSCAINV
- PubChem
- PubMed
- PubMed Toxicology
- PubMed Cancer
- Haz-Map

Regulatory Agencies (Superlist Locators)
- DOT
- WHMI

Other Resources (Internet Locators)
- EPA SRS
- NJ-HSFS
- CheBI
- CAMEO
- EPA ACToR
- eChemPortal
- EINECS

Names and Synonyms

Name of Substance
Sodium aluminum hydride

Synonyms
- Aluminata(1-) tetrahydro-
- Aluminum sodium hydride
- SAH 22
- Sodium tetrahydroaluminate
## ChemIDplus Physical Properties

### Substance Name: DDT [BSI:ISO]
RN: 50-29-3
InChIKey: YVGGHNCTFXOJCH-UHFFFAOYSA-N

**Note**
A polychlorinated pesticide that is resistant to destruction by light and oxidation. Its unusual stability has resulted in difficulties in residue removal from water, soil, and foodstuffs. This substance may reasonably be anticipated to be a carcinogen: Fourth Annual Report on Carcinogens (NTP-85-002, 1985). (From Merck Index, 11th ed)

### Molecular Formula
C14-H9-Ci5

### Molecular Weight
354.4901

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<table>
<thead>
<tr>
<th>Physical Property</th>
<th>Value</th>
<th>Units</th>
<th>Temp (deg C)</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting Point</td>
<td>108.5</td>
<td>deg C</td>
<td></td>
<td>EXP</td>
</tr>
<tr>
<td>log P (octanol-water)</td>
<td>6.91</td>
<td>(none)</td>
<td></td>
<td>EXP</td>
</tr>
<tr>
<td><strong>Water Solubility</strong></td>
<td><strong>0.0055</strong></td>
<td>mg/L</td>
<td>25</td>
<td>EXP</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>1.60E-07</td>
<td>mm Hg</td>
<td>20</td>
<td>EXP</td>
</tr>
<tr>
<td>Henry's Law Constant</td>
<td>8.32E-06</td>
<td>atm-m3/mole</td>
<td>25</td>
<td>EXP</td>
</tr>
<tr>
<td>Atmospheric OH Rate Constant</td>
<td>3.44E-12</td>
<td>cm3/molecule-sec</td>
<td>25</td>
<td>EST</td>
</tr>
</tbody>
</table>

Physical property data is provided to ChemIDplus by Syracuse Research Corporation.
See all available property data for this compound, including references.
ChemIDplus Advanced
ChemIDplus Advanced Results
Search by High Risk Jobs
# High Risk Job Record

<table>
<thead>
<tr>
<th>Job Name</th>
<th>Chemical Technicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids, and gaseous materials for purposes such as research and development of new products or processes, quality control, maintenance of environmental standards, and other work involving experimental, theoretical, or practical application of chemistry and related sciences.</td>
</tr>
<tr>
<td>Category</td>
<td>Engineering, Sciences &amp; Education</td>
</tr>
<tr>
<td>SOC Code</td>
<td>19-4031</td>
</tr>
</tbody>
</table>

**Related Information in Haz-Map**

- High risk job tasks associated with this job:
  - Compound plastics using lead stabilizers
  - Formulate, mold, or cure resins to produce advanced composite materials
  - Inhale or handle nitrogen compounds that can induce methemoglobinemia
  - Manufacture chemicals
  - Manufacture lead products
  - Use anhydride compounds to manufacture chemical products
  - Use benzene to manufacture products
  - Use diazonium salts to manufacture photocopy paper or polymers
Major Job Task

- Applying Glues or Sealants
- Applying Pesticides
- Applying Surface Coatings
- Beauty Culture
- Cleaning or Disinfecting
- Construction
- Contact with Humans or Animals
- Dyeing or Tanning
- Electroplating
- Food Processing
- Handling Animals
- Handling Chemicals
- Handling Insects
- Handling Plants
- Heating or Machining Plastics/Rubber
- Heating, Machining, or Welding Metal
- Installing or Removing Insulation
- Manufacturing
- Medical and Dental Services
- Medical or Dental Services
- Mining or Quarrying
- Miscellaneous
- Printing or Photography
- Processing Materials
## Major Job Task Record

<table>
<thead>
<tr>
<th>Job Task Name</th>
<th>Clean up equipment with solvents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Task Category</td>
<td>Handling Chemicals</td>
</tr>
<tr>
<td>Exposed To</td>
<td>Solvents</td>
</tr>
</tbody>
</table>

### Related Information in Haz-Map

**Diseases**
- Diseases associated with this job task:
  - Solvents, acute toxic effect

**Jobs**
- Jobs associated with this job task:
  - Aircraft Mechanics & Service Technicians
  - Automotive Mechanics & Service Technicians
  - Avionics Technicians
  - Building Cleaning Workers, All Other
  - Bus & Truck Mechanics & Diesel Engine Specialists
  - Cleaners of Vehicles and Equipment
  - Coating, Painting, & Spraying Machine Setters, Operators
  - Construction Craft Laborers
  - Craft Artists
  - Extruding, Forming, Pressing & Compacting Machine Operators
  - Fine Artists, Including Painters, Sculptors & Illustrators
  - Floor Sanders & Finishers
  - Industrial Machinery Mechanics
  - Janitors & Cleaners, Except Maids & Housekeeping Cleaners
  - Painters, Construction & Maintenance
  - Painters, Transportation Equipment
# Disease/Syndrome

<table>
<thead>
<tr>
<th>Disease/Syndrome</th>
<th>Solvents, acute toxic effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category</td>
<td>Acute Poisoning</td>
</tr>
<tr>
<td>Acute/Chronic</td>
<td>Acute-Moderate</td>
</tr>
<tr>
<td>Biomedical References</td>
<td>[Search PubMed]</td>
</tr>
<tr>
<td>Comments</td>
<td>Organic solvents are volatile substances, usually liquid at room temperature, commonly used in the workplace as ingredients in paints and adhesives. They are often used as cleaners and degreasers. &quot;The potency of solvents as general anesthetics and as defatting agents is directly proportionate to their lipid solubility.&quot; The systemic symptoms of acute solvent poisoning resemble those of intoxication from alcoholic beverages. [LaDou, p. 481-7] Increased albumin secretion, but no other biomarker of kidney injury, is associated with solvent exposure. [PMID 15895243] Like HARD liquor, organic solvents can cause: H—hepatotoxicity; heart sensitization; A—anesthesia; R—respiratory irritation; reaction time increased; D—dermatitis; Biological monitoring of exposed workers may be preferable to air monitoring because solvent uptake is greatly influenced by workload. [Zenz, p. 772] The most hepatotoxic solvents are hydrocarbons substituted with halogen or nitro groups. Weakly hepatotoxic solvents include aliphatic hydrocarbons and aromatic hydrocarbons. [LaDou, p. 492]</td>
</tr>
<tr>
<td>Latency/incubation</td>
<td>Seconds to hours</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>Biological exposure indices (BEIs) for benzene, toluene, xylene, styrene, methyl chloroform (1-1-1-trichloroethane), and dimethylformamide; [ACGIH]</td>
</tr>
<tr>
<td>ICD-9 Code</td>
<td>987.8</td>
</tr>
<tr>
<td>Reference Link</td>
<td>[OSHA Technical Links - Solvents]</td>
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Disaster Information Manager Research Center
Disaster and Emergency Response Tools from the National Library of Medicine

- **Chemical Hazards Emergency Medical Management (CHEMM)**
  Guidance on planning, response and recovery related to chemical mass casualty incidents.

- **Radiation Emergency Medical Management (REMM)**
  Guidance on the clinical diagnosis and treatment of mass casualty radiological/nuclear events for health care providers.

- **Wireless Information System for Emergency Responders (WISER)**
  A system to help emergency responders identify hazardous materials and respond to chemical emergencies. Contains information on over 400 chemicals and radiologic agents.

- **Disaster Apps and Mobile Optimized Web Pages**
  Links to disaster- and emergency-related apps and mobile Web sites.

More NLM Disaster Information Resources

- TOXNET - Toxicology and Environmental Health Resources
- NLM Disaster Preparedness and Response Web Links
- Directory of Disaster-Related Organizations
- Disaster Health Literature

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Librarians and Disasters

Librarians and Disasters

Disaster Information Specialist Program
The Disaster Information Specialist Program is a collaborative effort to explore and promote the role of information specialists in the provision of disaster-related information resources to the workforce and communities. A webinar/conference call for those interested in disaster health related topics is held on the second Thursday of most months at 1:30 pm ET. Continuing education courses are available for a Disaster Information Specialization from the Medical Library Association.

Librarians and Libraries Respond to Disasters: Bibliography on Library Roles in Disaster Preparedness, Response, and Recovery
This bibliography is a survey of the published literature and other resources on the role of librarians and information professionals in the provision of disaster-related information.

Stay Connected
Stay connected through our email discussion list and through Twitter.
- DISASTR-OUTREACH-LIB Listserv
  This email discussion forum is for librarians, information specialists, and other professionals interested in disaster health information outreach to their communities. As a participant in this listserv, you can stay informed about current disaster-related resources, connect to colleagues in the field, engage in information exchange and learn about new ideas, trends, training opportunities, and conferences in the area of disaster health information. Click here for a list of the news sources scanned for weekly news updates sent on this listserv.
- @NLDMDIMRC
  Receive the latest updates from DIMRC and news from selections from dozens of e-sources by following NLM_DIMRC on Twitter.

Disaster Information Outreach Symposium
This symposium for information professionals meeting disaster health information needs was held March 29 – 30, 2011, at the National Library of Medicine on the NIH Campus in Bethesda, MD.

Disaster Health Information Outreach and Collaboration Projects
NLM offers funding for disaster information outreach projects supporting collaboration between libraries/information centers and disaster-related organizations, and for public and other libraries to conduct community preparedness and disaster awareness events.

Tools for Librarians
- Emergency Access Initiative
  The Emergency Access Initiative (EAI) is a partnership of the National Library of Medicine, the National Network of Libraries of Medicine (NN/LM), and the Professional/Scholarly Publishing Division of the Association of American Publishers and other publishers. EAI provides temporary free access to full text articles from major biomedicine titles to healthcare professionals, librarians, and the public affected by disasters.
Disaster Information Specialist

About the Disaster Information Specialist Program
The Disaster Information Specialist Program is a collaborative effort to explore and promote the role of information specialists in the provision of disaster-related information resources to the workforce and communities.

Monthly Webinars/Conference Calls
A webinar/conference call for those interested in disaster health information is held on the second Thursday of most months at 1:30 ET. The Disaster Information Specialist Program monthly webinars/conference calls are open to all and can be attended in person, online through Adobe Connect, or by telephone. To receive announcements about the meetings, including connection information, please join our listserv.

Medical Library Association (MLA) continuing education credit is available for participating in, or watching the recording of, a monthly webinar/conference call. To obtain a certificate for one hour of continuing education credit, register with the Oak Ridge Associated Universities Learning Management System at https://oraulearning.org. After registration, select the webinar from the course catalog. Complete the MLA-required "Continuing Education Evaluation Survey" and your certificate will be added to your Training History. Registration is only required for those interested in MLA CE credit.

Training and Continuing Education
The Medical Library Association (MLA) awards a Basic or Advanced certificate for completion of courses and other activities as part of the Disaster Information Specialization. Courses and activities that meet the requirements for a certificate are outlined in the Disaster Information Model Curriculum. MLA suggests that this achievement be added to resumes and curriculum vitae as an educational and professional accomplishment.

- Medical Library Association Disaster Information Specialization
  The Disaster Information Management Research Center (DIMRC) contracted with MLA to develop a series of continuing education courses on disaster information topics in support of a disaster information specialization for librarians and other interested professionals. The specialization is available at a Basic or Advanced level.

- Disaster Information Model Curriculum
  The goal of the Disaster Information Model Curriculum is to develop the capacity of librarians and other interested professionals to support their institutions and communities throughout the disaster/emergency cycle of mitigation, preparedness, response, and recovery. The emphasis is on health information as a first priority for course content with other facets of disaster...
WISER - Wireless Information System for Emergency Responders

Welcome to WISER
Wireless Information System for Emergency Responders

WISER is a system designed to assist emergency responders in hazardous material incidents. WISER provides a wide range of information on hazardous substances, including substance identification support, physical characteristics, human health information, and containment and suppression advice.

Latest News
New! As of 9/18/2014, version 3.1 of WISER for iOS is available. See what’s new in version 3.1.1.
As of 12/20/2013, version 4.5 of WebWISER is available. See what’s new in version 4.5.
As of 10/28/2013, version 4.5 of WISER for Windows is available. See what’s new in version 4.5.

Download
WISER is available for download as a standalone application on Microsoft Windows PCs, Apple iPhone and iPod Touch, Google Android devices, and Blackberry devices. Visit the training page to download materials that aid with training on the usage of WISER.

WebWISER
When an Internet connection is available, use your web browser to access the same functionality of the standalone applications. WebWISER supports both PC and mobile device browsers, including BlackBerry, iPhone, and Android devices.

Join the E-mail List
Want to get notices of WISER updates and news? Join the WISER E-mail List to automatically receive important announcements about WISER.

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Bart Simpson is standing in a classroom with a chalkboard. The blackboard has the following written on it:

- Science class should not end in tragedy
- Science class should not end in tragedy
- Science class should not end in tragedy
- Science class should not end in tragedy
- Science class should not end in tragedy
- Science class should not end in tragedy

Next to the board, there is a trash can. The classroom has a green wall and a window on the right side.