

HIGH/MIDDLE SCHOOL
WRITTEN HAZARD COMMUNICATION PROGRAM
MODEL HAZCOM PLAN
JEFFERSON COUNTY PUBLIC SCHOOLS

SCHOOL

DATE

Each JCPS School/Facility will have a Hazard Communication Program to comply with the OSHA Hazard Communication Standard 1910.1200. The law was implemented and effective on May 23, 1988.

OSHA WRITTEN HAZARD COMMUNICATION PROGRAM

The purpose of this law is to ensure that information about the hazards of all chemicals and chemical products used by JCPS Schools/Facilities is known to employees who have them in their work area. It is advised that all JCPS Schools/Facilities must participate in the Hazard Communication Program.

The written Hazard Communication Program of the School/Facility will be maintained in the administrative office and in each work area, as necessary, in order to be readily available to employees on all shifts. This written program explains the methods used to comply with the law including the following:

- Implementation Summary
- Chemical Inventory List
- Container Labels and Secondary Labels
- Informing Contractors
- Material Safety Data Sheets
- Employee Training
- Work Area Responsibility Assignment List
- Hazardous Non-Routine Task Exposures
- Definitions for Reference
- List of chemicals for use in High School Science
- School Chemical Pick-Up List Form

IMPLEMENTATION SUMMARY

Introduction

The safety of chemicals in the school workplace is regulated by OSHA. As required by regulation, the **JCPS Chemical Hygiene Plan** sets District standards and responsibilities for using chemicals safely in the science laboratory. The **Hazard Communication Program** is required by OSHA for making safety information on chemicals and chemical products used at your school readily available to employees in each work area. Help in compliance is available by contacting the Environmental Services Office at 485-3698 for implementation materials, guidance, training and disposal needs.

Hazard Communication Program

1. **Chemical Inventory List** – Complete and/or update the inventory lists for each work area in the school, and send a copy to the Environmental Coordinator. Keep a copy in the work area's red Material Safety Data Sheets (MSDS) binder and one in the main office's red MSDS binder. Be sure to record the exact product name and the manufacturer's name. Lists should be updated near the beginning of each school year for chemicals not previously listed. These forms are available upon request.
2. **Secondary Labels** – Label all unlabeled chemical and chemical-product containers that do not have the original manufacturer's label intact. Also, unlabeled containers, such as custodial spray bottles that hold chemicals during more than one work shift, must be labeled with the yellow/black Secondary Labels that are available upon request.
3. **Material Safety Data Sheets (MSDS)** – Chemical product manufacturers supply MSDS upon request. Each school is responsible for obtaining a MSDS for each chemical and chemical product and for sending a copy to the Safety and Environmental Office. There should be a red MSDS binder containing current MSDS readily available in each work area and in the main school office. After updated inventory lists have been forwarded to the Environmental Coordinator, the Safety and Environmental Office will assist by sending MSDS back to your school from Central Office files or will help by contacting manufacturers. Red MSDS binders are available upon request.
4. **Written Program** – Each school is to keep its own school Written Hazard Communication Program on file in the red MSDS binder in the school's main office. This written program is based on a Model Plan available to principals. The blanks in the Model Plan are filled in, including names of staff members responsible for each work area.
5. **Training** – A signature record of who has received training also must be a part of the written program. Some Central Office departments such as School and Community Nutrition Services, Housekeeping, and Transportation have ongoing training programs. All employees who handle hazardous chemicals must have training to be in compliance. Training will be scheduled upon request and offered at announced times.

CHEMICAL INVENTORY LIST

Essentially all chemicals/chemical products used in schools/facilities are considered hazardous and need to have inventory lists and annual updates. Each work area in a building has its own types of chemicals. The person assigned the responsibility for a work area such as the science department chairperson or plant operator should complete a Chemical Inventory List and send a copy to the Safety and Environmental Office.

The person assigned the responsibility for the work area shall make sure all chemical/chemical products are properly labeled, inventoried and have the MSDS sheet in a red binder in each work area that is readily accessible and available to employees on all shifts including the written program. A master must be kept in the school/facility office in a red binder. (Available on request)

CONTAINER LABELING AND SECONDARY LABELS

The principal/building manager or the designated school safety activities person (indicate name/position) _____ is responsible to assign individuals in each work area to verify that all containers in the school/facility that do not have original manufacturers labels have secondary labels with the following:

- Contents of the container
- Appropriate hazard warning (taken from the original container label or from the material safety data sheets)
- Name and address of the manufacturer

Each of the persons/positions identified on the Work Area Responsibility Assignment List will verify that all containers received for use in their area will be clearly labeled as to the contents, note the appropriate hazard warning and list the name and address of the manufacturer. Secondary labels are available on request for use on containers that do not have manufacturer's labels.

These individuals will also insure that all secondary containers have secondary labels containing the same information. Secondary labels will be available by request from the office of Safety & Environmental Services.

Temporary containers that will not contain chemicals or chemical products beyond the current work shift placed and only used by the same person need not have a secondary label.

INFORMING CONTRACTORS

All contractors and their employees must be notified of the presence of JCPS hazardous chemicals to which they may be exposed while on a JCPS job site. They will be advised of measures their employees can take to lessen the possibility of exposure. The supervisor should be advised of the location of the school/facility Hazard Communication Program and the Material Safety Data Sheets.

MATERIAL SAFETY DATA SHEETS (MSDS)

The principal or the designated school safety activities person (indicate name/position)

will be responsible to assign individuals to verify that corresponding Material Safety Data Sheets are on file for all hazardous chemicals/chemical products in the school/facility.

Material Safety Data Sheets for hazardous chemicals/chemical products will be maintained in the school/facility Administrative Office and in their respective work area. The work areas are identified on the Work Area Responsibility Assignment List as well as the person/position responsible.

The MSDS is the most reliable way to determine the hazardous nature of chemicals. Revised copies of the MSDS's received by the school must be reviewed for new or significant health and safety information which must be passed on to work area employees. The revised MSDS must be copied, distributed, and inserted into the school's main office MSDS file and the work area file by the person/position identified on the Work Area Assignment Sheet.

If an MSDS is not available from the JCPS warehouse or manufacturer, contact the Safety and Environmental Services Office. MSDS's are to be readily available to employees in each work area on all shifts. The principal/facility manager must ensure that MSDS's are obtained on any chemical they procure locally or purchase directly from a vendor.

EMPLOYEE TRAINING

The principal/facility manager and/or designee will be responsible for coordinating school employee training on OSHA Hazard Communication and on hazardous chemicals used in the work area. Assistance is available from the Safety and Environmental Services Department to provide training upon request.

The training will emphasize these items:

- Summary of the standard and this written program;
- Chemical and physical properties of hazardous materials (e.g., flash point, reactivity) and methods that can be used to detect the presence or release of chemicals (including chemicals in unlabeled pipes);
- Physical hazards of chemicals (e.g., potential for fire, explosion, etc);
- Health hazards, including signs and symptoms of exposure, associated with exposure to chemicals and any medical condition known to be aggravated by exposure to the chemical;
- Procedures to protect against hazards (e.g., personal protective equipment required, proper use, and maintenance; work practices or methods to assure proper use and handling of chemicals; and procedures for emergency response);
- Work procedures to follow to assure protection when cleaning hazardous chemical spills and leaks; and
- Where MSDS's are located, how to read and interpret the information on both labels and MSDS's, and how employees may obtain additional hazard information.
- Retraining is required when the hazard changes or when a new hazard is introduced into the workplace.

WORK AREA RESPONSIBILITY ASSIGNMENT LIST

The person/position assigned responsibility below will complete the Chemical Inventory List to identify all chemicals and chemical products in their assigned work area. The list should be readily available to all employees on all work shifts for that work area. They are also responsible for verifying that all hazardous chemical containers are labeled and Material Safety Data Sheets are readily available for their assigned work area.

If the work area listed below is found in your School/Facility place and “x” in the box and fill out below.

WORK AREA	PERSON/POSITION RESPONSIBLE
<input type="checkbox"/> Administrative Offices	_____
<input type="checkbox"/> Art/Graphic Arts	_____
<input type="checkbox"/> Food Services	_____
<input type="checkbox"/> Home Economics	_____
<input type="checkbox"/> Housekeeping	_____
<input type="checkbox"/> Instructional Classrooms	_____
<input type="checkbox"/> Library/Media Services	_____
<input type="checkbox"/> Maintenance/Boiler Room	_____
<input type="checkbox"/> Photography	_____
<input type="checkbox"/> Physical Education/Health	_____
<input type="checkbox"/> Outside Buildings	_____
<input type="checkbox"/> Science	_____
<input type="checkbox"/> Teacher Workroom/Lounge	_____
<input type="checkbox"/> Other (Paint booths, shops)	_____
<input type="checkbox"/> _____	_____
<input type="checkbox"/> _____	_____
<input type="checkbox"/> _____	_____
<input type="checkbox"/> _____	_____

List all school work areas above where hazardous chemicals are used or stored.

NONROUTINE TASK

When you are required to perform hazardous non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc), a special training session will be conducted to inform you regarding the hazardous chemicals to which you might be exposed and the proper precautions to take to reduce or avoid exposure. (Contact the Safety and Environmental Service office.)

School Name

Work Area

**CHEMICAL HAZARD COMMUNICATION PROGRAM
CHEMICAL INVENTORY LIST**

The following is a complete and accurate list of products and chemicals used or stored in this work area at this time.

ADD or DELET (+ or -)	PRODUCT BRAND NAME Example: Lysol (Usually on front of bottle.) (Area should use chemical name)	MANUFACTURER'S NAME Example: L & F Products (Usually on back of package or bottle.)	PURPOSE OF Chemical/Chemical Product Example: Disinfectant
	1		
	2		
	3		
	4		
	5		
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	8		
	9		
	10		
	11		
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	23		
	24		
	25		

Approved signature of person responsible for work area
Note: Send photocopy to Safety & Environmental Office to update lists.

HAZARD COMMUNICATION PROGRAM DEFINITIONS FOR REFERENCE*

- Acute Health Effect** – rapidly occurring health effect
- Chemical** – any element, chemical compound, or mixture.
- Chemical Manufacturer** – where chemicals are produced for use/distribution.
- Chemical Name** – based on a scientific nomenclature system and assigned a number.
- Chronic Health Effects** – health effect from long-term exposure.
- Combustible Liquid** – any liquid having a flashpoint above 100°F
- Common Name** – trade name or other name of chemical.
- Compressed Gas** – a pressurized gas or mixture of gasses.
- Container** – bag, barrel, bottle, box, can, cylinder, tank containing a hazardous chemical.
- Distributor** – a supplier of hazardous chemicals to other distributors or to employers.
- Employee** – a worker having possible exposure to hazardous chemicals under normal operating conditions or in foreseeable emergencies. (Office workers are excluded.)
- Employer** – a business where chemicals are used/distributed/produced (incl. Contractors).
- Explosive** – a chemical that causes a sudden release of pressure.
- Exposure** – employee is subjected to a chemical causing physical/health hazard at work.
- Flammable** – aerosol, gas, liquid, or solid causing a fire due to its ignitability.
- Flashpoint** – min. temp. at which a liquid gives off enough vapor to ignite.
- Foreseeable Emergency** – potential occurrence of equipment or container failure.
- Hazardous Chemical** – any chemical with a physical or health hazard on MSDS.
- Hazard Warning** – words/pictures/symbols on label, etc. of a physical/health hazard.
- Health Hazard** – scientifically established acute or chronic health effects on employees.
- Identity** – chemical or common name.
- Immediate Use** – used only by one person during the same work shift.
- Label** – written/printed/graphic affixed to container of hazardous chemical.
- Material Safety Data Sheet (MSDS)** – an information sheet developed by the manufacturer under guidelines for each chemical/chemical product that employer shall have in the workplace for each hazardous chemical used.
- Mixture** – a non-reactive combination of chemicals.
- Oxidizer** – initiates or causes a fire through release of oxygen.
- Physical Hazard** – chemical that is a combustible liquid, compressed gas, explosive, flammable, organic peroxide, oxidizer, pyrophoric, unstable (reactive), or water reactive.
- Pyrophoric** – a chemical that ignites spontaneously in air at less than 130°F.
- Responsible Party** – someone who can provide additional information on the hazardous chemical and appropriate emergency procedures, if necessary.
- Unstable (reactive)** – a chemical that reacts vigorously under shock, pressure, or temp.
- Water-reactive** – reacts with water to release gas that is flammable or is a health hazard.
- Work Area** – a room or defined space in a workplace where hazardous chemicals are produced or used, and where employees are present.
- Workplace** – building/site/project at one geographical location with work area(s).

*Refer to regulation for more details (available on request).

JEFFERSON COUNTY PUBLIC SCHOOLS

SPECIAL REQUEST
TO
PURCHASE SCIENCE CHEMICALS

This request form is to be completed by the school Science Department Chairperson for chemical(s) NOT found on the List of Chemicals for Use in High School Science:

SCIENCE DEPARTMENT CHAIRPERSON:

Name _____
Print Chairperson Name *Chairperson Signature*

School/Facility Name _____ for Room # _____

CHEMICALS:

_____	_____	_____
<i>Chemical Name</i>	<i>Amount to be Purchased</i>	<i>Amount to be Stored</i>
_____	_____	_____
<i>Chemical Name</i>	<i>Amount to be Purchased</i>	<i>Amount to be Stored</i>
_____	_____	_____
<i>Chemical Name</i>	<i>Amount to be Purchased</i>	<i>Amount to be Stored</i>

REVIEWED AND SUBMITTED BY:

Principal/Asst. Principal _____ Date _____
Phone _____ Fax _____

FAX this form to 485-3847. The district Chemical Hygiene Officer in consultation with the Science Resource Office Committee will review the hazards and safety of the chemical. (Please allow 2 weeks from date of FAX) Upon approval or disapproval, the Principal/Asst. Principal making the request will be notified by return FAX.

ACTIONS TAKEN:

DATE

Chemical Hygiene Officer Review _____
Referral to Science Resource Committee Review _____

APPROVAL / DISAPPROVAL OF REQUEST:

Upon consultation the following decision was reached:

APPROVAL: _____ *Reason:* _____

DISAPPROVAL: _____

_____ *Chemical Hygiene Officer* _____ *Date*

**LIST OF CHEMICALS
FOR USE
IN
HIGH SCHOOL SCIENCE
(Adopted 6/27/01)**

INTRODUCTION:

The following list of chemicals was prepared by a committee as a guide to those chemicals that are allowed and could be purchased for high school science. The list supersedes all other previous lists. *IT IS **NOT INTENDED** THAT ALL CHEMICALS ON THE LIST BE STOCKED IN A SCIENCE STOREROOM. THOSE CHEMICALS FOUND ON THE LIST CAN BE PURCHASED, BUT STOCKS SHOULD GENERALLY NOT EXCEED THE MAXIMUM STORED QUANTITY LISTED. THOSE CHEMICALS **NOT FOUND ON THE LIST** ARE PROHIBITED FROM PURCHASING.* (Requests to purchase chemicals not found on this list are only allowed, if the attached form is submitted and approved in advance.)

The primary goal of the list is to help provide for safer laboratories, while providing for science education in accordance with the curriculum. The chemicals not on the list were deemed not needed for curriculum purposes and/or too hazardous for use. One column gives the maximum quantity to be stored for each chemical at a school. Another column lists the known hazards of a chemical. *Material Safety Data Sheets (MSDS)* on each chemical should be kept on file in a red binder in the science chemical storeroom and in the main office. (Red MSDS binders are available from the Safety and Environmental Services office.) The MSDS sheets should be consulted to determine the proper safety precautions to implement with each chemical.

There is also a “*JCPS Chemical Hygiene Plan*” as required by the Occupational Safety and Health Administration (OSHA). This is a reference guide for safe practices to follow in JCPS school science laboratories. (Copies are available on request from the Safety and Environmental Services office.)

INVENTORY AND DISPOSAL OF CHEMICALS

A reduction in the number and amount of chemicals currently being stored in science storeroom(s) is necessary for safety purposes. The *List of Chemicals for High School Science* limits those chemicals and chemical amounts in storage. All other chemicals not listed are prohibited and need to be listed for legal disposal on the form provided. An environmental chemical disposal company under contract with the Safety and Environmental Services Department will be scheduled by Jim Vaughn at 485-3698 to pick-up those chemicals for legal disposal.

Middle School Science Chemicals

Middle science and chemistry usually needs only basic chemicals such as vinegar, starch, baking soda, ammonia, etc. It is advised all chemicals not specifically needed for the curriculum, should not be kept in stock and listed for legal disposal on the form provided.

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Acetic Acid, 17.4 M	64-19-7	2.5L	Corrosive
Abscisic Acid	14375-45-2	25g	
Acacia	9000-01-5	11g	Irritant
<u>Acetaldehyde (Justify Use) (purchase per use)</u>	75-07-0	100 mL	poss. Carcinogen/Flammable
<u>Acetamide (Justify Use)</u>	60-35-5	500 g	poss, carcinogen
Acetanilide	103-84-4	100 g	Irritant/Toxic fumes
Acetic Anhydride	108-24-7	500 mL	Irritant / Corrosive
Acetone	67-64-1	2.0 L	Flammable
Aceto-Orcein Solution	-	100 mL	Corrosive
Acetylcholine Chloride aqueous solution	-	100 mL	Irritant
Acetyl Salicylic Acid	50-78-2	500 g	Irritant
Acridine Orange Stain aqueous solution	10127-02-3	100 mL	Irritant / Toxic
Adenine	73-24-5	2 g	Toxic
ATP Disodium Salt	51963-61-2	1 g	Irritant
Adipic Acid	124-04-9	100 g	Irritant
Adipoyl Chloride	11-50-2	25 g	Corrosive
DL-Adrenaline	329-65-7	1 g	Toxic
Adrenalin Chloride-aq. Soln	-	100 mg	Toxic
Agar	9002-18-0	500 g	
Agarose	-	25 g	
<u>Aitch-tu-ess Cartridges (H2S) (purchase per use)</u>	-	(1) 12 pk	Toxic gas / Odor
DL-Alanine	71261-64-8	50 g	
Albumin	9006-59-1	500 g	
Alizarin	72-48-0	5 g	Irritant
Alizarin Red S	130-22-3	10 g	Irritant
Alizarin Yellow R	2243-76-7	10 g	
Alka-Seltzer Tablets		24 Pack	
Aluminum	7429-90-5	25 ft. roll	
Aluminum Ammonium Sulfate	7784-25-0	500 g	Corrosive
Aluminum Chloride	7784-13-6	500 g	Corrosive
Aluminum Hydroxide	21645-51-2	500 g	
Aluminum Nitrate	7784-27-2	500 g	Oxidizer
Aluminum Oxide	1344-28-1	500 g	Irritant
Aluminum Potassium Sulfate	7784-24-9	2 kg	
Aluminum Sodium Sulfate	10102-71-3	500 g	
Aluminum Sulfate	17927-65-0	2 kg	
<u>Ammonia (Restricted to one Gallon)</u>	7664-41-7	64 oz	Toxic / Corrosive
Ammonium Acetate	631-61-8	500 g	Irritant
Ammonium Bicarbon	1066-33-7	100 g	Irritant
Ammonium Bromide	12124-97-9	100 g	Irritant
Ammonium Carbonate	506-87-6	500 g	Irritant
Ammonium Chloride	12125-02-9	2 kg	Irritant / Toxic
Ammonium Chromate	7788-98-9	25 g	Toxic
Ammonium Citrate	3012-65-5	500 g	Irritant
Ammonium Dichromate	7789-09-5	2 kg	Oxidizer / Toxic
Ammonium Fluoride	12125-01-8	25 g	Corrosive / Toxic
Ammonium Hydroxide, 14.8 Molar	1336-21-6	2.5 L	Corrosive / Irritant / Toxic
<u>Ammonium Iodide (Justify Use)</u>	12027-06-4	25 g	Irritant / Toxic
Ammonium Metavanadate	7803-55-6	100 g	Irritant / Toxic
Ammonium Molybdate	12027-67-7	100 g	Irritant / Toxic
Ammonium Nitrate	6484-2-2	2 kg	Irritant / Oxidizer
Ammonium Oxalate	6009-70-7	500 g	Corrosive
Ammonium Persulfate	7727-54-0	500 g	Corrosive / Oxidizer
Ammonium Phosphate Monobasic	7722-76-1	500 g	Irritant
Ammonium Sulfate	7783-20-2	2 kg	Irritant

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Ammonium Sulfide	12135-76-1	500 mL	Corrosive / Flammable
Ammonium Tartrate	3164-29-2	25 g	
Ammonium Thiocyanate	1762-95-4	500 g	Irritant / Toxic
<u>Amyl Acetate (Purchase per use)</u>	628-63-7	100 mL	Flammable / Irritant
n-Amyl Alcohol	71-41-0	500 mL	Flammable / Toxic
Amylase	-	25 g	
Aniline	62-53-3	100 mL	Irritant / Toxic
Aniline Hydrochloride	142-04-1	25 g	Toxic
Anthranilic Acid	118-92-3	25 g	Irritant
Antimony	7440-36-0	100 g	Irritant / Toxic
Antimony Potassium Tartrate	28300-74-5	100 g	Irritant / Toxic
Antimony Trichloride	10025-91-9	100 g	Corrosive
D-Arabinose	28697-53-2	25 g	
L-Ascorbic Acid	134-03-2	100 g	
L-Asparagine	5794-13-8	25 g	
L-Aspartic Acid	56-84-8	100 g	
Aspirin Tablets	-	100 g tab.	Allergenic
Aurin Tri carboxylic Acid	569-58-4	5 g	Irritant
Baking Powder		175 g	
Balsam		25 mL	Flammable / Toxic
Barfoed's Reagent	-	100 mL	Toxic
Barium Acetate	543-80-6	100 g	Toxic
Barium Carbonate	513-77-9	500 g	Irritant / Toxic
Barium Chloride	10361-37-2	2 kg	Irritant / Toxic
Barium Hydroxide	12230-71-6	500 g	Corrosive / Toxic
Barium Nitrate	10022-31-8	500 g	Oxidizer / Toxic
Barium Peroxide	1304-29-6	100 g	Corrosive / Oxidizer
Barium Sulfate	7727-43-7	500 g	
Beef Extract	-	100 g	
Beeswax	8012-89-3	500 g	
Benedict's Qualitative Reagent	-	pkg.	
Benzaldehyde	100-52-7	100 mL	Toxic
Benzoic Acid	65-85-0	500 g	Irritant / Toxic
Benzoin	579-44-2	10 g	
Benzophenone	119-61-9	100 g	Irritant
Benzyl Alcohol	100-51-6	500 mL	Irritant / Toxic
6-Benzylaminopurine	1214-39-7	1 g	Irritant
Bial's Reagent	-		
Bile Salts	-	100 g	
Bismark Brown Y	10114-58-6	10 g	
Bismuth	7440-69-9	100 g	Flammable / Toxic
Bismuth Nitrate	10035-06-0	25 g	Oxidizer
Bismuth Trichloride	7787-60-2	25 g	Corrosive
Biuret	108-19-0	50 g	Irritant
Biuret Test Solution	-	100 mL	Corrosive
Blood Agar Base Infusion	-	100 g	
Bluing, Laundry	-	8 oz	
Boiling Stones	-	250 g	
Borax Carmine	-		Toxic
Boric Acid	10043-35-3	500 g	Toxic / Irritant
Bouillon Cubes	-	15 pkg	
Brass Sheet	-	Each	
Brass Strips	-	6 pkg	
Brilliant Cresyl Blue	81029-05-2	5 g	Irritant
Brilliant Green	633-03-4	10 g	

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Bromcresol Green	62625-32-5	5 g	
Bromcresol Purple	62625-30-3	5 g	Irritant
<u>Bromine (Justify Use)</u>	7726-95-6	3*1 g ampules	Oxidizer / Toxic
Bromobenzene	108-86-1	100 mL	Flammable / Irritant
Bromoform	75-25-2	25 g	Toxic
Bromphenol Blue	62625-28-9	5 g	
Bromthymol Blue	34722-90-2	5 g	
Buffer Solutions (pH 4, 7 & 10)	-	500 mL	pH Concent
n-Butyl Alcohol	71-36-3	4 L	Flammable / Irritant / Toxic
Butyl Phthalate	84-74-2	500 mL	Irritant
Butyl Stearate	109-43-3	500 g	Combustible
Butyric Acid	107-92-6	500 mL	Corrosive / Odor / Toxic
<u>Cadmium (metal ingot only) Restricted Use)</u>	7440-43-9	100 g	Toxic
<u>Cadmium Chloride (Restricted Use)</u>	10108-64-2	25 g	poss. Carcinogen / Toxic
<u>Cadmium Nitrate (Justify Use)</u>	10022-68-1	100 g	poss. Carcinogen / Toxic
Caffeine	58-08-2	100 g	Toxic
Calcium	7440-70-2	500 g	Corrosive / Flammable
Calcium Acetate	62-54-4	500 g	
Calcium Carbide	75-20-7	2 kg	Corrosive / Flammable
Calcium Carbonate	471-34-1	2 kg	Irritant
Calcium Chloride	10035-04-8	2 kg	Irritant / Toxic
Calcium Fluoride	7789-75-5	500 g	Irritant / Toxic
Calcium Hydroxide	1305-62-0	1.5 kg	Corrosive / Irritant
Calcium Hypochlorite	7778-54-3	500 g	Irritant / Oxidizer
Calcium Iodide Sol.	-	100 mL	
Calcium Nitrate	13477-34-4	500 g	Irritant / Oxidizer
Calcium Oxide	1305-78-8	2 kg	Corrosive
Calcium Phosphate Monobasic	7758-23-8	500 g	
Calcium Sulfate	10101-41-4	500 g	Irritant
Calmagite	3147-14-6	5 g	Irritant
Camphor	76-22-2	100 g	Flammable / Irritant
Candles	-	20 pkg	
Carbol Fuchsin Sol.	-	500 mL	Irritant / Toxic
Carbon Dioxide Gas	124-38-9	1.0 lbs	Suffocation Risk
Carbon Disulfide	75-15-0	500 mL	Flammable / Toxic
Carborundum	409-21-2	500 g	
Carmine	1390-65-4	2.5 g	
Carmine-Aceto Sol.	-	100 mL	Corrosive
Carnauba Wax	8015-86-9	100 g	
Carnoy's Solution	-	100 mL	Flammable
Casein	9000-71-9	100 g	
Catalase	9001-05-2	1 g	
Cedarwood Oil	8000-27-9	100 mL	
Cellulase	-	25 g	
Cellulose	9004-34-6	500 g	
Cellulose Acetate	9004-35-7	100 g	
Cerium (TV) Ammonium Nitrate	16774-21-3	25 g	Irritant / Oxidizer
Cesium Chloride	7647-17-8	25 g	Irritant / Toxic
Cetyl Alcohol	36653-82-4	500 g	Irritant / Toxic
Charcoal Block	-	12 pkg	Flammable
<u>Chlorine Water (Justify Use)</u>	7782-50-5	500 mL	Corrosive / Toxic
<u>Chlorophenol Red</u>	4430-20-0	1 g	Poss. Carcinogen / Toxic
Chlorophyllin	-	5 g	
Cholesterol	57-88-5	25 g	
Chorionic Gonadotropin	9002-61-3	1 Vial	

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
<u>Chromium (metal ingot only) (Restricted Use)</u>	7440-47-3	100 g	
Chromium(ic) Nitrate	7789-02-8	500 g	Oxidizer
Chromium Oxide	1308-38-9	100 g	Irritant
Chromium(ic) Potassium Sulfate	7788-99-0	100 g	Irritant
Chromium(ic) Sulfate	10101-53-8	500 g	Corrosive / Irritant
Chromium Trioxide	1333-82-0	100 g	Toxic
Cinnamaldehyde	14371-10-9	100 mL	Irritant
Citric Acid	5949-29-1	500 g	Irritant
Clayton Yellow	1829-00-1	10 g	
Cleaner Alconox	-	25 lbs	
Cleaner Anasol CS1-9	-	1 pkg	Corrosive
Cleaner Dishwashing	-	22 oz	
Cleaner Flinn-It	-	470 mL	Strong Base
Cleaner Liqui-Nox	-	1 gal	
Cleaner RBS 35	-	1 qt	Alkaline Sol.
Cleaner Simple Green	-	16 oz	
Clove Oil	8000-34-8	25 mL	Toxic
<u>Cobalt (metal ingot only) (Justify Use)</u>	7440-48-4	100 g	
<u>Cobalt(ous) Chloride (Justify Use)</u>	7791-13-1	500 g	Poss. Carcinogen / Toxic
<u>Cobalt(ous) Nitrate (Justify Use)</u>	10026-22-9	500 g	Oxidizer
<u>Cobalt(ous) Sulfate (Justify Use)</u>	10026-24-1	500 g	Irritant / Toxic
Coconut Oil	8001-31-8	100 mL	
<u>Colchicine (Justify Use)</u>	64-86-8	500 mg	Highly Toxic
Collodion	9004-70-0	100 mL	Flammable Solid / Irritant
Congo Red	573-58-0	10 g	Irritant
Copper (not powdered)	7440-50-8	500 g	
Cornmeal Agar	-	50 g	
Corn Oil	8001-30-7	500 mL	
Corn Syrup	50-99-7	500 mL	
Cotton Cord	-	6 Roll	
Cottonseed Oil	8001-29-4	4 L	
Creatinine	60-27-5	10 g	
m-Cresol Purple	2303-01-7	1 g	Toxic
Cresol Red	62625-29-0	1 g	Toxic
Crystal Violet	548-62-9	10 g	Irritant / Toxic
Culture Media	-	500 g	
Cupric Acetate	6046-93-1	100 g	Toxic
Cupric Bromide	7789-45-9	100 g	Irritant
Cupric Carbonate	12069-69-1	500 g	Irritant / Toxic
Cupric Chloride	10125-13-0	2 kg	Irritant / Toxic
Cupric Nitrate	19004-19-4	500 g	Corrosive / Oxidizer
Cupric Oxide	1317-38-0	500 g	Irritant
Cupric Sulfate	7758-99-8	12 kg	Irritant / Toxic
Cuprous Chloride	7758-89-6	500 g	Toxic
Cuprous Oxide	1317-39-1	500 g	Irritant / Toxic
Cyclohexane	110-82-7	500 mL	Flammable
Cyclohexanol	108-93-0	500 mL	Combustible
Cyclohexene	110-83-8	500 mL	Flammable
Decanoic Acid	334-48-5	100 g	Toxic / Irritant
Deoxyribonucleic Acid	-	25 g	
Dextrin	9004-53-9	500 g	
Dextrose	492-62-6	2 kg	
Diatase Of Malt	9000-92-4	100 g	
Diatomaceous Earth	16790-53-2	2 kg	
2,6-Di-t-Butyl-4-Methylphenol	128-37-0	500 g	Irritant / Toxic

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
<u>para-Dichlorobenzene (Justify Use)</u>	106-46-7	2 kg	Irritant / Toxic
Dichloroindophenol Sodium Salt	620-45-1	5 g	
Dichlorophenoxy Acetic Acid	94-75-7	100 g	Irritant / Toxic
Dimethylglyoxime	95-45-4	25 g	
Dimethyl Sulfoxide	67-68-5	500 mL	Irritant
Diphenylamine	122-39-4	100 g	Irritant / Toxic
Dithizone	60-10-6	2.5 g	Irritant
Dodecyl Alcohol	112-53-8	100 g	Irritant
Dodecyl Sulfate Sodium Salt	151-21-3	100 g	Irritant
Drierite	7778-18-9	500 g	
EMB Agar	-	100 g	
Enviro-Bond	-	100 g	
Eosin Y	17372-87-1	10 g	Irritant
Erichrome Black T	1787-61-7	25 g	
Erythrosin B	16423-68-0	5 g	
<u>Ether, Ethyl (Justify Use)</u>	60-29-7	500 mL	Flammable / forms Peroxide
Ethyl Acetate	141-78-6	1 L	Flammable / Irritant
Ethyl Alcohol	64-17-5	4 L	Flammable
Ethylenediamine	107-15-3	500 mL	Corrosive / Flammable
Ethylenediamine-tetraacetic Acid	6381-92-6	100 g	Irritant
<u>Ethylene Dichloride (Justify Use)</u>	107-06-2	125 mL	Flammable / forms Peroxide
Ethylene Glycol	107-21-1	500 mL	Flammable / Toxic
FAA Solution	-	500 mL	Toxic
Fast Green FCF	2353-45-9	1 g	Toxic
Fehlings Solution A	-	4 L	
Fehlings Solution B	-	4 L	Corrosive
Ferric Ammonium Citrate	1185-57-5	500 g	Irritant
Ferric Ammonium Sulfate	7783-83-7	100 g	Irritant
Ferric Chloride	10025-77-1	500 g	Corrosive / Irritant / Toxic
Ferric Citrate	2338-05-8	10 g	
Ferric Nitrate	7782-61-8	500 g	Oxidizer
Ferric Oxide	1309-37-1	500 g	
Ferric Sulfate	10028-22-5	500 g	
Ferriin Solution	-	10 mL	
Ferrous Ammonium Sulfate	7783-85-9	500 g	
Ferrous Chloride	13478-10-9	100 g	Corrosive / Irritant / Toxic
Ferrous Sulfate	7782-63-0	500 g	Toxic
Ferrous Sulfide	1317-37-9	500 g	Flammable / Toxic
Fluorescein	518-47-8	100 g	
Formalernate Concen.	-	500 mL	
Formic Acid	64-18-6	500 mL	Corrosive
Fuchsin Acid	3244-88-0	5 g	
Fuller's Earth	8031-18-3	500 g	
Fumaric Acid	110-17-8	500 g	
D-Galactose	59-23-4	100 g	
Gallium (metal ingot only)	7440-55-3	2.5 g	
Gastric Juice	-	500 mL	Corrosive / Irritant
Gelatin	9000-70-8	500 g	
Gibberellic Acid	77-06-5	1 g	
Giemsa	-	100 mL	Irritant
Glass Wool, Medium	-	454 g	Irritant
Glucose	-	100 mL	
Glucosel, Phosphate Dipotassium Salt	5996-14-5	1 g	
Glucosel, Phosphate Disodium Salt	59-56-3	1 g	
Glutathione	70-18-8	1 g	

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
<u>Glutaraldehyde (Justify Use)</u>	111-30-8	100 mL	Corrosive / Irritant / Toxic
Glycerin	56-81-5	4 L	Irritant
Glycine	56-40-6	500 g	
Glycogen	9005-79-2	5 g	
Glyoxal	107-22-2	25 mL	Irritant / Toxic
Graphite Powder	7782-42-5	500 g	Flammable
Guar Gum	39421-75-5	500 g	
Hayem Diluting Fluid	-	500 mL	Toxic
Helium Gas	7440-59-7	100 L	Suffocation Risk
Hematoxylin	517-28-2	10 g	Irritant
n-Heptane	142-82-5	500 mL	Flammable / Toxic
Hexamethylenediamine	124-09-4	250 g	Corrosive
Hexanes	110-54-3	500 mL	Flammable / Irritant
Hexyl Alcohol	111-27-3	500 mL	Flammable / Irritant
Hydrobromic Acid	10035-10-6	500 mL	Corrosive
Hydrochloric Acid	7647-01-0	2.5 L	Corrosive / Toxic
Hydrofluoric Acid	7664-39-3	500 mL	Corrosive
Hydrogen Gas	1333-74-0	100 L	Flammable
Hydrogen Peroxide (30% conc. max.)	7722-84-1	4 L	Corrosive / Oxidizer
Hydrogen Sulfide Solution	7783-06-4	500 mL	Odor / Toxic
Hydroquinone	123-31-9	100 g	Toxic
Hydroxylamine Hydrochloride	5470-11-1	100 g	Corrosive / Toxic
Hydroxy Naphthol Blue	165660-27-5	5 g	Irritant
Immersion Oil	-	1 oz	
Indigo Carmine	860-22-0	10 g	Irritant
Indigo Dye	482-89-3	10 g	
Indole-3-Acetic Acid	87-51-4	5 g	
Indole-3-Butyric Acid	133-32-4	5 g	Irritant / Toxic
Ink Black		2 oz	
Invertase	9001-57-4	100 g	
Iodine	7553-56-2	500 g	Corrosive / Toxic
Iodine Tincture	-	500 mL	Flammable / Toxic
Iodine-Potassium-Iodide Solution	-	500 mL	Irritate
Ion Exchange Resin	-	500 g	
Iron Fillings	7439-89-6	500 g	
Iron Powder	7439-89-6	500 g	Flammable
Isobutyl Alcohol	78-83-1	500 mL	Flammable / Toxic
Isopentyl Alcohol	123-51-3	500 mL	Flammable / Toxic
Isopropyl Alcohol	67-63-0	4 L	Flammable
Isovaleric Acid	503-74-2	25 mL	Corrosive / Toxic
Janus Green B	2869-83-2	5 g	
Kaolin	1332-58-7	500 g	
Kerosene	8008-20-6	4 L	Flammable / Toxic
Kinetin	525-79-1	500 mG	
Knop's Solution	-	500 mL	
Lactic Acid	50-21-5	100 mL	Corrosive / Irritant
Lactose	63-42-3	500 g	
Lanolin	8006-54-0	500 g	
Lanthanum Nitrate	15878-72-5	100 g	Irritant / Oxidizer
Latex	-	4 L	
Lauric Acid	143-07-7	50 g	Irritant
Lauroyl Peroxide	105-74-8	5 g	Oxidizer / Toxic
Lead (not powdered)	7439-92-1	500 g	Toxic
<u>Lead II Acetate (Restricted Use)</u>	301-04-2	500 g	Poss. Carcinogen / Toxic
Lead II Carbonate	1319-46-6	500 g	Irritant / Toxic

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Lead II Chloride	7758-95-4	250 g	Toxic
Lead II Dioxide	1309-60-0	500 g	Toxic / Oxidizer
Lead II Nitrate	10099-74-8	2 kg	Irritant / Oxidizer
Lead II Oxide	1317-36-8	500 g	Toxic
Lead II Sulfate	7446-14-2	100 g	Corrosive
Lead II Sulfide	314-87-0	500 g	Toxic
Lemon Juice	-	8 oz	
Levulose	57-48-7	500 g	
Licorice	-	100 g	
Lime Water Solution	-	4 L	
Linseed Oil	8001-26-1	500 mL	
Lipase	-	100 g	
<u>Lithium (Restricted Use)</u>	7439-93-2	10 g	Flammable
Lithium Carbonate	554-13-2	100 g	Irritant / Toxic
Lithium Chloride	7447-41-8	500 g	Irritant
Lithium Hydroxide	1310-66-3	100 g	Corrosive
Lithium Nitrate	7790-69-4	500 g	Irritant / Oxidizer
Lithium Sulfate	10102-25-7	100 g	Toxic
Litmus	1393-92-6	25 g	
Lull-A-Fly		Vial	Corrosive / Flammable
Luminol	521-31-3	5 g	Irritant
Lycopodium	-	500 g	Flammable / Irritant
DL-Lysine HCl	70-54-2	25 g	Corrosive
Lysol	-	12 oz	
Lysozyme	-	1 g	
Magnesium	7439-95-4	100 g	Flammable
Magnesium Acetate	16674-78-5	100 g	
Magnesium Bromide	13446-53-2	100 g	Irritant
Magnesium Carbonate	56378-72-4	500 g	
Magnesium Chloride	7791-18-6	2 kg	Irritant / Toxic
Magnesium Hydroxide	1309-42-8	500 g	Irritant
Magnesium Nitrate	13446-18-9	500 g	Flammable / Oxidant
Magnesium Oxide	1309-48-4	500 g	
Magnesium Sulfate	10034-99-8	2 kg	Irritant
Malachite Green Oxalate	2437-29-8	10 g	Irritant / Toxic
Maleic Acid	110-16-7	200 g	Corrosive / Irritant
Malonic Acid	141-82-2	25 g	Irritant / Toxic
Maltose	6363-53-7	500 g	
Manganese	7439-96-5	500 g	Irritant / Flammable
Manganese Dioxide	1313-13-9	2 kg	Oxidizer
Manganous Chloride	13446-34-9	500 g	Irritant / Toxic
Manganous Nitrate Solution	20694-39-7	500 mL	Corrosive / Toxic
Manganous Sulfate	15244-36-7	500 g	Irritant
Marble Chips	471-34-1	2 kg	
Menthol	89-78-1	100 g	Irritant / Toxic
<u>Mercuric Chloride (Restricted Use)</u>	7487-94-7	100 g	Toxic
<u>Mercuric Iodide (Restricted Use)</u>	7774-29-0	25 g	Toxic
<u>Mercuric Nitrate (Restricted Use)</u>	7783-34-8	100 g	Oxidizer / Toxic
<u>Mercuric Oxide (Restricted Use)</u>	21908-53-2	500 g	Irritant / Toxic
<u>Mercuric Sulfate (Restricted Use)</u>	7783-35-9	10 g	Irritant / Toxic
<u>Mercurous Chloride (Restricted Use)</u>	10112-91-1	25 g	Irritant / Toxic
<u>Mercurous Nitrate (Restricted Use)</u>	7782-86-7	100 g	Irritant / Toxic
<u>Mercurous Sulfate (Restricted Use)</u>	7783-36-0	10 g	Irritant / Toxic
Metal Electrode Set	-	pkg	

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
DL-Methionine	59-51-8	20 g	
Methyl Alcohol	67-56-1	20 L	Flammable
Methyl-t-Butyl Ether	1634-04-4	500 mL	Flammable / Toxic
Methyl Cellulose	9004-67-5	500 g	
Methyl Ethyl Ketone	78-93-3	500 mL	Flammable
Methyl Green Staining Solution	-	100 mL	
Methyl Isobutyl Ketone	108-10-1	250 mL	Flammable
Methyl Methacrylate	80-62-6	500 mL	Flammable / Irritant
Methyl Orange	547-58-0	25 g	Toxic
Methyl Paraben	99-76-3	100 g	
Methyl Red	845-10-3	10 g	
Methyl Salicylate	119-36-8	500 mL	Toxic / Irritant
Methyl Violet 2B	8004-87-3	25 g	Toxic / Irritant
Methylene Blue	61-73-4	100 g	Toxic
<u>Methylene Chloride (Justify Use)</u>	75-09-2	500 mL	Ozone Depleter
Millon's Reagent Sol.	-	100 mL	Corrosive
Mineral Oil	8020-83-5	4 L	
Molasses	-	300 mL	
Molisch Reagent	-	100 mL	Flammable
Molybdenum Oxide	18868-43-4	10 g	
Monosodium Glutamate	142-47-2	100 g	
Mounting Medium	-	4 oz	Toxic
Mueller-Hinton Agar	-	100 g	
Murexide	3051-09-0	2 g	
Naphthalene	91-20-3	1 kg	Toxic
Naphthalene Acetic Acid	87-86-3	10 g	Irritant / Toxic
Naphthol	90-15-3	25 g	Irritant / Toxic
Naphthol-6-Sulfonic Acid, Sodium Salt	135-76-2	10 g	
Naphthylethylenediamine Dihydrochloride	1465-25-4	5 g	Irritant
Neodymium Chloride Solution	13477-89-9	50 mL	Irritant / Toxic
Nessler's Reagent	-	100 mL	Corrosive / Toxic
Neutral Red	553-24-2	5 g	
Nichrome Wire	-	4 oz	
<u>Nickel (metal ingot only) (Restricted Use)</u>	7440-02-0	500 g	
Nickel Ammonium Sulfate	15699-18-0	100 g	Toxic
Nickel Chloride	7791-20-0	500 g	Toxic
Nickel Nitrate	13478-00-7	500 g	Oxidizer / Toxic
Nickel Sulfate	10101-97-0	500 g	Toxic
Nicotine	54-11-5	10 g	Toxic
Nigrosin	8005-03-6	25 g	
Ninhydrin	485-47-2	10 g	Irritant
Nitric Acid	7697-37-2	2.5 L	Corrosive / Toxic
Nitroacetanilide	104-04-1	100 g	Irritant
Nitrobenzaldehyde	552-89-6	10 g	Irritant / Toxic
Nitrogen Gas	7727-37-9	2 Cu. Ft	
Nitrophenol	554-84-7	25 g	Irritant / Toxic
Nitrophenylazo Resorcinol	74-39-5	25 g	Irritant
Nutrient Agar	-	500 g	
Nutrient Broth	-	500 g	
Octadecanol	112-92-5	500 g	Irritant
Octanol	111-87-5	500 mL	Irritant / Toxic
Octyl Phenol	140-66-9	500 g	Irritant / Toxic
Oil Encapsulant	-	100 g	
Oleic Acid	112-80-1	500 mL	Irritant
Olive Oil	8001-25-0	200 mL	

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Onion's Fusible Alloy	-	100 g	
Orange G	1936-15-8	10 g	Irritant
Orange IV	554-73-4	10 g	
Orcein	1400-62-0	1 g	
Orcinol	6153-39-5	1.5 g	Irritant / Toxic
Oxalic Acid	6153-56-6	500 g	Corrosive / Toxic
Oxygen Gas	7782-44-7	3.4 Cu. Ft.	Flammable
Palmitic Acid	57-10-3	100 g	Irritant
Pancreatin	8049-47-6	100 g	Irritant
Papain	9001-73-4	100 g	
Paraffin Wax	802-74-2	1 lbs	
Peanut Oil	-	500 mL	
Penicillin G Sodium	69-57-8	6 g	
Pentane	109-66-0	100 mL	Flammable / Irritant
Peppermint Oil	8006-90-4	25 mL	
Pepsin	9001-75-6	100 g	
Peptone	-	500 g	
Perchloroethylene	127-18-4	500 mL	Irritant / Toxic
Petrolatum	8009-03-8	500 g	
Petroleum Ether	8032-32-4	1 L	Flammable
Phenanthroline	66-71-7	5 g	Toxic
Phenol	108-95-2	500 g	Irritant / Toxic
Phenolphthalein	77-09-8	500 g	Irritant
Phenylhydrazine Hydrochloride	59-88-1	100 g	Irritant / Toxic
Phenyl Salicylate	118-55-8	500 g	Irritant / Toxic
Phenyl Thiocarbamide	103-85-5	25 g	Toxic
Phloroglucinol	6099-90-7	25 g	Irritant
Phosphomolybdic Acid	51429-74-4	10 g	Corrosive
Phosphoric Acid	7664-38-2	2.5 L	Irritant / Corrosive
Phosphorus Red	7723-14-0	100 g	Flammable
Phosphorus Pentoxide	1314-56-3	100 g	Corrosive / Toxic
Phthalic Anhydride	85-4-9	500 g	Corrosive / Irritant
Platinum Wire	7440-06-4		
Polyurethane Foam System	-	Set	
Polyvinyl Alcohol	9002-89-5	500 g	
Potash, Sulfurated	39365-88-3	100 g	
Potassium (Restricted Use)	7440-09-7	5 sm pieces	Flammable in water
Potassium Acetate	127-08-2	500 g	
Potassium Bicarbonate	289-95-7	100 g	Toxic
Potassium Binoxalate	127-95-7	100 g	Toxic
Potassium Bisulfate	7646-93-7	500 g	Corrosive
Potassium Bitartrate	868-14-4	500 g	
Potassium Bromate	7758-01-2	500 g	Oxidizer / Toxic
Potassium Bromide	7758-02-3	500 g	Irritant / Toxic
Potassium Carbonate	584-08-7	500 g	Irritant / Toxic
Potassium Chlorate	3811-04-9	2 kg	Oxidizer / Toxic
Potassium Chloride	7447-40-7	2 kg	Irritant
Potassium Citrate	6100-05-6	500 g	
Potassium Cyanide	151-50-8	100 g	Irritant / Toxic
Potassium Ferricyanide	13746-66-2	500 mL	Toxic
Potassium Fluoride	7789-23-3	500 g	Corrosive / Toxic
Potassium Hydrogen Phthalate	877-24-7	500 g	
Potassium Hydroxide	1310-58-3	2 kg	Corrosive / Toxic
Potassium Iodate	7758-05-6	500 g	Irritant / Oxidizer
Potassium Iodide	7681-11-0	2 kg	Irritant

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Potassium Nitrate	7757-79-1	2 kg	Irritant / Oxidizer
Potassium Nitrite	7758-09-0	100 g	Oxidizer / Toxic
Potassium Oxalate	6487-48-5	500 g	Irritant
Potassium Periodate	7790-21-8	25 g	Irritant / Oxidizer
Potassium Permanganate	7722-64-7	2 kg	Corrosive / Oxidizer
Potassium Persulfate	7727-21-1	500 g	Irritant / Oxidizer
Potassium Sodium Tartrate	6381-59-5	500 g	Water Reactive
Potassium Sulfate	7778-80-5	500 g	
Potassium Thiocyanate	333-20-0	500 g	Irritant / Toxic
Potato Dextrose Agar	-	500 g	
Praseodymium Chloride Soln.	10361-79-2	50 mL	Irritant / Toxic
Propanediol	57-55-6	500 mL	
Propionic Acid	79-09-4	500 mL	Corrosive / Toxic
Propyl Alcohol	71-23-8	500 mL	Flammable / Irritant
Pumice	-	500 g	
Pyridine	110-86-1	100 mL	Flammable / Toxic
Pyrogallol	87-66-1	100 g	Irritant / Toxic
Quinine Sulfate	6119-70-6	5 g	Irritant / Toxic
Rennin	9001-98-3	25 g	
Resazurin	62758-13-8	1 g	Irritant
Resorcinol	108-46-3	100 g	Irritant / Toxic
Rhodamine B	81-88-9	25 g	Toxic
Ribonucleic Acid	63231-63-0	25 g	
Ringer's Sol.	-	500 mL	
Rose Bengal	632-69-9	5 g	
Sabauraud Dextrose Agar	-	100 g	
Safranin O	477-73-6	10 g	Irritant
Salicylic Acid	69-72-7	500 g	Toxic
Sand	14808-60-7	2 kg	
Sandpaper	-	4 pkg	
Schiff Reagent	-	500 mL	Irritant
Sebacoyl Chloride	111-19-3	100 mL	Corrosive / Irritant
Sesame Oil	8008-74-0	100 mL	
Silica Gel	7631-86-9	500 g	
Silicon	7440-21-3	500 g	Flammable / Irritant
Silver Foil	7440-22-4	25 g	
Silver Acetate	563-63-3	100 g	Irritant
Silver Chloride	7783-90-6	100 g	
Silver Nitrate	7761-88-8	500 g	Oxidizer / Toxic
Silver Oxide	20667-12-3	25 g	Irritant
Silver Sulfate	10294-26-5	25 g	Irritant
Soap, Castile	-	500 g	
Soap, Ivory	-	2 lbs	
Soda Lime	8006-28-8	500 g	Corrosive
Sodium	7440-23-5	100 g	Flammable in Water
Sodium Acetate	6131-90-4	500 g	Irritant
Sodium Alginate	9005-38-3	25 g	
Sodium Benzoate	532-32-1	500 g	Irritant / Toxic
Sodium Bicarbonate	144-55-8	2 kg	
Sodium Bismuthate	12232-99-4	10 g	Irritant / Oxidizer
Sodium Bisulfate	10034-88-5	500 g	Corrosive / Toxic
Sodium Bisulfite			
Sodium Borate	1330-43-4	500 g	Irritant / Toxic
Sodium Bromate	7789-38-0	100 g	Irritant / Oxidizer / Toxic
Sodium Bromide	7647-15-6	500 g	Irritant

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Sodium Carbonate	497-19-8	12 g	Irritant
Sodium Chlorate	7775-09-9	2 kg	Corrosive / Oxidizer
Sodium Chloride	7647-14-5	12 kg	Irritant
<u>Sodium Chromate (Restricted Use)</u>	10034-82-9	100 g	Oxidizer
Sodium Citrate	68-04-2	500 g	
Sodium Cobaltinitrite	13600-98-1	100 g	Oxidizer / Toxic
Sodium Cyanide	143-33-9	100 g	Toxic
Sodium Desoxycholate	302-95-4	25 g	
Sodium Diphenylamine Sol.	6152-67-6	5 g	
Sodium Dithionite	7775-14-6	500 g	Oxidizer / Toxic
Sodium Fluoride	7681-49-4	500 g	Irritant / Toxic
Sodium Hexametaphosphate	10124-56-8	500 g	
Sodium Hydroxide	1310-73-2	2 kg	Corrosive / Toxic
Sodium Hypochlorite	7681-52-9	4 L	Corrosive / Oxidizer
Sodium Iodate	7681-55-2	100 g	Irritant / Oxidizer
Sodium Iodide	7681-82-5	500 g	Irritant
Sodium meta-bisulfate			
Sodium meta-bisulfite	7681-57-4	500 g	Irritant / Toxic
Sodium meta-silicate	6834-92-0	500 g	Corrosive
Sodium Molybdate	10102-40-6	25 g	Toxic
Sodium Nitrate	7631-99-4	500 g	Corrosive / Oxidizer / Toxic
Sodium Nitrite	7632-00-0	500 g	Corrosive / Oxidizer / Toxic
Sodium Nitroferricyanide	13755-38-9	25 g	Toxic
Sodium Oleate	143-19-1	100 g	
Sodium Oxalate	62-76-0	500 g	Irritant
Sodium Perborate	10486-00-7	100 g	Oxidizer
Sodium Peroxide	1313-60-6	500 g	Corrosive / Oxidizer
Sodium Phosphate	10049-21-5	500 g	Irritant
Sodium Polyacrylate	9003-04-7	500 g	
Sodium Salicylate	54-21-7	100 g	Irritant / Toxic
Sodium Silicate Sol.	-	4 L	Corrosive / Irritant
Sodium Sulfamate Sol.	-	500 mL	Irritant
Sodium Sulfate	7727-73-3	500 g	
Sodium Sulfide	1313-84-4	500 g	Flammable / Toxic
Sodium Sulfite	7757-83-7	500 g	Irritant / Toxic
Sodium Tartrate	6106-24-7	100 g	Irritant
Sodium Thiocyanate	540-72-7	100 g	Irritant / Toxic
Sodium Thiosulfate	10102-17-7	2 kg	Irritant / Toxic
Sodium Tungstate	10213-10-2	25 g	
Spermaceti	-	500 g	
Stannic Chloride	10026-06-9	100 g	Corrosive
Stannic Oxide	18282-10-5	100 g	
Stannous Chloride	10025-69-1	500 g	Corrosive / Toxic
Starch, Corn	-	2 kg	
Starch, Potato	-	500 g	
Stearic Acid	57-11-4	500 g	
Steel, Shot	-	500 g	
Steel Wool	-	454 g	
Streptomycin Sulfate	-	5 g	Irritant / Toxic
Strontium Bromide	7789-53-9	25 g	Toxic
Strontium Chloride	10025-70-4	500 g	
Strontium Hydroxide	1311-10-0	25 g	Corrosive / Flammable
Strontium Nitrate	10042-76-9	500 g	Irritant / Oxidizer
Sucinic Acid	110-15-6	100 g	Irritant / Toxic
Sucrose	57-50-1	2 kg	

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Sudan III	85-86-9	5 g	Irritant
Sudan IV	85-83-6	5 g	Irritant
Sulfamic Acid	5329-14-6	50 g	Corrosive / Toxic
Sulfanilamide	63-74-1	25 g	Irritant
Sulfanilic Acid	121-57-3	100 g	Irritant
Sulfosalicylic Acid	5965-83-3	25 g	Irritant
Sulfur, Flowers	7704-34-9	2 kg	Irritant
Sulfur Hexafluoride Gas	2551-62-4	0.5 lbs	Corrosive gas
Sulfuric Acid	7664-93-9	2.5 L	Corrosive
Talc	14807-96-6	500 g	Irritant
Tallow	-	100 g	
Tannic Acid	1401-55-4	100 g	Irritant / Toxic
<u>Tartaric Acid (Restricted Use)</u>	87-69-4	500 g	Irritant
<u>Tetracycline Hydrochloride (seek substitute)</u>	64-75-5	25 g	Toxic
<u>Tetrahydrofuran (seek substitute)</u>	109-99-9	100 mL	Flam/Irritant/forms peroxide
Thermit	69012-31-3	500 g	Hot Reaction
Thiamine Hydrochloride	59-43-8	25 g	
<u>Thioacetamide (Justify Use) (purchase per use)</u>	62-55-5	25 g	Poss. Carcinogen / Toxic
Thionin	78338-22-4	5 g	
Thymol	89-83-8	100 g	Irritant / Toxic
Thymol Blue	62625-21-2	1 g	
Thymolphthalein	125-20-2	5 g	Flammable / Toxic
Thyroxine	6106-07-6	500 mg	
Tin	7440-31-5	500 g	
Titanium Dioxide	1317-80-2	500 g	
<u>Toluene (Justify Use)</u>	108-88-3	500 mL	Flam/Poss Carc/Irritant/Toxic
Toluidine Blue O		10 g	Toxic
Tricaine Methanesulfonate	886-86-2	5 g	Irritant
Trichloroacetic Acid	76-03-9	100 g	Corrosive / Toxic
Thriethanolamine	102-71-6	500 mL	Irritant
Triphenyl Tetrazolium Chloride	298-96-4	25 g	
Tris-Aminomethane	77-86-1	100 g	
Trypsin	9002-07-7	25 g	Irritant
Tryptic Soy Agar	-	6 tube PK	
Trytone	-	100 g	
Turpentine	8006-64-2	500 mL	Flammable / Irritant / Toxic
Universal Indicator Sol.		1000 mL	Flammable
Uranyl Nitrate	10102-06-4	10 g	Irritant / Toxic
Urea	57-13-6	12 kg	Irritant / Radioactive / Toxic
Urease	9002-13-5	100 g	
<u>Urethane (Justify Use)</u>	51-79-6	100 g	Combustible
Vegetable Dyes	-	Set	
Vinegar	64-19-7	4 L	
Water	7732-18-5	1 Gal	
Winkler's Solution	-	500 mL	Toxic
Woods Metal	76093-98-6	100 g	
Wrights Stain	68988-92-1	5 g	
Xylene	13330-20-7	1 L	Flammable / Irritant
Xylose	58-86-6	100 g	
Yeast Extract	-	500 g	
Yttrium Oxide	1314-36-9	10 g	
Zeolite	1318-02-1	500 g	
Zinc	7440-66-6	2 kg	Flammable in water / Irritant
Zinc Acetate	5970-45-6	500 g	Irritant / Toxic
Zinc Carbonate	5970-47-8	10 g	Corrosive / Flammable

LIST OF CHEMICALS FOR USE IN HIGH SCHOOL SCIENCE

Chemical Name	CAS #	Max. Stored Quantity	Notable Hazards
Zinc Chloride	7646-85-7	500 g	Irritant / Toxic
Zinc Nitrate	10196-18-6	500 g	Corrosive / Oxidizer / Flam.
Zinc Oxide	1314-13-2	500 g	Flammable
Zinc Stearate	557-05-1	500 g	
Zinc Sulfate	7446-20-0	500 g	Irritant / Toxic
Zinc Sulfide	1314-98-3	100 g	Irritant / Toxic

(*) storage code is based on the Flinn Catalog Chemical Storage Plan.

USAGE RESTRICTIONS:

(Justify Use) Instructor must justify use of this chemical by:

- Recognizing the specific hazards of the uses of this chemical
- Use when no other chemical can be substituted
- Use sparingly
- Use with proper personal safety protection
- Store / keep only small quantities
- Assure that storage is safe, secure and unavailable to students
- Document need for usage.

(Restricted Use) – This chemical is for Restricted Use Only because it poses significant risk to students. Teachers should show extraordinary care by:

- Using only in Demonstration with all appropriate safety precautions
- Not allowing students to utilize in an experiment
- Recognizing the specific hazards of the uses of this chemical
- Use when no other chemical can be substituted
- Use sparingly
- Use with proper personal safety protection
- Store / keep only small quantities
- Assure that storage is safe, secure and unavailable to students.

(Purchase Per Use) – This chemical should be purchased in quantities that will be completely consumed in a single use. There should be no long-term storage of these chemicals.

HAZARD DEFINITIONS: (from OSHA, DOT, & EPA)

Carcinogen – carcinogenic to humans by IARC, NTP (Group I classifications)

Carcinogen Poss. – possibly carcinogenic to humans by IARC, NTP (Group 2 classifications)

Corrosive – when in aqueous solution the pH is ≤ 2 or ≥ 12.5

Flammable – a gas that forms a flammable mixture with air at 12 % air by volume, or a liquid having a flash point below 60.5°C.

Irritant – a chemical that is not corrosive that causes a reversible, inflammable effect on living tissue by chemical action at the site of contact.

Oxidizer – A chemical which supplies its own oxygen and which helps other combustible material burn more readily.

Toxic – causes acute or chronic injury to the human body.

FORMALDEHYDE / FORMALIN:

Formalin is dilute formaldehyde and both are prohibited from purchasing. Existing biological specimen jars must remain tightly sealed and not opened. Leaking lids, rusty lids, or cracked glass requires legal disposal. Trace amount alternatives (0.5% or less) are acceptable.

BLEACH RESTRICTIONS

Bleach should not be stocked, because it reacts with ammonia and ammonia based cleaners to give off harmful chlorine gas. It is restricted in that it must not be stored with ammonia or used with ammonia. Usage must be justified.

MERCURY

Elemental liquid mercury, mercury containing thermometers, barometers, etc. are prohibited.

