

APPENDIX E

INTERNET RESOURCES

EDUCATIONAL RESOURCES

Campus Safety Health and Environmental Management Association (CSHEMA)

<http://www.cshema.org/>

A website dedicated to the CSHEMA vision of “excellent health, safety, and environmental protection understood and integrated into teaching, research, and service throughout higher education”.

Cornell

<http://cfe.cornell.edu/cfe/greening.cfm>

Cornell's “Greening of the Campuses” website contains links to Cornell's statement of the environment, Sustainable Development on Campus, Second Nature, Education for Sustainability, National Wildlife Federation, Campus Ecology, EELink: Environmental Education on the Internet as well as the Environmental Organization Web Directory, K-12 Education.

Environmental Organization Web Directory - Education

<http://www.webdirectory.com/Education/>

A large database on environmental information and links, some of which are specifically targeted towards education at middle school, high school and college levels.

MIT - Environmental Virtual Campus

<http://www.c2e2.org/evc/home.html>

MIT has developed an "Environmental Virtual Campus" ("EVC") to assist students, staff, and researchers with campus environmental management practices, including both regulatory compliance and non-regulatory "green" environmental practices. The site is organized around nine typical areas on a campus that are normally subject to environmental regulations.

North American Association for Environmental Education (NAAEE)

<http://www.naaee.org/npeee/>

The North American Association for Environmental Education (NAAEE) is a network of professionals, students, and volunteers working in the field of environmental education throughout North America and in over 55 countries around the world. This website is dedicated to this mission and provides information for interested citizens.

National Clearinghouse for Educational Facilities (NCEF)

<http://www.edfacilities.org/rl/art.cfm>

This website has NCEF's resource list of links, books, and journal articles on the design and planning of school art facilities, including resources on funding and art supply safety issues.

Pacific Lutheran University Art and Architecture

<http://www.plu.edu/~libr/web/art.html>

A website by the Pacific Lutheran University, this is a resource for all information relating to architecture, artists, museums, photography, sculpture, schools and miscellaneous other art information.

Princeton University Environmental Health and Safety

<http://web.princeton.edu/sites/ehs/artsafety/>

This training guide provides basic information for working safely with chemicals and operations in Visual Arts. The guide is intended to supplement, but not replace, the safety orientation for faculty and students in Visual Arts.

University of Scranton - Greening Across the Chemistry Curriculum

<http://academic.scranton.edu/faculty/CANNM1/organic.html>

Green chemistry has gained a strong foothold in the areas of research and development in both industry and academia. This website focuses on the history of green chemistry as well as the curriculum.

GOVERNMENT RESOURCES

HAZMAT Safety

<http://hazmat.dot.gov/hazhome.htm>

A general informational website with links to other sites relating to HAZMAT Safety.

National Institute for Occupational Health and Safety (NIOSH)

<http://www.cdc.gov/niosh/topics/chemical-safety/default.html>

A comprehensive website containing information and links to chemical information, specially relating to NIOSH databases, Personal Protective Equipment, MSDS's, and links to other government agency regulations.

National Institute for Occupational Health and Safety (NIOSH)

<http://www.cdc.gov/niosh/npptl/topics/respirators/>

All pertinent information and links to other sites regarding respirator use.

National Institute for Occupational Health and Safety (NIOSH)

<http://www.cdc.gov/niosh/ipcs/icstart.html>

International Programme on Chemical Safety – Information on International Chemical Safety Cards (ICSCs).

National Paint and Coatings Association (NPCA)

<http://www.paint.org/hmis/index.cfm>

The NPCA Hazardous Materials Identification System (HMIS®) is a result of a unique effort on the part of health and safety managers in the chemical and coatings industries to combine their collective experiences to design a practical, effective warning system that ensured “recognition at a glance” of the hazards associated with materials used every day in industry. The NPCA HMIS® program, warnings, and training have been the “Gold Standard” in the field. This website contains information about the NPCA.

National Resources Defense Council

<http://www.nrdc.org/health/kids/gleadsch.asp>

This FAQ website addressed the topic of lead paint in schools.

NOAA – The Chemical Reactivity Worksheet

<http://www.response.restoration.noaa.gov/chemaids/react.html>

The Chemical Reactivity Worksheet is a free program you can use to find out about the reactivity of substances or mixtures of substances (reactivity is the tendency of substances to undergo chemical change). This website contains a database of reactivity information as well as a way for you to virtually “mix” chemicals.

U.S. Department of Energy

<http://www.eere.energy.gov/>

A gateway to hundreds of websites and thousands of online documents on energy efficiency and renewable energy.

U.S. Department of Energy – Clean Cities

<http://www.eere.energy.gov/cleancities/vbg/>

A “Vehicle Buyers Guide” with information relating to energy efficiency and renewable energy in terms of alternative fuel vehicles.

U.S. Department of Energy – Energy Efficiency and Renewable Energy

<http://www.rebuild.org/index.asp>

Rebuild America is a growing network of community-driven voluntary partnerships that foster energy efficiency and renewable energy in commercial, government and public-housing buildings. At the federal level, it is the largest, most established technology deployment program within DOE’s Office of Energy Efficiency and Renewable Energy (EERE). The program’s goals are to: conserve energy, accelerate use of the best energy technologies, save money, reduce air pollution, lower U.S. reliance on energy imports, help revitalize aging city and town neighborhoods, and create “smart energy” jobs. This informational website describes in detail the Rebuild America program.

U.S. Department of Energy – Science Education Initiative

<http://www.energy.gov/engine/content.do>

Multiple links targeted for kids, adults, educators, researchers and consumers on such topics as national security, energy sources, energy efficiency, and the environment.

U.S. Department of Environmental Protection - NYC

<http://www.nyc.gov/html/dep/>

The official DEP website for NYC.

U.S. Department of Homeland Security – Federal Emergency Management Agency

<http://www.fema.gov/>

Links to disaster communities, emergency personnel, education and training, and news media are covered under this website.

U.S. Department of Housing and Urban Development - Homes and Communities

<http://hud.esri.com/egis/>

Map your community using GIS with this website

U. S. Department of Labor – Occupational Safety and Health Administration (OSHA)

<http://www.osha.gov/>

OSHA's mission is to assure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health. This official OSHA website contains all pertinent information about the administration.

U.S. Department of Labor – Occupational Safety and Health Administration – Hazard Communication

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10099&p_text_version=FALSE

The purpose of this website is to ensure the hazards of all chemicals produced or imported are evaluated, and that information concerning their hazards is transmitted to employers and employees. This transmittal of information is to be accomplished by means of comprehensive hazard communication programs, which are to include container labeling and other forms of warning, material safety data sheets and employee training.

U.S. EPA - Colleges and Universities

<http://www.epa.gov/sectors/colleges/>

U.S. EPA - Compliance and Enforcement

<http://www.epa.gov/compliance/>

A resource in compliance assistance, compliance incentives and auditing, and compliance monitoring for the environment. Working in partnership with state governments, tribal governments and other federal agencies, EPA ensures compliance with the nation's environmental laws. There are a series of links associated with this site that contain other important environmental information relating to compliance issues.

U.S. EPA - Design for the Environment (DfE)

<http://www.epa.gov/dfepubs/pdf/tools/ctsa/index.html>

This publication presents the methods and resources needed to conduct a Cleaner Technologies Substitutes Assessment (CTSA), a methodology for evaluating the comparative risk, performance, cost, and resource conservation of alternatives to chemicals currently used by specific industry sectors. The CTSA methodology was developed by the U.S. Environmental Protection Agency (EPA) Design for the Environment (DfE) Program, the University of Tennessee Center for Clean Products and Clean Technologies, and other partners in voluntary, cooperative, industry-specific pilot projects.

U.S. EPA and colleges and universities work together to achieve sector-wide environmental gains through innovative actions. The Sector Strategies point-of-contact is working with six Colleges and Universities sector Partners to develop sector-specific approaches to assist colleges and universities in advancing the use of environmental management systems, reduce regulatory performance barriers, and measure environmental progress.

U.S. EPA – EnviroFacts

http://www.epa.gov/enviro/html/rcris/rcris_query_java.html

This website contains information on the Resource Conservation and Recovery Act. The Hazardous Waste Query Form allows you to retrieve selected data from the Resource Conservation and Recovery Act Information (RCRAInfo) database in Envirofacts. Specify a facility using any combination of facility name, geographic location, and standard industrial classification.

U.S. EPA - EnviroSense

<http://es.epa.gov/>

EnviroSense, part of the U.S. EPA's website, provides a single repository for pollution prevention, compliance assurance, and enforcement information and databases. This search engine searches multiple websites (inside and outside the EPA), and offers assistance in preparing a search.

U.S. EPA - Global Warming Site

<http://yosemite.epa.gov/oar/globalwarming.nsf/content/index.html>

Information on climate, emissions, impacts, actions, news and events, where you live as well as a series of other useful links to global warming for concerned citizens and educators as well as for small businesses and industries.

U.S. EPA - Healthy School Environments

<http://cfpub.epa.gov/schools/index.cfm>

The Healthy School Environments Web pages are intended to serve as a gateway to online resources to help facility managers, school administrators, architects, design engineers, school nurses, parents, teachers and staff address environmental health issues in schools.

U.S. EPA - Information Sources

<http://www.epa.gov/epahome/hotline.htm>

A large database of environmental information and links relating to hot lines and clearinghouses.

U.S. EPA - Laws and Regulations

<http://www.epa.gov/epahome/laws.htm>

A website with more than a dozen major statutes or laws that form the legal basis for the programs of the Environmental Protection Agency.

U.S. EPA Memorandum - RCRA Policy Statement: Clarification of the Land Disposal Restrictions' Dilution Prohibition and Combustion of Inorganic Metal-Bearing Hazardous Wastes

<http://www.epa.gov/epaoswer/hazwaste/combust/general/memorcra.txt>

This memorandum sets out a Statement of Policy under the Resource Conservation and Recovery Act clarifying the application of the Land Disposal Restrictions (LDR) prohibition on dilution to combustion of certain inorganic metal-bearing hazardous wastes.

U.S. EPA - Pollution Prevention

<http://www.epa.gov/p2/>

This website provides general information about Pollution Prevention practices, describes the array of Pollution Prevention programs and initiatives administered by EPA and other organizations, and provides contacts for further information.

U.S. EPA - RCRA Online

<http://yosemite.epa.gov/osw/rcra.nsf/topics?OpenView&count=5000>

Topic search for RCRA Information.

U.S. EPA - RCRA, Superfund and EPCRA Call Center

<http://www.epa.gov/epaoswer/hotline/index.htm>

The RCRA, Superfund and EPCRA Call Center is a publicly accessible service that provides up-to-date information on several Environmental Protection Agency (EPA) programs. The Call Center responds to factual questions on federal EPA regulations.

U.S. EPA - Wastes

<http://www.epa.gov/epaoswer/hazwaste/data/form8700/forms.htm>

This booklet will help you determine if you are subject to the requirements under the Resource Conservation and Recovery Act (RCRA) for notifying authorized state agencies or EPA of your regulated waste activities.

U.S. EPA – Waste and Recycling

<http://epa.gov/highschool/waste.htm>

Provides information on how to reduce waste, where it goes, how waste affects the environment, and the laws that regulate waste and its cleanup.

U.S. EPA – Waste Minimization

<http://www.epa.gov/wastemin/>

The National Waste Minimization Program supports efforts that promote a more sustainable society, reduce the amounts of waste generated, and lower the toxicity and persistence of those wastes that are, of necessity, generated. This website contains information about this program.

ART AND PAINT SUPPLY MANUFACTURERS

Artist's Materials

<http://www.trueart.info/materials.htm>

Primarily information from the book entitled *Art Hardware* by Steven Saitzyk, pertaining to artist's materials.

Binney & Smith

<http://www.binney-smith.com/>

Portfolio Series, one of Binney & Smith's newest brands, is designed to help future art professionals who are developing their portfolios learn the basics of working with different mediums. The website contains more information on the Portfolio Series as well as links to ordering information.

Crayola

http://www.crayola.com/educators/techniques/specialty_markers.cfm

A supplier of Crayola art and paint supplies. Also contains links for arts and crafts ideas, lesson plans and coloring ideas targeted for educational purposes.

Daniel Smith

<http://www.danielsmith.com>

A supplier of paint and art supplies for adults and children. Contains links to hobbies and arts and crafts ideas as well. Products can be ordered online or through the catalog.

Gamblin Artist Colors

<http://www.gamblincolors.com/howtp.html>

A supplier of paint and art supplies for the professional artist.

Genesis Artists Colors

<http://www.arttalk.com/Genesis/artistcolors.htm>

A line of odorless and non-toxic paint and art supplies for educational purposes.

Golden Artist Colors, Inc.

www.goldenpaints.com

Golden Artist Colors, Inc. offers a line of heavy body paints and glazes that they sell for educational purposes, however, not all the supplies are non-toxic. There are MSDS's available for all the colors upon request. On the website, there is product information and supplies can be ordered online.

Grumbacher Academy Acrylics

info@dickblick.com

Grumbacher Academy Acrylics are available through the Dick Blick Art Materials website. Grumbacher's line is ideal for the art student, offering near professional quality at a uniform and affordable price. All 24 colors are certified AP non-toxic by the Art and Creative Materials Institute.

Hyatt's

art@hyatts.com

A manufacturer of paint and art supplies. The only line of paints and primers that Hyatt's carries that is non-toxic is Temtrapaint (poster paint), but there are other lines of products that Hyatt produces that are targeted for the intermediate artist.

Kremer Pigments

<http://www.kremer-pigmente.de/englisch/homee.htm>

A manufacturer of art and paint supplies in New York. Mineral and organic pigments ordering information online or through the catalog.

Liquitex

www.liquitex.com

Liquitex offers BASIC, a student line of paints and art supplies that are non-toxic and intended for educational use. The website offers more in-depth information about this product line and contains ordering information as well. There are a number of stores located within the New York area (see Appendix D).

Manufacturers

<http://www.trueart.info/manufacturers.htm>

An alphabetical listing of links to manufacturers of artist and framing materials.

National Association of Printing Ink Manufacturers

<http://www.napim.org/>

This website provides information on pigment and ink suppliers with membership information and scheduled meetings.

New Pig - Absorbents for Oil Spill Cleanup

<http://www.newpig.com/splashPage.jhtml;jsessionid=FYSQ44XVQ1FU2CTGIQVSFEQKMZCCWJVC?requestid=29148>

New Pig Corporation manufactures the world's largest selection of industrial absorbents for oil spill cleanup: absorbent pads and mats, also known as sorbents, plus socks, oil booms, pillows, pans, wipes, and spill kits. In addition to sorbents for cleaning up oil spills and leaks, they also offer a huge selection of innovative products and industrial supplies. This website contains ordering information as well as general information on these products.

Pigments Through the Ages

<http://webexhibits.org/pigments/intro/paintings7.html>

An informational webpage about paintings (oil paint and linseed oil, how to make your own oil paint, types of oil paint, consistence of oil paint, etc.).

Sherwin-Williams Company

<http://www2.sherwin.com/IM/default.asp>

A manufacturer of paints and art supplies.

Windsor and Newton

<http://www.winsornewton.com/index2.php>

Windsor and Newton sells art supplies targeted for the professional artist, not typically intended for educational use.

NEW YORK CITY/STATE RESOURCES**Environmental Advocates of New York**

<http://www.envirolink.org/external.html?www=http%3A//www.eany.org&itemid=20011023101449488121>

Environmental Advocates of New York is the voice of New York State's environmental community, devoted to the protection of the state's wildlife, land and people. This official informational website provides all information about this program.

New York City Department of Cultural Affairs

http://www.nyc.gov/html/dcla/html/mfta/mfta_main.shtml

Headquartered in a spacious warehouse in Long Island City, MFTA collects reusable items from a host of reliable donors, and distributes them free of charge to non-profit arts organizations, city agencies, public schools, and social, health and community service organizations that have arts programs in New York City.

New York City Department of Environmental Protection

<http://www.nyc.gov/html/dep/html/educres.html>

This website is an educational resource for students and teachers on protecting the environment in the New York City area. There are links to guided field trips, and environmental resources. DEP has developed a wide variety of materials to encourage and stimulate environmental education that are included on the website.

New York City Fire Department

http://nyc.gov/html/fdny/html/rcny_legal/rcny_final.shtml

Contains a comprehensive listing of the Title 3 rules of New York City for FDNY.

New York City Major's Office of Environmental Coordination

<http://www.nyc.gov/html/moec/html/resource.html>

City Environmental Quality Review, or CEQR, is a process by which agencies and other instrumentalities of the New York City review proposed discretionary actions for the purpose of identifying the effects those actions may have on the environment. This website provides information on this effort for the interested citizen.

New York Love Business – Pollution Prevention and Recycling

http://www.nylovesbiz.com/Productivity_Energy_and_Environment/Environmental_Assistance/pollution_prevention.asp

A list of main services that are offered relating to pollution prevention and recycling.

New York State Art Teachers Association

<http://www.nysata.org/>

The New York State Art Teachers Association (NYSATA) is a non-profit professional organization founded in 1948 for the purpose of advancing the cause of art education. This website is dedicated to this organization and provides relevant information for interested citizens.

New York State Department of Environmental Conservation

<http://www.dec.state.ny.us/website/der/spills/spillfaq.html#reporting>

New York State's informational website on spill response and remediation; contains frequently asked questions.

New York State Department of Environmental Conservation - Dismantlers and Recyclers of Used Electronics

<http://www.dec.state.ny.us/website/dshm/hzwstman/dismantl.htm>

Contains a list of contact information for dismantlers and recyclers of used electronics, compiled as a public service on this website for the New York area.

New York State Department of Environmental Conservation - Fluorescent or HID Lamp Recyclers

<http://www.dec.state.ny.us/website/dshm/hzwstman/lamprecy.htm>

A list of fluorescent lamp recyclers that New York State Department of Environmental Conservation (NYSDEC) maintains for the purpose of public education.

New York State Department of Environmental Conservation – Rules and Regulations

<http://www.dec.state.ny.us/website/regs/index.html>

An online resource for the environmental rules and regulations in New York State with links to the Chapter Index and the Regulations Index.

New York State Department of Labor

http://www.labor.state.ny.us/business_ny/employer_responsibilities/safety/coderule.htm

A list of the regulations that come under the jurisdiction of the Division of Safety and Health.

OTHER WEB RESOURCES

Alliance to Save Energy

<http://www.ase.org/section/program/greenschl>

This website presents information about the Green School Program - about using energy efficiency to strengthen schools. To help free up more resources for education while strengthening academic learning, the Alliance's Green Schools Program engages students in creating energy-saving activities in their schools, using hands-on, real-world projects.

Building Green

<http://www.buildinggreen.com/index.cfm>

This website contains such information as policy and content, land use and community, site and water, energy, resources and materials, and environmental indoor air quality. Building Green received the 2004 Lewis Mumford Award for the Environment.

Chemfinder

<http://chemfinder.cambridgesoft.com/>

A database and internet searching tool allowing the user to research a specific chemical for information and links on its biochemistry, health effects, MSDS's, physical properties, regulations, structure, chemical exchange and usage.

Electronics Exchange System

<http://electronics.exchangesystem.net/>

This site is a free buy/sell/trade listing system for electronics, computer and telecommunication items, with links to such items as used computers and electronics, electronics scrap recovery, phone recycling and used telephones, as well as used TV, cable and video equipment.

Energy Star

http://208.254.22.6/index.cfm?c=business.bus_index

"Energy management is an important aspect of environmental management which will show healthy dividends for your business. ENERGY STAR has the strategies to make you a leader and set your organization apart."

Environmental Yellow Pages

http://www.enviroyellowpages.com/listings/Central_America/Panama/7772b48a6b7b6464d53a35424c61a84b/

Search engine to links for environmental work/businesses/industries. Over 350,000 listings worldwide.

General Safety and Health Standards of Toxic Substances

http://www2.state.id.us/dbs/safety_code/300.html

A website containing comprehensive general and specific information relating to safety and health standards of toxic and hazardous substances.

GUILD

<http://www.guild.com/>

GUILD, the leading source for original art and fine crafts, direct from the studios of artists nationwide. From studio furniture to art glass vases, from ceramics and jewelry to prints and oil paintings, inspirations.

Health and Safety in the Arts

<http://www.ci.tucson.az.us/arthazards/medium.html>

Contains a searchable database of health and safety information for artists.

Health and Safety Introduction

<http://www.usa829.org/USA/health.html>

This site contains an article by Monona Rossol, M.S., M.F.A., Industrial Hygienist, Health and Safety Business Representative about health and safety in the workplace. There are a series of links to other health and safety information at the end of the article that are informative as well.

HSIA – Solvent Applications

<http://www.hsia.org/applications.htm>

An informational website on solvent applications.

Joint Service Pollution Prevention Technical Library

http://p2library.nfesc.navy.mil/P2_Opportunity_Handbook/alpha_sec.html

Alphabetical listing of topics relating to pollution prevention.

Kodak Environmental Services

<http://msds.kodak.com/ehswww/external/index.jsp>

A search engine for MSDS's to provide guidance on chemical safe use and disposal.

Medical Dictionary - Definitions, Medical Terms, Disease, Treatment, Drugs and Pharmaceuticals

<http://www.books.md/index.html>

This medical dictionary provides detailed information including medical definitions, specific medical terms, and descriptions of any disease and its treatment. Also included is information on drugs and pharmaceutical products.

MSDS Search 2004

<http://www.msdssearch.com/>

A comprehensive website with links to all pertinent information on MSDS's.

National Center for Manufacturing Sciences – Solv DB

<http://solvdb.ncms.org/solvdb.htm>

A large database of solvent information.

National Toner Recycling and Supply

<http://www.nationaltoner.com/>

This website stocks products at a discounted price for thousands of different machines including but not limited to: Epson, Apple, Brother, Canon, HP, IBM, NEC, Sharp and Xerox.

Recycler's World

<http://www.recycle.net/>

A list of recyclable objects and relevant information – a trading site for information related to recyclable commodities, by-products, used and surplus items.

Rohm and Haas Paint Quality Institute

<http://www.paintquality.com/library/index.html>

The PQI Paint Resource Library has extensive information on paints and painting to help in achieving success in painting projects, solving paint-related problems, and answering your questions about paints and coatings. An extensive glossary and information on the ingredients of paint and impacts on paint performance are all included in the comprehensive section.

Scorecard

<http://www.scorecard.org/>

Answers questions about pollution control. Topics include (Air, Water, Agriculture, Environmental Justice, and Health Hazards).

Scorecard

http://www.scorecard.org/chemical-profiles/other-websites.tcl?edf_substance_id=7439%2d92%2d1&edf_chem_name=LEAD

Other websites that offer searchable chemical databases, recommended by Scorecard.

Small Business Environmental Home Page

<http://www.smallbiz-enviroweb.org/Default.htm>

A webpage dedicated to helping small businesses access environmental compliance and pollution prevention information.

This to That

<http://www.thistothat.com/index.shtml>

A website with instructions for gluing various items to other items; provides recommendations for successful adhesion.

Toxics Use Reduction Institute (TURI)

<http://www.turi.org/>

The Toxics Use Reduction Institute (TURI) provides toxics use reduction resources for industries, communities and institutions to make Massachusetts a safer place to live and work. Website provides links for reducing use, sector programs, calendar and information about TURI.

Waste to Energy Research and Technology (WTERT) Counsel

<http://www.seas.columbia.edu/earth/wtert/>

The WTERT Council is concerned with energy recovery from solid wastes, as well as all other means used in the Integrated Management of Wastes, such as waste reduction and recovery of materials by recycling. This website contains pertinent information on the Waste to Energy Program.

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APPENDIX F

SAFE HANDLING, TREATMENT AND DISPOSAL

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
Ceramics	Clay		Premixed clays are commercially available, avoid creating dust; minimize hammering dry clay; wet materials to clean up or vacuum with HEPA vac.	Not hazardous waste	Place in normal trash in sealed plastic bags to minimize dust exposures. Clay is not listed as a RCRA hazardous waste
	Glazes		When applying glazes, wear appropriate PPE, apply in a spray booth if available, follow manufacturer's recommendations for safe use and handling.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	Glazes containing toxic metal pigments or flammable or toxic organics require hazardous waste treatment and disposal.
Drawing	Pastels		Colorants and pigments containing toxic heavy metals are hazardous by ingestion or inhalation, avoid creating dust.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	Obsolete or abandoned material containing listed metals should be managed as hazardous waste.
	Pencils, Graphite, Charcoal, and Chalks		Colorants and pigments containing toxic heavy metals are hazardous by ingestion or inhalation, avoid creating dust. Water-based drawing gums are available as a preferred alternative to solvent-based gums	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	Obsolete or abandoned material containing listed metals should be managed as hazardous waste.

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
	Pen and Ink		Do not apply solvent based inks using spray application techniques such as air brushing. Use alcohol or water based markers instead of those containing flammable and or toxic organics.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	Flammable and toxic organic solvent-based inks are hazardous waste materials when disposed.
	Spray Fixatives		When applying fixative or surface mount adhesives, wear appropriate PPE, apply in a spray booth if available, follow manufacturer's recommendations for safe use and handling	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	Ensure aerosol spray cans are completely empty. Spray cans with residues are fire and explosive hazards and are regulated waste materials.
Textile -Dyes	Powders		Avoid creating dust, use dyes in liquid or paste forms.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	If dye powders do not contain listed hazardous constituents, place in normal trash in sealed plastic bags to minimize dust exposures.
	Solutions			Spent or obsolete solutions having corrosive properties i.e., acidic (pH ≤ 2) or alkaline (pH ≥ 12.5) are regulated.	Determine if your local sewer authority accepts neutralized dye solutions or spent baths at the concentration levels to be discharged. Concentrated corrosive solutions and those with regulated listed metals should be managed as hazardous waste.
	Mordant baths			Chromium is regulated as a hazardous waste.	Baths or spent mordents containing dichromates require hazardous waste disposal.

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
Jewelry	Soldering		Conduct soldering operations with adequate ventilation, switch to lead-free solders and non cadmium fluxes.	Obsolete lead-containing solder wire, cadmium and silver wire/fluxes are regulated.	Collect solder dross, silver for metal salvage /recycling.
	Enameling		Certain enamels may contain arsenic, barium, cadmium, chromium, lead, nickel, or selenium. Avoid creating dust or mist. If spraying, use a spray booth. Follow manufacturer's recommendations for safe use and handling. Acid Pickle solutions are corrosive and generate toxic fumes. Use appropriate PPE.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	Enamels containing toxic metal pigments or flammable or toxic organics require hazardous waste treatment and disposal.

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
Metal Shop Welding Metalworking	Metals			Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	<p>Recycled metals exemption exists for material that would otherwise be hazardous waste due to the presence of listed metals, i.e., lead, cadmium, chromium.</p> <ol style="list-style-type: none"> 1. Metals not collected for salvage or reclamation may be considered hazardous waste if they FAIL TCLP analysis for metal constituents. 2. Beryllium powder is an acutely hazardous waste. 3. Metallic Mercury is a hazardous waste. 4. Scrap solders/welding rods containing lead, cadmium or silver are considered hazardous waste unless recycled or reclaimed. 5. Non RCRA ferrous and non ferrous metals and alloys may be placed in the trash, or recycled through a conventional metal recycling program, e.g., municipal collector (unless they are coated with hazardous [lead containing] paints, in which case they must be managed as hazardous waste).
	Acid Etching/ Photo Etching)		Wear appropriate PPE, i.e., gloves, goggles, protective apron; and NIOSH approved respiratory protection for acid gas and mist.	Spent or obsolete solutions having corrosive properties i.e., acidic (pH ≤ 2) or alkaline (pH ≥ 12.5) are regulated	Determine if your local sewer authority accepts neutralized dye solutions or spent baths at the concentration levels to be discharged. Concentrated corrosive solutions and those with regulated listed metals should be managed as hazardous waste.

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
	Patinas/Metal Compounds		Avoid solvent degreasing, use safer alternative mineral spirits and/or detergent solutions. Properly dispose of older materials containing antimony/ arsenic/cyanide/ or mercury. Newer products are available that have low toxicity or are non toxic. Use appropriate PPE. Materials containing sulfates or sulfites may produce toxic sulfide fumes; avoid adding strong acids, and provide adequate local exhaust. Follow manufacturer's recommendations for safe use and handling. Pay close attention to chemical incompatibilities. Avoid creating dust or mist when using these materials.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	<ol style="list-style-type: none"> 1. Obsolete commercial chemical products containing Arsenic oxides, arsenic acid, phenyl mercuric acetate, strontium sulfide, and vanadium pentoxide are acutely hazardous wastes. 2. Calcium chromate, lead acetate, lead phosphate, selenious acid, selenium dioxide, and selenium sulfide are toxic hazardous wastes when not used for their intended purposes, e.g., unused product. 3. Metallic compounds are hazardous waste if they can not pass the acid leaching tests specified by EPA for arsenic, barium, cadmium, chromium, lead, nickel, or selenium
Surface Coating Paints, Enamels, Stains, Varnish	Water-based Coatings	Paints, varnishes, stains, finishes, sealants	Follow manufacturer's recommendations for safe use and handling. Provide adequate local exhaust.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	<ol style="list-style-type: none"> 1. Uncured wet paints containing lead, cadmium, chromate pigments, or mercury preservatives should be disposed of as hazardous waste. 2. Other water-based paints and coatings should be allowed to dry, and then placed in the trash.
	Solvent-based Coatings		Some oil or solvent based coatings may contain cadmium, chromium, lead, nickel or selenium. Avoid creating dust or mist. If spraying, use a spray booth. Follow manufacturer's recommendations for safe use and handling.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	<ol style="list-style-type: none"> 1. Solvent-based materials should be disposed of as hazardous waste. 2. Stains containing wood preservatives such as arsenic or phenol derivatives may be hazardous waste.

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
	Watercolors		Follow Manufacturer's recommendations for safe handling and use. Avoid creating dust or mist. If spraying, use a spray booth.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	Uncured wet paints containing lead, cadmium, chromate pigments, or mercury preservatives should be disposed of as hazardous waste. Other water-based paints and coatings should be allowed to dry, and then placed in the trash.
	Acrylic Paints (Water-Emulsion)				Oil based paints should be managed as regulated waste material
	Oil Paints				
	Aerosol Spray Paints		Avoid creating dust or mist. If spraying, use a spray booth. Follow manufacturer's recommendations for safe use and handling.		Ensure aerosol spray cans are totally used up until completely emptied. Cans may then be placed in the trash or sent off as recyclable metal. Spray cans with paint and propellant residues are fire and explosive hazards and are also regulated waste. Spraying any unused material to empty containers constitutes improper and illegal disposal.
Paint Strippers Removal/Cleaning		Calcium hydroxide (slaked lime), calcium oxide (lime), lithium oxide, potassium hydroxide (caustic potash), potassium carbonate (potash), sodium carbonate (soda ash, washing soda), sodium hydroxide (caustic soda), sodium silicate, trisodium phosphate.	Most paint strippers are corrosive and toxic. Follow manufacturer's recommendations for safe use, storage and handling.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	Some formulations are extremely corrosive due to concentrated alkalis. They also may contain toxic organics such as methanol and dichloromethane and are considered hazardous. Test coatings removed for the presence of characteristic levels of lead or other toxic metals to determine proper disposal method.

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
	Oils n.o.s. as vehicle for paint formulations	Linseed oil, safflower oil, tung oil	Oils and oil-soaked rags are combustible and create the potential for spontaneous combustion.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	Oil- or solvent-soaked rags may be cleaned at commercial laundry operations. The oil and organics are reclaimed for reuse or energy recovery and therefore are not considered hazardous waste. Oil-soaked rags (but not solvent-soaked rags) may be hung up to dry individually so that heat cannot accumulate, and then reused.
	Solvents and thinners, cleaners, degreasers.	Turpentine, acetone, mineral spirits, methyl ethyl ketone, xylene, toluene, glycol ethers	Volatile organics (flammable liquids) are readily absorbed by the body from all routes of exposure. Always use with adequate ventilation. Keep all ignition sources away from area. Keep containers tightly closed.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	Flammable and toxic organics are regulated hazardous waste.
Photography	Photochemicals	Obsolete and abandoned or off specification photochemical solutions, powders, toners, fixers, developers	Purchase and use liquid solutions when possible. When mixing dry powders, avoid creating dust. Provide for adequate ventilation. Wear an approved respirator and PPE. Ensure safe chemical mixing and handling areas, i.e., have emergency eyewash and shower available. Avoid direct skin contact with photoprocessing solutions. If solution splashes onto skin or in eyes, rinse immediately with copious amounts of water; Cover all baths when not in use; make sure acid is always added <i>to</i> water when diluting; do not add acid to, or heat, hypochlorite bleaches. Keep potassium persulfate away from flammable substances. Install ground fault circuit interrupters in electrical outlets.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents	Neutralize working solutions and rinse to drain if discharge is managed in a CWA authorized Publicly Owned Treatment system and concentrations are at or below acceptable sewer discharge limits. Spent fixatives must be managed to prevent the release of sulfide gas and silver Silver in concentrations greater than 5 mg/L is a regulated hazardous waste and must be treated to less than 5 mg/L by silver recovery or collected for off-site reclamation/disposal. Discharges of silver halide wastewaters are regulated by municipal sewer authorities.

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
	Oxidizing Agents	Dichromates, chlorates, chromates, hypochlorites, nitric acid (concentrated), periodates, permanganates, persulfates	Highly reactive materials; use with extreme caution.	Spent or obsolete solutions having corrosive properties i.e., acidic (pH ≤ 2) or alkaline (pH ≥ 12.5) are regulated.	Collect obsolete product or concentrated solutions and manage as regulated waste.
Printmaking	Ink Pigments		Use ready-made water based acrylics or non toxic inks.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	Uncured wet screen printing inks containing lead, cadmium, chromate pigments or mercury preservatives should be disposed as hazardous waste. Other water-based acrylics and coatings should be allowed to dry, and then placed in the trash.
	Other pigments				
	Etching (Acids)		Use ferric chloride solutions rather than nitric acid whenever possible. Refer to MSDS for chemical incompatibilities. Wear appropriate PPE.	Spent or obsolete solutions having corrosive properties i.e., acidic (pH ≤ 2) or alkaline (pH ≥ 12.5) are regulated.	Keep baths covered. Neutralize working solutions and rinse to drain if discharge is managed in a CWA authorized Publicly Owned Treatment system and concentrations are at or below acceptable sewer discharge limits.
	Photoetching		Purchase and use pre-sensitized plates; provide for local exhaust ventilation; wear appropriate PPE. Be aware of UV radiation reflection, avoid carbon arcs, wear welding goggles.	Flammable and toxic organics are regulated. These include ether acetate, xylene and butyl cellosolve.	Volatile and flammable liquids must be kept in tightly closed containers except when adding or removing material.
	Lithography	Solvents	Follow manufacturer's recommendations for safe use, storage and handling. Consider the use of water-based screen printing inks; Avoid skin contact with solvents. Perform airbrushing in spray booth.	Flammable and toxic organics are regulated.	
	Screen Printing	Mineral spirits, toluene			
Sculpture	Plaster		Wear an approved dust mask. Avoid the creation of dust; work with wetted materials when possible; clean up dust by wet mopping or vacuuming with a HEPA vac.	Not hazardous waste.	Place in the trash, in sealed plastic bags.

Treatment and Disposal

General Category	Subcategory	Examples	Precautions	Disposal as Hazardous Waste	Treatment and Disposal Recommendations/ Comments
	Plastics/Plastic Resins		Volatile and reactive materials require local exhaust. Highly reactive and flammable materials. Some resins contain listed carcinogens. Follow manufacturer's recommendation for safe use and handling.	Flammable and toxic organics are regulated. These include epoxy, methyl methacrylate, phenol- or urea-formaldehyde, polyester and polyurethane.	Excess and obsolete resins should be reacted with a compatible catalyst to form a solid plastic, which can then be placed in the normal trash. Plasticizers, resins and catalyst should be disposed as hazardous waste. Solid plastics are not considered hazardous waste.
	Organic Peroxides	Methyl ethyl ketone peroxide, benzoyl peroxide	Organic peroxides can burn or explode if heated. They become unstable over time and can be extremely reactive. Rotate inventory regularly and avoid storing beyond its shelf life.	Flammable, toxic and reactive materials are regulated.	Follow manufacturer's recommendations for safe use, storage and handling. Keep minimal quantities on hand. Consider eliminating use to avoid risk.
Woodworking	Ordinary wood or wood waste			Not hazardous waste	Can be recycled, burned as a fuel, or placed in the trash.
	Wood that has been treated with wood preservatives such as chromated copper arsenate or other toxic chemicals		Avoid inhaling dust, wear PPE when cutting or sanding.	Hazardous waste determination must be performed to identify the presence of regulated chemical constituents.	Do not burn these materials in a fireplace, or woodstove.
	Glues and Cements		Most solvent-based glues are flammable; keep away from sparks, flames, or other ignition sources.	Flammable, toxic and reactive materials are regulated.	Dry water-based glues and cements, and place in trash. Small amounts of solvent-based glues and cements must be handled as hazardous waste.

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APPENDIX G

NEW YORK AND NEW JERSEY – REGULATORY DIFFERENCES SUMMARY

	NEW YORK Department of Environmental Conservation	NEW JERSEY Department of Environmental Protection
Contact Information	Division of Solid and Hazardous Materials 50 Wolf Road Albany, NY 12233-7251 518-489-8988 www.dec.state.ny.us	Solid and Hazardous Waste Management Program 401 E. State Street, P.O. Box 414 Trenton, NJ 08625-0414 609-633-1418 www.state.nj.us/dep
Hazardous Waste Management Program Requirements Summary		
Program Description	Same as federal with the addition of PCB wastes. Incorporates 40 CFR 260 through 273 by reference* (6NYCRR 370.1(e)), except as noted.	Same as federal. Incorporates 40 CFR 260-266, 268 & 270 by reference* (NJAC 7.26G-Subchapters 4 through 12, respectively), except as noted.
Generator Status	Same as federal with the addition of PCB wastes (NYCRR 371.4 (e)). Generators also subject to quarterly tax assessment, NYS Dept. of Taxation & Finance.	Same as federal except Appendix to Part 262 Uniform Hazardous Waste Manifest & Instructions for EPA form 8700-22 (NJAC 7.26 G-6.1(b) & (c)) only. Must use specified state instructions when completing a manifest (NJAC7.26G-6.2(a)) and facilities filing a biennial report (LQG'S) are subject to a manifest processing fee program (NJAC7.26G-3.3(b)).
The Hazardous Waste Generator categories, identification numbers and notification requirements for New York and New Jersey are the same as the federal ones.		
Universal Waste	Allows generators (NYSDEC Commissioner's MOU 5/8/06) of mercury containing equipment to follow federal Universal Waste Rules until state rules are promulgated. (40 CFR 273 & NYCRR 374-3). Net result is the same list of universal wastes as federal.	Universal waste handlers are subject to regulation under (NJAC 7.26 A-7). Adds oil-based finishes and consumer electronics, including computers, in addition to the federal list.
Waste Generation Limits		
CESQG	<100 kg month	same
SQG	100 to 1,000 kg month	same
LQG	>1,000 kg month	same

Accumulation Quantities and Time Limit Conditions for Exemption from Permitting		
All Categories	Same as federal: with the exception that it allows SQG's and LQG's to manage some wastes from offsite CESQG's (6 NYCRR 373-1.1(d)(1)(i)).	Same as federal.
	Limits LIQUID hazardous waste storage to 8,800 gallons or less without a permit. (6NYCRR 373-1.1(D)(1)(iii)).	
	<p>For facilities located in the following counties:</p> <ul style="list-style-type: none"> • Kings • Nassau • Queens • Suffolk <p>Or, over the Schenectady /Niskayuna Aquifer system in the following counties:</p> <ul style="list-style-type: none"> • Schenectady • Saratoga • Albany <p>Or, over the Clinton St./Ball Park Valley Aquifer system in the following counties:</p> <ul style="list-style-type: none"> • Broome • Tioga <p>Regulations require secondary containment if hazardous waste accumulated exceeds:</p> <ul style="list-style-type: none"> - LQG – 185 gallons or any amount in tanks; - SQG – 185 gallons liquid in containers and/or tanks, or any liquid in underground storage tanks - CESQG – storage in excess of 1000 kg <p>(6NYCRR 373-1.1(d)(1)(iv))</p> <p>LQG's in the geographic areas specifically referenced above are advised to review 6NYCRR 373-1.1(d) in its entirety to ascertain if additional requirements may be applicable.</p>	

Waste Shipments		
Rejected Loads	(6 NYCRR 372.2(b)(2 (iii)) Requires generator to contact DEC.	(NJAC7.26G-6.3) Specific procedures must be followed.
Licensed Transporters	SQG/LQG Required - (6 NYCRR-364) CESQG' s may transport their waste under specified conditions (<100kg./month).	SQG/LQG - Required (NJAC7.26G-6.1(c)(4)).
Regulatory Allowances for On Site Waste Minimization		
Domestic Sewage Exclusion	Exempts sanitary wastes/ industrial wastewater treatment discharges. See 6NYCRR 371.1 e 1.	Incorporates by reference federal requirements found at 40 CFR 261. See NJAC 7.26G-5.1.
Elementary Neutralization	Acid/alkaline buffering. See 6NYCRR 371.1 d 1 xii.	Incorporates by reference federal requirements found at 40 CFR 270. See NJAC 7.26G-12.1.
Recycling	Lead batteries, scrap metals on site reuse reclaim and recycle systems. See 6NYCRR 371.1 g 3.	Incorporates by reference federal requirements found at 40 CFR 261. See NJAC 7.26G-5.1.
Treatment in Accumulation Containers	See 6NYCRR 373.1.1d1 ix.	Conforms with EPA interpretation.
Small Boilers and Industrial Furnaces	See 6NYCRR 374-1.8 i.	Incorporates by reference federal requirements found at 40 CFR 266 with specified changes. See NJAC 7.26G-10.1.

*** What is “incorporated by reference”?**

Incorporation by reference allows state agencies to refer to documents already vetted and published elsewhere, such as federal regulations or ASTM standards, in lieu of writing duplicative language. This is often accompanied by additional statements citing applicable differences from or additions to the referenced requirements. The legal effect of incorporation by reference is that the referenced material is treated like any other state-issued rule, having the force and effect of law. In the items cited above, the result is that the federal regulations listed apply equally as state requirements, with further state requirements added for facilities within that state.

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APPENDIX H

LIST OF ACRONYMS AND DEFINITIONS OF KEY ENVIRONMENTAL TERMS

Agency/Term	Acronym/Definition
Agency for Toxic Substances and Disease Registry	ATSDR
American Council of Governmental Industrial Hygienists	ACGIH
American National Standards Institute	ANSI
American Society for Testing and Materials	ASTM
Clean Water Act	CWA
Code of Federal Regulations	CFR
Comprehensive Environmental Response, Compensation and Liability Act (Superfund)	CERCLA
Comprehensive Environmental Response, Compensation, and Liability Information System	CERCLIS
Conditionally Exempt Small Quantity Generator	CESQG
Department of Transportation	DOT
Emergency Planning and Community Right to Know	EPCRTK
Environmental Protection Agency	EPA
Federal Emergency Management Agency	FEMA
Federal Facility Agreement	FFA
Land Disposal Restriction	LDR
Large Quantity Generator	LQG
Local Emergency Planning Commission	LEPC
Material Safety Data Sheet	MSDS
Medium Density Fibreboard	MDF
National Ambient Air Quality Standards	NAAQS
National Emission Standards for Hazardous Air Pollutants	NESHAP
National Institute for Occupational Safety and Health	NIOSH
National Pollutant Discharge Elimination System	NPDES
New York City Department of Environmental Protection	NYCDEP
Occupational Safety and Health Administration	OSHA
Parts Per Million	PPM
Permissible Exposure Limit	PEL

Agency/Term	Acronym/Definition
Personal Protective Equipment	PPE
Resource Conservation and Recovery Act	RCRA
Safe Drinking Water Act	SDWA
Small Quantity Generator	SQG
Standard Operating Procedures	SOPs
State Emergency Planning Commission	SEPC
Superfund Amendments and Reauthorization Act of 1986	SARA
Threshold Limit Value	TLV
Toxic Substances Control Act	TSCA
Toxicity Characteristic Leaching Procedure	TCLP
Ultraviolet	UV
U.S. Department of Transportation	DOT
U.S. Food and Drug Administration	FDA
CAS Registry Number	This number is given to a chemical by the Chemical Abstracts Service Division of the American Chemical Society.
LD ₅₀ and LC ₅₀ (species and routes)	These are the concentrations of a chemical which is expected to cause the death of 50 percent of an animal test. LD ₅₀ applies to a single dose of solids and liquids, normally given in a mass of chemical to mass of body ratio. LC ₅₀ applies to gases and corresponds to the concentration of the gas in the air that killed 50 percent of the population in the time indicated.
pH	This is a numerical expression on a scale from 0 to 14 of the extent of acidity or alkalinity of a product:
Flashpoint (°C) and Method	This is the minimum temperature, under specified test circumstances (closed-cup or open-cup), at which a liquid product gives off enough vapor to ignite in the presence of a source of ignition such as an open flame or spark. For a given test method, the lower the flashpoint, the more flammable the material.
Flammable Limits in Air	These are the upper (maximum) and lower (minimum) concentrations of a gas or vapor in air between which an explosion or propagation of flame will occur when an ignition source is present. The Upper Flammable Limit (UFL) is sometimes known as the Upper Explosive Limit (UEL) and the Lower Flammable Limit (LFL) is sometimes known as the Lower Explosive Limit (LEL).

Agency/Term	Acronym/Definition
Incompatibility	Two substances are incompatible if, on combination, they react dangerously and produce toxic or corrosive by-products, excessive heat or explosion. Such chemicals should be stored apart and handled so as to minimize the likelihood of contact with each other.
Hazardous Decomposition Products	This is a listing of dangerous products that may be released if the substance is exposed to aging, heating, burning or other chemical reactions. An example would be the formation of peroxides with the aging of various ethers and unsaturated cyclic compounds.
Route of Entry	<p>A chemical can enter the body by several routes:</p> <p>Inhalation (breathing)</p> <p>Contact with skin or eyes (localized irritation)</p> <p>Absorption through the skin and eyes (systemic)</p> <p>Ingestion</p> <p>Injection with a needle or cuts from contaminated glassware</p>
Exposure Limits	These are the legislated or recommended limits of an airborne substance to which a worker is allowed to be exposed. These limits generally represent conditions in which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect.
C, or Ceiling	The maximum allowable human exposure limit for an airborne substance; not to be exceeded, even momentarily. Also see "PEL" and "TLV."
Concentration	The amount of a substance in a stated unit of a mixture or solution. Example: 2 parts per million hydrogen sulfide in air, or a 50 percent caustic solution.
Effects of Overexposure	Clinical signs and symptoms that may occur or be experienced when one has been overexposed to concentrations of a particular substance above established exposure limits.
Exposure Limit	Limit set to minimize occupational exposure to a hazardous substance. Recommended occupational exposure limits used are American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs). Mandatory limits are the Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PELs).
Flash Point	The minimum temperature at which a liquid gives off sufficient vapor to form, with air, an ignitable mixture.

Agency/Term	Acronym/Definition
Ignitable	A solid, liquid, or compressed gas that exhibits a "characteristic of ignitability," as defined by the Resource Conservation and Recovery Act (RCRA), and may be regulated (by the Environmental Protection Agency) as a hazardous waste.
Local Exhaust	A system for capturing and removing airborne contaminants (gases, particulates) at the point at which they are released. Not to be confused with general exhaust.
mg/m ³	Milligrams per cubic meter of air; a unit for measuring concentrations of particulates in the air (a weight per unit volume).
Neutralize	To render chemically neutral or harmless; neither acid nor base; to counteract the activity or effect of. The addition of a base (sodium hydroxide) to an acid (hydrochloric acid) results in water and a salt (sodium chloride); thus the acid has been "neutralized" or rendered harmless.
PEL	Permissible Exposure Limit: an exposure limit established by OSHA's regulatory authority. May be a time weighted average (TWA) limit or a ceiling concentration exposure limit.
NIOSH	National Institute for Occupational Safety and Health. Part of the Centers for Disease Control and Prevention in the U.S. Department of Health and Human Services (DHHS); a Federal agency which, in addition to other activities, tests and certifies respiratory protective devices and air sampling detector tubes, recommends occupational exposure limits for various substances, and assists OSHA in occupational safety and health investigations and research.
ppm	Parts per million: a unit for measuring the concentration of a gas or vapor in contaminated air. Also used to indicate the concentration of a particular substance in a liquid or solid.
Protective Cream (Barrier Cream)	A protective skin cream provides an invisible flexible protection for the hands from soils, solvents, dusts, powders, oils, greases, paints, epoxies, resins, inks, and irritants. It can be easily removed by washing with any cleansing product.

Agency/Term	Acronym/Definition
Reactivity -	The tendency of a substance to undergo a chemical change with the release of energy. Reactive chemicals are liable to cause fire or promote an explosion. Undesirable effects (pressure buildup, temperature increase, formation of noxious, toxic, or corrosive by-products) may occur because of a reaction to heating, burning, direct contact with other materials, or other conditions when in use or in storage.
Respiratory Protection	Devices for use in conditions exceeding the permissible exposure limits, which, when properly selected, maintained, operated, and worn by the user, will protect the user's respiratory system from exposure to airborne contaminants by inhalation.
Target Organ Effect -	Damage caused in a specific organ following exposure to certain chemicals. For example, a "neurotoxin" is a chemical, such as mercury, that product is its primary toxic effect on the nervous system.
TLV -	Threshold Limit Value: a term used by the American Conference of Governmental Industrial Hygienists (ACGIH) to express the airborne concentration of a material to which nearly all persons can be exposed day after day, for a normal 8-hour workday or 40-hour work-week, without adverse effects.
Toxicity -	Basic biological property of a material reflecting its inherent capacity to produce injury; adverse effects resulting from overexposure to a material, generally via the mouth, skin, eyes, or respiratory tract.
TWA -	Time Weighted Average exposure; the airborne concentration of a material to which a person is exposed, averaged over the total exposure time, generally the total workday (8 to 12 hours). It is calculated by multiplying measured concentration levels times the duration of exposure (in hours), adding these values together, then dividing by the total sampled time (in hours). Also see "TLV" and "PEL."
UEL or UFL	Upper Explosive Limit or Upper Flammable Limit - The highest concentration of a flammable vapor or gas in air (usually expressed in percent by volume) above which propagation of a flame will not occur in the presence of an ignition source. Also see "LEL."

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