

Flora High School Chemical Safety Training

David Drake, Chemical Hygiene Officer

FHS Room 2C

August 15, 2017

Chemical Safety Training

- Employees are entitled to annual training regarding the chemical hazards they may encounter in the workplace pursuant to OSHA's occupational exposure to hazardous chemicals in laboratories standard (29CFR1910.1450).
- Training will contain the following:
 - Content of the OSHA standard and its appendices
 - Location and Content of the Chemical Hygiene Plan (CHP)
 - Location of reference materials and Safety Data Sheets (SDS)
 - Details of access to medical consultation and management system

Occupational Exposure to Hazardous Chemicals in Laboratories Standard (29CFR1910.1450)

- The entire standard (with appendices) can be found at https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10106

Chemical Hygiene Plan (CHP)

- The Chemical Hygiene Officer is David Drake
- The Chemical Hygiene Plan is located in Room 2C
 - You have also been provided with a copy for your own use
 - Updates will be available online at:
<http://www.floraschools.com/faculty/Ddrake/chem-hygiene.cfm>
- Employees requiring annual training are
 - Addie Dehart
 - David Drake
 - Doug Slagley
- The CHP includes Standard Operating Procedures and Emergency Action Plans
- At this time, we will peruse the CHP together

Chemical Hygiene Plan (CHP)

- Part I – Standard Operating Procedures
 - see Appendix A
- Part II – Reduction of Exposure
- Part III – Maintenance of Fume Hoods, Eye Wash Stations, and Safety Showers
- Part IV – Employee Training
 - see Appendix B – this presentation
- Part V – Prior Approval
- Part VI – Medical Consultation

Chemical Hygiene Plan (CHP)

- Part VII – Individual Responsibilities
 - Chemical Hygiene Officer – David Drake
 - Administrative Supervisor – Bobby McNeely
 - Laboratory Supervisors – Addie Dehart, David Drake, Doug Slagley
- Part VIII – Work With Select Carcinogens, Reproductive Toxins
 - See Appendix C
- Part IX – Emergency Response
 - See Appendices D & E

Location of Reference Material and SDS

- I have several chemical resources in 2C or my office that you can use
- The Flinn Science Catalog/Reference Manual has lots of information about safety considerations, chemical disposal, etc.
- Safety Data Sheets (formerly MSDS) are available:
 - In electronic form on every computer in 2C
 - On CD-ROM discs from Flinn (I have extras)
 - In print form in a binder in 2C (selected items only)
- Please ask me if you need any help in this area

Medical Consultation

- If you are experiencing acute symptoms of chemical exposure, leave the laboratory and seek medical attention.
- Injury due to chronic exposure symptoms will be discussed with the district administration and medical professionals.

Physical Hazards

- Combustible Liquids (in flammable chemical storage)
- Compressed gas (N/A)
- Explosive (N/A)
- Flammable (liquids in flammable storage, gas lines)
- Organic peroxide (N/A)
- Pyrophoric (Na and K metal – stored under oil in safety can)
- Unstable/reactive (some oxidizers, nothing particularly serious)
- Water reactive (Na and K, others)

Health Hazards

- Irritants
 - Several – avoid prolonged contact, wear PPE, etc.
- Corrosives
 - Strong acids and bases – stored in PP to protect against leakage, dedicated acid storage shelf
- Toxics, Sensitizers, Carcinogens
 - See CHP Appendix C

Routes of Absorption

- Inhalation
 - Use fume hood, mask for particulates
 - Ventilators can be obtained if necessary
 - Avoid unventilated spaces with volatiles
- Skin absorption
 - Gloves
 - Wash hands
- Ingestion
 - Wash hands

Work Practices

- Practice personal hygiene (what you do)
- Wear appropriate PPE
- Practice good housekeeping
- Maintain safety equipment

Exposure Limits

- OSHA establishes Permissible Exposure Limits (PEL) based on human/animal studies, chemical similarity
- Air Sampling
 - Required by OSHA, but...
 - we don't really have any consistently used chemicals that require monitoring
 - This may change in the future
 - Avoid confined work spaces
 - Report illnesses

Medical Response

- Depends on
 - Age
 - Gender
 - Body Size
 - Health Status
 - Personal Habits
 - Other Exposures
- Employee Concerns
 - Symptoms limited/many causes
 - Documentation and referral
 - Refusal to Work

Closing

- Documentation
 - Sign record of annual training
- Updates to CHP
 - Discuss any changes necessary in CHP (including appendices)
 - Talk to me (CHO) about changes for the future