Appendix A: Definitions

**Acute Exposure:** exposure of short duration, usually to relatively high concentrations or amounts of a material.

**ACGIH:** American Conference of Governmental Industrial Hygienists. An organization of professionals in governmental agencies or educational institutions engaged in safety and health programs.

**Action Level:** The exposure level (concentration in air) at which OSHA regulations require actions such as air analysis, employee training, medical monitoring and record keeping. This level is *generally one-half* of the PEL.

**APR:** Air Purifying Respirator

**Breakthrough:** a measure of the time it takes for a chemical to degrade a material to the point of pass through

**Ceiling Limit:** The maximum concentration of a material an individual may be exposed to at any time.

**CFR:** Code of Federal Regulations. (OSHA, EPA, DOT etc.)

**Chronic Exposure:** Continuous or intermittent exposure over a longtime period, usually applies to relatively low material amounts or concentrations.

**Cryogenic:** Relating to extremely low temperature

**Decibel (db):** Unit of measurement for sound (loudness). Noise above 85 db is considered hazardous.

**Degradation:** the rate at which the physical properties of materials change due to contact with a chemical

**Dermal Toxicity:** Adverse effects resulting from a material’s absorption through the skin.

**DOT:** Department of Transportation; regulates transportation of hazardous materials.

**Engineering Controls:** Controls, which physically isolate the worker from a potential hazard, or remove the hazard from the work environment.
Appendix A: Definitions

**Flashpoint:** the lowest temperature at which a material gives off sufficient vapor to form an ignitable mixture in air, in the presence of a source of ignition.

**Hazard Communication Rule:** requires chemical manufacturers and importers to assess and communicate chemical hazards in the workplace.

**HEPA:** high efficiency particulate air filter. Has a 99.97% removal efficiency for .3-micron particles.

**HMIS (G):** Hazardous Materials Information System (Guide)

**IDLH:** Immediately dangerous to life and health. The maximum concentration from which one could escape within 30 minutes without any escape-impairing symptoms or irreversible health effects.

**Impervious:** describes a material that does not allow another substance to penetrate or pass through it; impermeable.

**Ingestion:** the swallowing of a chemical substance; may inadvertently result from eating, drinking, smoking or cosmetic application in the workplace or with contaminated hands.

**Inhalation:** entry of a chemical substance to the lungs by breathing.

**Injection:** chemical exposure caused by the piercing of the dermal layer-parenteral contact.

**Laboratory Scale:** the work involves containers of substances used for reactions and transfers that are designed for easy and safe handling by one person.

**Laser:** “Light Amplification by Stimulated Emission of Radiation”

**LC50:** Lethal concentration 50. The concentration of a material in the air that, based on laboratory tests (inhalation) is expected to kill 50% of a group of test animals when administered as a single exposure in a specific time period.

**LD50:** Lethal dose 50. The concentration of a material, administered other than by inhalation, on the basis of laboratory tests is expected to kill 50% of a group of test animals when administered as a single exposure in a specific time period.
Appendix A: Definitions

**Lockout/Tagout:** methods of energy isolation used to prevent injuries. Refer to Rensselaer’s Lockout/Tagout Program

**MSDS:** Material Safety Data Sheet (MSDS)

**Medical Surveillance:** Regular medical testing of employees for early detection of overexposure to hazardous chemicals.

**MPE:** Maximum Permissible Exposure

**NFPA:** National Fire Protection Association. Publishes the NFPA Diamond, a color-coding and numbering system used to convey chemical hazards.

**NIOSH:** National Institute of Occupational Safety and Health. Recommends exposure limits to OSHA for substances, investigates accidents, and researches occupational safety.

**OSHA:** Occupational Safety and Health Administration

**PEL:** Permissible exposure Limit; legal exposure limits based on exposures of 8hrs/day 40hrs/week Time weighted averages.

**Permeation:** Allows passage of one material through another. Permeation through PPE may occur on a molecular level and may occur even if there are no signs of degradation.

**pH:** The pH value of a substance represents the acidity or alkalinity of a solution. It is defined as the logarithm of the reciprocal of the hydrogen-ion concentration of a solution.

**PPE:** Personal Protective Equipment

**Radiation:** any form of energy propagated as electromagnetic waves

**Routes of Entry:** Inhalation, Absorption, Injection, Ingestion

**SAR:** supplied air respirator

**STEL:** short-term exposure limit

**TLV:** Threshold limit value; similar to the PEL however not a legal limit. Also established by the American Council of Governmental Industrial Hygienists.