Micro-Module Courseware Development Grant

(a) Personal protective equipment

1. Which of the following eye protections is not allowed to wear in the chemical laboratory?

(A) Goggles
(B) Regular glasses
(C) Contact lenses plus spectacles with side shield
(D) Regular glasses plus spectacles with side shield

Micro-Module Courseware Development Grant

(a) Personal protective equipment

2. Which of the following about latex gloves is incorrect?

(A) It is made of natural rubber.
(B) It has better resistance against puncture than synthetic gloves.
(C) It can cause allergies to some people.
(D) It can be used to handle inorganic strong acids and bases.

Micro-Module Courseware Development Grant

(a) Personal protective equipment

3. When several glass bottles (2.5 litre each) of hexane are dropped onto the floor and are broken, which of the following is the most suitable protection to wear in order to handle the chemical spillage?

(A) A surgical face mask
(B) A face shield
(C) A face mask with activated charcoal
(D) An air-purifying respirator with an appropriate cartridge

Micro-Module Courseware Development Grant

(a) Personal protective equipment

4. When wearing _____ gloves for handling liquid nitrogen, even a very short contact time with liquid nitrogen can cause severe burnt of the hands.

(A) Cotton
(B) Cryo-
(C) Latex
(D) Nitrile

Micro-Module Courseware Development Grant

(a) Personal protective equipment

5. Which of the following is not allowed to wear in the chemical laboratory?

(A) Short pants
(B) Scandals
(C) Skirt
(D) All of the above

Micro-Module Courseware Development Grant

(a) Personal protective equipment

6. Which of the following is the main purpose for wearing the personal protective equipment in the chemical laboratory?

(A) To fulfil the requirement of the law
(B) To be allowed to stay in the laboratory
(C) To protect you from a health or safety risk
(D) To be ready for handling chemical spillage

Micro-Module Courseware Development Grant

(a) Personal protective equipment

Ans. 1. C 2. B 3. D 4. A 5. D 6. C

Micro-Module Courseware Development Grant

(b) Corrosive chemical

1. What is the basic personal protective equipment for handling of corrosive substances?

   1) goggles
   2) face shield
   3) lab coat
   4) gloves
   5) anti-corrosive shoes

(A) Only 3 and 4

(B) Only 1, 3 and 4

(C) Only 1, 2, 3 and 4

(D) All of the above

Micro-Module Courseware Development Grant

(b) Corrosive chemical

2. Which of the following is not a common spill kit found in a laboratory?

(A) Acid powder
(B) Base powder
(C) Radioactive powder
(D) Solvent powder

Micro-Module Courseware Development Grant

(b) Corrosive chemical

3. Which of the following classes of chemicals are classified as corrosive substances?

   1) Acids
   2) Bases
   3) Oxidizing agents
   4) Reducing agents
   5) Radioactive substances

(A) Only 1, 2 and 5

(B) Only 1, 3 and 4

(C) Only 1, 2, 3 and 4

(D) All of the above

Micro-Module Courseware Development Grant

(b) Corrosive chemical

Ans. 1. B 2. C 3. C

Micro-Module Courseware Development Grant

(c) Flammable chemical

1. What is the flash point of chemicals classified as flammable in Hong Kong?

(A) 40 ^{o}C
(B) 45 ^{o}C
(C) 60 ^{o}C
(D) 66 ^{o}C

Micro-Module Courseware Development Grant

(c) Flammable chemical

2. What is the state of matter when a substance combusts?

(A) Solid

(B) Liquid

(C) Gas

(D) It can be any state of matter

Micro-Module Courseware Development Grant

(c) Flammable chemical

3. Which of the following is not suitable to put off an electrical fire?

(A) Water extinguisher
(B) Carbon dioxide extinguisher
(C) Halon extinguisher
(D) Foam extinguisher

Micro-Module Courseware Development Grant

(c) Flammable chemical

4. Which of the following is not correct for fire prevention?

(A) Keep only what you need on-site
(B) Store the flammable chemicals in domestic refrigerator
(C) Work with flammable chemicals in fume hood
(D) Use intrinsically safe and non-sparking tools

Micro-Module Courseware Development Grant

(c) Flammable chemical

Ans. 1. D 2. C 3. A 4. B

Micro-Module Courseware Development Grant

(d) Toxic chemical

1. Which of the following class of chemical does not belong to toxic chemicals?

(A) Mutagen
(B) Teratogen
(C) Cryogen
(D) Cytotoxin

Micro-Module Courseware Development Grant

(d) Toxic chemical

2. Which of the following is/are classified as toxic chemical(s)?

(A) Benzene
(B) Mercury
(C) Snake venom
(D) All of the above

Micro-Module Courseware Development Grant

(d) Toxic chemical

3. Benzene is toxic because

(A) It is a good solvent and can dissolve the cell membrane.
(B) It is very flammable
(C) It is carcinogenic
(D) It gives out irritating smell

Micro-Module Courseware Development Grant

(d) Toxic chemical

4. What session(s) of MSDS is/are important to go through before you work with toxic chemicals?

   1) Session 1 – Identification of the substances
   2) Session 2 – Hazard identification
   3) Session 4 – First aid measures
   4) Session 11 – Toxicological information

(A) 1 and 2

(B) 2 and 3

(C) 2 and 4

(D) All of the above

Micro-Module Courseware Development Grant

(d) Toxic chemical

Ans. 1. C 2. D 3. C 4. D

Micro-Module Courseware Development Grant

(e) Chemical Information

1. How many hazard pictograms are there in the globally harmonized system (GHS)?

(A) 7
(B) 8
(C) 9
(D) 10

Micro-Module Courseware Development Grant

(e) Chemical Information

2. Which of the following information cannot be found in the labels on chemical containers?

(A) Manufacturing company name
(B) The CAS number
(C) The emergency contact phone number
(D) The purity of the chemical

Micro-Module Courseware Development Grant

(e) Chemical Information

3. Which of the following about MSDS is incorrect?

(A) It provides critical information on how to use, transport and store the chemical.

(B) You can access to MSDS only from the chemical companies.

(C) It tells you what to do in case of emergencies and overexposure.

(D) It is divided into 16 sections.

Micro-Module Courseware Development Grant

(e) Chemical Information

4. If the firefighters want to know the suitable extinguishing medium to contain the fire, which section in the MSDS will provide the information?

(A) 4
(B) 5
(C) 6
(D) 7

Micro-Module Courseware Development Grant

(e) Chemical Information

5. In sections 1-3 of MSDS, they give the information of chemical. Which of the following cannot be found?

(A) The CAS number
(B) The synonyms of the chemical
(C) The appearance of the chemical
(D) The boiling point of the chemical

Micro-Module Courseware Development Grant

(e) Chemical Information

6. If you want to know the waste treatment method of the chemical, which section in MSDS will provide you the information?

(A) 6
(B) 12
(C) 13
(D) 15

Micro-Module Courseware Development Grant

(e) Chemical Information

Ans. 1. C 2. C 3. B 4. B 5. D 6. C

Micro-Module Courseware Development Grant

(f) System under Pressure

1. Which of the following is NOT true?

(A) 1 atm = 1.01325×10^5 Nm^{-2}

(B) 1 atm = 1 bar

(C) 1 atm = 760 mmHg

(D) 1 atm = 14.6959 psi

Micro-Module Courseware Development Grant

(f) System under Pressure

2. What is the approximate pressure of a new gas cylinder?

(A) 1.5 atm

(B) 15 atm

(C) 150 atm

(D) 1500 atm

Micro-Module Courseware Development Grant

(f) System under Pressure

3. A trolley helps you to:

(A) mount a gas cylinder to wall or bench firmly.

(B) transport a gas cylinder safely.

(C) controls the amount of gas coming out of a gas cylinder.

(D) to prevent a gas cylinder from being heated up.

Micro-Module Courseware Development Grant

(f) System under Pressure

4. What is the problem if a gas cylinder is put under sunshine?

(A) The gas pressure of the gas cylinder may increase.
(B) The gas in the gas cylinder may be decomposed by sunshine.
(C) The metal case of the gas cylinder may be degraded by sunshine.
(D) Sunshine may initiate reaction between the gas in the gas cylinder and the air around the cylinder.

Micro-Module Courseware Development Grant

(f) System under Pressure

5. The regulator attached to a gas cylinder is used to:

    1) monitor the flow rate of gas
    2) control the flow rate of gas
    3) prevent gas from leaking out of the cylinder

(A) 1 and 2 only

(B) 1 and 3 only

(C) 2 and 3 only

(D) All of the above

Micro-Module Courseware Development Grant

(f) System under Pressure

Ans. 1. B 2. C 3. B 4. A 5. A

Micro-Module Courseware Development Grant

(g) Extreme Temperature

1. Which of the following best describe the term “cryogens”?

(A) A substance which cries when cooled.

(B) A substance which provides low temperature.

(C) A process which produces a cool substance.

(D) A process in which a substance is cooled.

Micro-Module Courseware Development Grant

(g) Extreme Temperature

2. Dry ice is the solid form of:

(A) water

(B) carbon dioxide

(C) nitrogen

(D) helium

Micro-Module Courseware Development Grant

(g) Extreme Temperature

3. Liquid nitrogen provides a temperature of:

(A) 0 °C

(B) −79 °C

(C) −196 °C

(D) −269 °C

Micro-Module Courseware Development Grant

(g) Extreme Temperature

4. A ventilation system is to:

(A) supply fresh air
(B) warm up a room
(C) absorb toxic gas
(D) light up a room

Micro-Module Courseware Development Grant

(g) Extreme Temperature

5. To reduce the hazard of spillage of harmful liquid on face, one should wear:

(A) cryo-gloves
(B) goggles
(C) lab coat
(D) mask shield

Micro-Module Courseware Development Grant

(g) Extreme Temperature

Ans. 1. B 2. B 3. C 4. A 5. D

Micro-Module Courseware Development Grant

(h) Electrical hazard

1. The voltage of wall sockets in Hong Kong is usually:

(A) 110V AC
(B) 110V DC
(C) 220V AC
(D) 220V DC

Micro-Module Courseware Development Grant

(h) Electrical hazard

2. Which of the following concerning fuse wire is true?

(A) Fuse wire is made of high-melting-point-metal.

(B) Fuse wire is melted by overheating.

(C) Circuit disconnected by fuse wire can be restarted without replacement of the fuse wire.

(D) When a high electrical current passes through a fuse wire, a huge magnetic field is produce to turn off the switch of a circuit.

Micro-Module Courseware Development Grant

(h) Electrical hazard

3. Which of the following concerning residual current device is true?

(A) It provides a minimal electrical current in case of electricity suspension.
(B) It detects fault in earthing and can cut off the electrical supply.
(C) It controls the maximum amount of electrical current in a circuit.
(D) It charges up a battery which provides power in case of electricity suspension.

Micro-Module Courseware Development Grant

(h) Electrical hazard

4. Which of the following concerning earthing is true?

(A) It is a tool to make electrical appliances and instruments stand on floor in a stable manner.
(B) It cuts off electricity supply in case of overheating.
(C) It turns off electrical appliances and instruments when they are left idle for a specific period.
(D) It carries away any charge developed on the enclosure and frame of electrical appliances and instruments.

Micro-Module Courseware Development Grant

(h) Electrical hazard

5. High voltage is LEAST likely used in:

(A) laser

(B) mass spectrometer

(C) X-ray fluorescence spectrometer

(D) hot plate

Micro-Module Courseware Development Grant

(h) Electrical hazard

Ans. 1. C 2. B 3. B 4. D 5. D