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[For departmental use]
[Exercise No.05]

E-exercise Book



*Material Safety Data Sheet
(MSDS)*

Note:

In this **e-Exercise Book**, the reader can check his understanding and knowledge about *WCO-Program Global Shield (PGS): Material Safety Data Sheet*. Though all efforts have been made to make this exercise book error free, but it is possible that some errors might have crept into it. If you notice any errors or if you have any suggestion to improve this exercise book, the same may be brought to our notice through email on the e-mail addresses: rtinacenkanpur@yahoo.co.in or goyalcp@hotmail.com. This may not be a perfect **e-Exercise Book** and all are requested to assist us to make it better.

Sd/-

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Take the following Quiz & Test your knowledge

Identify the most appropriate choice by choosing the correct option out of five options given below.

Q.No.1 The Acronym “MSDS” stands for

- (a) Mass Safety Data Sheet
- (b) Material Security Data Sheet
- (c) **Material Safety Data Sheet**
- (d) Master Security Data Sheet
- (e) Miscellaneous Safety Detail Summary

Q.No.2 In India, MSDS has been mandated under which law?

- (a) **The Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989**
- (b) The Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996
- (c) The Factories Act, 1948
- (d) The Central Motor Vehicle Rules, 1989
- (e) None of the above

Q.No.3 Which one of the following statements is not correct about MSDS?

- (a) It provides single reference for all information about hazardous Chemicals.
- (b) It is based on the recommendation of the United Nation’s Committee of Experts on Globally Harmonized System of Classification and Labelling of Chemical;
- (c) Material Safety Data sheet forms the important elements of effective Chemical Hazards Communication System.
- (d) It is a document prepared by the manufacturers/suppliers of the Chemical.
- (e) **It does not contain information on physical and chemical properties of the material, potential hazards of the material and how to work safely with these materials.**

Q.No.4 Which one of the following statements is not correct about GHS?

- (a) The Acronym “GHS” stands for Globally Harmonized System of classification and labelling of Chemicals.
- (b) The recommendations by the GHS Committee are contained in purple Book.
- (c) As per latest recommendations on GHS, the Safety Data Sheet should have information presented under 16 headings.
- (d) The recommendations of GHS Committee are binding on all Countries of the World.
- (e) UN GHS provides for the content and format of Safety Data Sheets.

Q.No.5 After how many years/period MSDS sheets are normally required to be updated?

- (a) Every year
- (b) Every 3 years
- (c) Every 5 years
- (d) No periodicity prescribed.
- (e) Every six months

Q.No.6 Which of the following information can not be found in MSDS?

- (a) First Aid Measures
- (b) Accidental Release measures
- (c) Composition /information on ingredients
- (d) Handling and Storage information
- (e) Medicine to be taken by the effected person if exposed to the Chemical

Q.No.7 Which of the following information is not provided in the Section of an MSDS dealing with Chemical Identification?

- (a) Name of the Chemical
- (b) Name of the manufacturer and it's address
- (c) Emergency contact number
- (d) CAS No. of the Chemical
- (e) Toxicity of the Ingredients of the Chemical

Q.No.8 The term “CHEMTREC” stands for

- (a) Chemical Transportation Emergency Centre
- (b) Chemical Training Centre
- (c) Chemical Treatment Centre
- (d) Chemical Toxicity Recovery Centre
- (e) Chemical Toxicity Research Centre

Q.No.9 Which of the following information is contained in the Section of the MSDS dealing with Hazards Identification?

- (a) Toxicology of the chemical
- (b) The acute (short term) health effect
- (c) The chronic (long term) health effect
- (d) The signs and symptoms of exposure
- (e) (a), (b) and (c) above

Q.No.10 Which of the following statement is not correct about the term Oral LD50 Acute: ___mg/kg (Rat) expressed in MSDS sheet?

- (a) The term “LD 50” means Lethal Dose 50 and it specifies doses of chemical substance expressed in milligram per kg body weight of the test animal.
- (b) Test animal is rat and chemical has been given through oral route in short time frame.
- (c) 50% of the test animals are likely to die when exposed to the dose and given through route specified.
- (d) It indicates potential toxic effect of the Chemical on health.
- (e) The same doses of the Chemical if given to another test animal will have the same result.

Q.No.11 Which of the following information about the chemical substance is not provided in the section of the MSDS dealing with stability and reactivity?

- (a) Flash Point
- (b) Flammable limits
- (c) Fire Hazards and Explosion Hazards
- (d) Fire Fighting media and instruction
- (e) Packaging of the Chemical

Q.No.12 Which of the following is not correct about “Flammable limit” of the Chemical Substance?

- (a) It indicate the concentration range of vapours of the Chemical Substance in which a flammable substance can produce a fire or explosion when an ignition source (such as spark or open flame) is present
- (b) Below the lower flammable limit, the concentration of vapour in air is too low to burn.
- (c) Above the upper flammable limit, the concentration of vapour in air is too rich in fuel but deficient in oxygen to burn.
- (d) (a), (b) and (c) above
- (e) None of the above

Q.No.13 Which of the following option reflect the correct position with regard to flash point, flame point and auto-ignition point.

- (a) Flash point > Flame point > Auto-ignition point
- (b) Flash point < Flame point < Auto-ignition point
- (c) Flash point > Flame point < Auto-ignition point
- (d) Flash point < Flame point > Auto-ignition point
- (e) Flash point = Flame point < Auto-ignition point

Q.No.14 Which of the following statements is correct about Flash point?

- (a) It is the lowest temperature at which vapours of the substance will have un-sustained fire in presence of ignition source
- (b) It is the lowest temperature at which vapours of the substance will have sustained fire in the presence of ignition source
- (c) It is the lowest temperature at which vapours of the substance will automatic start burning even without presence of ignition source
- (d) It is the lowest concentration at which vapours of the substance will have sustained fire if once ignited with ignition source
- (e) It is the lowest concentration at which vapours of the substance will automatic start burning even without ignition source.

Q.No.15 Which one of the following statements is correct about the term 'Threshold Limit Value (TLV)'?

- (a) A concentration level expressed in ppm (part of the vapour per million part of contaminated air) upto which it is believed a worker can be exposed day after day for working without any adverse health effect.
- (b) A concentration level in ppm (part of the vapour per million part of contaminated air) upto which a worker can be exposed for a day (24 hrs) for working without any adverse health effect.
- (c) A concentration level in ppm (part of the vapour per million part of contaminated air) upto which a worker can be exposed for 12 hours without any adverse health effect.
- (d) A concentration level in ppm (part of the vapour per million part of contaminated air) to which it is believed a worker can be exposed for 4 hours without any adverse health effect.
- (e) None of the above.

Q.No.16 As a Customs officer, before taking sample from any imported hazardous chemical consignment, what document he must first refer to?

- (a) Bill of Entry.
- (b) Bill of Lading.
- (c) MSDS
- (d) Invoice
- (e) Labels affixed on the packages containing the chemicals

Q.No.17 Which of the following heading of the section of the MSDS contained information about Physical and Chemical Characteristics of Chemical like odour, appearance, etc.?

- (a) Hazard Identification
- (b) Composition and Information on ingredients
- (c) Accidental Release Measures
- (d) Fire and Explosion data
- (e) Physical and Chemical Property

Q.No.18 Which of the following information is not provided in the section of MSDS dealing with Accidental Release Measures?

- (a) Measure to be adopted to deal with small spill
- (b) Measure to be adopted to deal with large spill
- (c) Measure to be adopted to deal with leakage
- (d) Precaution to be taken to avoid spillage or leakage
- (e) None of the above

Q.No.19 While examining a consignment of hazardous chemical at Port, if your colleagues Custom Officer has been exposed to a chemical and has become unconscious, which one of the following action you should immediately take?

- (a) Immediately take him to the hospital
- (b) Immediately activate an emergency response system
- (c) Get hold of the MSDS sheet of the Chemical and look for the instruction in the section dealing with First Aid Measures and follow the instruction contained therein.
- (d) To call for ambulance
- (e) To inform senior officers.

Q.No.20 As a Customs officer, which section of the MSDS sheet will you refer to find out the information about health hazards of the Chemicals before inspecting or examining the consignment?

- (a) Hazards Identification
- (b) Composition and information on ingredient
- (c) First Aid Measures
- (d) Accidental Release Measures
- (e) Handling and Storage

Q.No.21 As a Customs Officer, which section of the MSDS sheet will you refer to find out the information about Physical hazards of the Chemicals before inspecting or examining the consignment?

- (a) Hazards Identification
- (b) Stability and reactivity
- (c) First Aid Measures
- (d) Accidental Release Measures
- (e) Handling and Storage

Q.No.22 As a Custom Officer, which section of the MSDS sheet you will refer to find out the information about Personal Protective Equipment (PPE) to be used while dealing with the chemicals in question?

- (a) Hazards Identification
- (b) Exposure Controls/Personal Protection
- (c) First Aid Measures
- (d) Accidental Release Measures
- (e) Handling and Storage

Q.No.23 The term “Teratogenic Effect” with reference to exposure to the Hazardous Chemical, means, -

- (a) Effect on Genes
- (b) Effect on the unborn child
- (c) Effect on rate of Cell mutation in the body
- (d) Effect of development of the Children
- (e) Effect on individual organ in the body.

Q.No.24 The term “Mutagenic Effect” with reference to exposure to the Hazardous Chemical, means, -

- (a) Effect on Genes
- (b) Effect on the unborn child
- (c) Effect on rate of Cell mutation in the body
- (d) Effect of development of the Children
- (e) Effect on individual organ in the body

Q.No.25 The hazardous chemical can enter the human body through which of the following routes:-

- (a) Ingestion
- (b) Inhalation
- (c) Eye contact
- (d) Skin Contact
- (e) All the above

Q.No.26 Carefully go through the following statements and find out whether the same is **True** or **False**.

- (i) In India, Schedule 9 of the Manufacture, Storage and Import of Hazardous Chemicals Rules, 2009 prescribe the format of MSDS Sheet. [True/False]
- (ii) In India, MSDS prescribed under the Manufacture, Storage and Import of Hazardous Chemicals Rules, 2009 is required to have 9 sections. [True/False]
- (iii) Annexure 4 of the Purple book of the United Nations Globally Harmonised System of Classification and Labelling of Chemicals provides for the content and format of [Material] Safety Data Sheets. [True/False]
- (iv) MSDS provides information on chemicals, chemical compound and chemical mixtures and primarily intended for use by the personnel working with hazardous chemical substances. [True/False]
- (v) Material Safety Data Sheets are also known as Safety Data Sheets. [True/False]
- (vi) The basic objective of MSDS is to enhance protection of human health of the all stake holders such as workers, consumer, transport workers, emergency responders and public in general by communicating the various hazards associated with the Chemicals [True/False]

ANSWERS OF MULTI CHOICE QUESTIONS (MCQs)

Q. No.	Sub-Q.No.	Answer
1.		(c)
2.		(a)
3.		(e)
4.		(d)
5.		(b)
6.		(e)
7.		(e)
8.		(a)
9.		(e)

10.		(e)
11.		(e)
12.		(e)
13.		(b)
14.		(a)
15.		(a)
16.		(c)
17.		(e)
18.		(d)
19.		(c)
20.		(a)

21.		(b)
22.		(b)
23.		(b)
24.		(a)
25.		(e)
26.	(i)	T
	(ii)	T
	(iii)	T
	(iv)	T
	(v)	T
	(vi)	T
