Sir M. Visvesvaraya Institute of Technology Bangalore – 562 157



INDEX SHEET

Report on Environmental promotional activities conducted beyond campus

CRITERIA NO.: 7

SUBCRITERIA NO.: 7.12

GEOT&G PHOTOS FOR

WASTE MANAGEMENT

Krishnadevarayanagar, Hunasamaranahalli, International Air Port Road, Bangalore-562 157. (Affiliated to Visvesvaraya Technological University, Recognised by AICTE & Accredited by National Board of Accreditation, New Delhi. An ISO 9001 : 2008 Certified Institution) Ph. : 080-2846 7248, 2847 7024/25/26 Fax : 080-2846 7081 ail : principal@sirmvit.edu; sirmvitbgl@gmail.com, Web : wv







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SIR M VISVESVARAYA INSTITUTE, Bengaluru, Karnataka 562157, India Lat 13.150008° Long 77.608784° 17/02/23 10:21 AM GMT +05:30

SOLAR ENERGY POWERED STREET LIGHTS

PRINCIPAL Sir M. VISVESVARAYA INSTITUTE OF TECHNOLOGY Krishnadevarayanagar, Hunasamaranahalli, International Airport Road, Bangalore - 562 157.



7.1.2.2 Management of the various types of Degradable and Non-Degradable waste

Waste management is the process and the actions required to manage waste from collecting waste to final dispose. Our institute is following several waste management processes for liquid waste, solid waste etc., where each of the waste is managed by different methods. Waste management is done to prevent the adverse effects of waste on health of students and staff.

The institute is concerned about disposal of infectious wastes generated by the college is increasing rapidly due to fear of the spread of viruses such as acquired immune deficiency syndrome (AIDS) and hepatitis B, as well as the concern about exposure to toxic metals. To prevent the spread of such infectious waste that finds its genesis in Bio-Medical waste, it is essential that professionally trained personnel handle wastes in scientific approach. So the institute has adopted the process of few waste management by its own and few others by external agencies.

There are some Standard Operating Procedures (SOPs) followed by our institution for various types of waste management.

1. **Solid waste management** – Solid waste like papers, plastics, books etc., Use and throw items like plastic plates and plastic cups in juice center are replaced by reusable steel plates, steel glasses and paper cups. The Degradable waste like leaves, papers etc., will be collected daily by a transport vehicle like tractor and dumps the waste for composting.



COLLECTION OF DEGRADABLE AND NON-DEGRADABLE WASTE IN CAMPUS THROUGH TRACTOR VEHICLE

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The Non-Degradable waste will be collected by Gram panchayat, Bettahallasur village, Yelahanka, Bangalore.

Food waste generated in hostels and canteen are collected in separate bins and are collected by the animal feeders.

2. Liquid waste management – In the institute waste water generated from the sanitary is disposed off into septic tanks located at different places in the campus. RO plant waste water is diluted and used for gardening and trees etc.,

3. Biomedical waste management - The Memorandum of Understanding (MoU) exists between the institute and M/s Prajwal BWM Management systems. The institute gives biomedical waste in properly packed in color coded bags as per pollution control board regulations for treatment and final disposal.



WASTE COLLECTION BY GRAMA PANCHAYAT, BETTAHALASURU, YELAHANKA, BANGALORE

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SRI KRISHNADEVARAYA EDUCATIONAL TRUST

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SOP FOR DECONTAMINATION:

- 1. Place the items to be sterilized in the autoclave.
- 2. Add water to the required level (Ensure the items so not float or do not sink)
- 3. Place the lid and lock the autoclave
- 4. Close all the valves
- 5. Switch on the Autoclave
- 6. Once the temperature reaches the 121° C and pressure reaches 15 psi, wait for 15 minutes
- 7. Switch off the autoclave
- 8. Steam is released
- 9. Open the lid and discard the items

4. **e-waste management** – As the institute will upgrade the computer labs, by purchasing new configuration computers. The older computers, printers, mouse, keyboards will be treated as e-waste. These e-waste is disposed off through vendors safely.

5. **Hazardous chemicals and radioactive waste management** – This process of waste management will be conducted internally in the institute in the Department of Biotechnology.

To lay down the procedure for cleaning, disinfecting and sterilizing glassware used in the microbiology laboratory. If the equipment used in microbiology is not cleaned properly, the microbiological results may get affected due to contamination.

- 1. Keep all the glassware used in Microbiology in the cabinet provided for the same.
- 2. Do not use the glassware in the chemical laboratory.
- 3. Whenever glassware is used for microbiological analysis, dispose the inoculated media at the end of the inoculation period as per the procedure described in "SOP for disposal of Media".
- 4. After disposal of the media, dip all the infected glassware in 3% v/v Dettol solution for 30minutes OR dip all the glassware in labolin solution for one hour.
- 5. Wash all the glassware in running tap water till there are no traces of Dettol or teepol/labolin.
- 6. After washing, dry all the glassware in an oven at 120-degree Celsius for 60 mins.
- 7. Keep all the glassware in their respective containers.
- 8. Once in a month or as recommended my microbiologist, dip the glassware in the chromic acid mixture and keep it overnight. While handling chromic acid mixture use safety goggles and rubber gloves.
- 9. Remove the glassware carefully from the chromic acid mixture.
- 10. Wash the glassware thoroughly with tap water till the absence of traces of cleaning agent

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9	4	STANDARD OPERATING PROCED	URE: Toxic Materials	. 9	
	inhalation				
	1. Move exposed per	rson to fresh air if safe to do so.	the shares		Corrosivi
in smill	2. If victim is breathing	ng, loosen victim's clothing and maintain	the answay.		1. Neutra If a spi
and 295	 a. Lay victim fiat b. Place one hard 	on their bein. d under the nock and lift.			hydroc
-	c. With the heel	of other hand on victim's forehead, rotat	te or tilt the head backward into maxim	um	2. Mix the
i to	extension.	num nonnine i remitted it can be achie	ved by thrusting the lower jaw into a jr	atting-out	absorb
10	position.	a may open in the second state			3. Check
(e.g.	3. If the victim is n	ot breathing, contact DPS, and perform	m CPR (if certified) until medical ass	istance tion. If	4. Once t paper t
	available, use a m	outh-to-mask resu-citator.	Manual and material of a contrast contrast.		5. Collect
	No. of Concession, Name				6. Label th
	Ingestion	and comment monthead accelerators			Other Ha
r Fine.	 if possible, determ 	nine what material was ingested by victor	n.:		1. Prevent sand, o
) at its	If victim begins to	vomit, turn head or entire body to one s	lide to avoid choking		outer e
nter in a	 Do not induce the medical personnel 	he victim to vomit or drink any bover	age unless instructed to by qualified		2. Cover t
	internet personne				3. Mix the
	SPILL AND ACCIDE	INT PROCEDURES			4. Collect 5. Label ti
	In the event of a large	e chemical spill, torical these guidelines. In the immediate area and the supervisor			Solids
	2. Evacuate personn	hel from the spill area.			1. Solid m
SOC.	 Deny ontry. More survey built 	dian assumable MOTE Execution of	the hubbles and its programs may	be.	bag. Ar
rial	necessary depend	ding on the volume of chemical/biologica	I material spilled and its relative bazard		does n
	5. Notify Physician f	from a safe location and provide the follo	wing information:		2. Label U
- 92 -	b. Type of inclde	ent, location, and time of occurrence;	1		3. If the s
	c. Name and qu	antity of material involved, to the extent	known;		Chemical
	d. If victims are	motived, realling out without namets) and	extent of alloons it any,		 Flamm
	Chemical Spill Cle	ean-Up			 Maloge Nitrose
	Chemical spiil clean-	up must not be attempted if the employe	e does not have the proper training and	E:	 Sulfuro
	experience, the neo	estary spill kit supplies, and personal prot-	active equipment.	- 13 C	 Corrosi
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SOP FOR TOXIC MATERIALS DISPLAYED IN BIOTECHNOLOGY DEPARTMENT NOTICE BOARD

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	A. A	100
	STANDARD OPERATING PROCEDURE: Toxic Materials	nhalatio
the state of the		1. Move I
1-1	Corrosive Liquids	2. Wyictim
A A	 Neutralize the spin. Apply modalable, sodium bicarbonate can be used on acid spills and 2% if a solit clean-up kit is not available, sodium bicarbonate can be used on acid spills and 2% 	a Lay
A DESCRIPTION OF	hydrochloric acid or citric acid powder can be used to neutralize caustic spills.	c. With
Contractor -	Mix theroughly until fizzing and evolution of gas ceases. NOTE: It may be necessary to add water to the mixture to consolete the reaction. Neutralizer has a tendency to	este
	about acid before fully neutralizing it.	d. If ad
State States	3. Check mixture with pH strips or pH paper. Ensure that the final pH is between 6 and 10.	3. If the y
Contraction of the	 Once the chemical is completely neutralized, cover with an absorbent material (#.6. population path attr.) 	arrives.
and the second se	 Collect the absorbent and place it in a Ziploc bag. 	availabi
A CONTRACTOR OF	Label the bag, place it in the fume hood and call EH&S immediately.	Ingestion
ALC: NO. OF THE OWNER.	Other Hazardous Liquids	L. Contact
A STATE OF STATE	 Provent the spill from spreading by depositing absorbent material such as Super Fine, and or vermiculity (namer travel) do not control the varior religious as well as sand) at its 	2. If possil
	outer edges.	3. If victim
A CONTRACTOR	Cover the entire spill with the absorbent by working from the edge toward the center in a conductantee.	medical
State of the second second	 Mix the absorbent until it has absorbed all of the flammable liquid. 	
A CONTRACTOR OF	4. Collect the absorbent and place it in a Ziploc trag	SPILL ANI
CONTRACTOR OF THE OWNER	Label the bag, place it in the fume hood, and call EHES immediately.	1. Notify e
Contraction of the second	ZOHOS	2. Evacuat
· · · · · · · · · · · · · · · · · · ·	 Sobe material of low toxicity may be swept onto a dust pan and deposited into a Ziplot bar. Any powder clinates to the dust pay may be wheel with a tab tissue and the tissue 	3. Deny ur
A CONTRACTOR	disposed of in the Ziploc bag. Ensure that fine powder or dust from the spilled material	4 Alert o
COMPANY OF THE OWNER OF	does not become alcome. 2. Label the bag, place it in the force bagd and with SURE laws of write	5. Notify P
	A state the one of the state function and care ends managements A state of the spilled material is highly toxic, contact EH&S or Laboratory Safety.	a. Your
CHINA PARA	WASTE DISPOSAL	o, type z. Nam
AL HALFO STATE	Chemical waste is segregated into the following groups:	d. If eic
	 Hanvinkole/computabile solvents e.g. acetone, sylene, methanol; Halotenated solvents e.g. chloroform methylene chloride 	122710101700
	 Mitrogenous hydrocarbon e.g. trimethylamine, disopropylamine; 	<u>Chemical S</u>
	 Sulfurous hydracarbon e.g. dimethy/sulfaxida, dimethy/sulfaxe, 	Chemical spl
	 Corroseves. A separate stream many be started for each of the following: 	and a second of
A CONTRACT	 Mineral acids e.g. hydrochlone acid, sulfane acid 	
	Drganic acids e.g. trichicipatatic acid, formic acid Bases e.g. colorizon oxide technic budgeside	
STATE STATE	 Aqueous solutions e.g. metal salts, ethidram to pmide, and 	160
A MARKEN AND	Cills e.g. vseuum pump oil, motor oil.	
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BIO MEDICAL WASTE COLLECTION AND SEGREGATION

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DRY AND WET WASTE COLLECTING DUSTBINS IN THE CAMPUS

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WASTE COLLECTION BY GRAMA PANCHAYAT, BETTAHALASURU, YELAHANKA, BANGALORE



COLLECTION OF DEGRADABLE AND NON-DEGRADABLE WASTE IN CAMPUS THROUGH TRACTOR VEHICLE

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