

ENVIS-IITM NEWSLETTER

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NATIONAL POLLUTION CONTROL DAY



Observed each year in India to memorise
Bhopal Gas Tragedy

On

2nd December



EDITORIAL TEAM

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EDITORIAL

Environmental pollution is one of the major problems in the world and air pollution is amongst most dangerous problems as we don't have any control over the air we breathe. The air pollution sources can easily be categorized in to two major types, viz. anthropogenic and natural. In our surrounding there are varieties of natural activities going on which results in to the emission of health hazardous air pollutants in to the air such as volcanoes, dust storms, forest fires, sea salt, lightning etc. apart from these there are number of anthropogenic sources of air pollution such as mobile sources or vehicles, industries, waste disposal, biofuel burning for cooking activities etc. which are now a day's dominating and creating more concern. Apart from these there are certain accidents happened world-wide which have resulted in to the air pollution disasters and have embedded there adverse effects deep in to the memories of human history. One of such local disaster was Bhopal gas leak where thousands have lost their life's and many got permanently injured. Such disasters became an eye opening incidences and encouraged government to focus more on implementation of environmental pollution control norms. This issue will give you brief idea about why each year we all observe National Pollution Control Day and also introduce you with the initiative taken by ENVIS-IITM centre to create awareness on various environment issues and its prevention.

-Gufran Beig



NATIONAL POLLUTION CONTROL DAY

The purpose of observing National Pollution Control Day on 2nd December each year in India is to manage and control industrial disaster as well as prevention of the pollution of air, water and soil. The day is observed each year in the memory of Bhopal Gas Tragedy which had happened on late night of 2nd December 1984.

Bhopal Gas Tragedy

In Bhopal, Madhya Pradesh, the union carbide chemical plant was established in the year 1970 to produce pesticide carbaryl (Sevin). Methyl Isocyanate (MIC) was used as an intermediate chemical to produce this pesticide. Bhopal witnessed this world's worst disaster on the night of 2nd December 1984 when deadly fumes of above said chemical accidentally released from the factory. As the gas was denser than air it got spread around the surrounding community and made havoc.



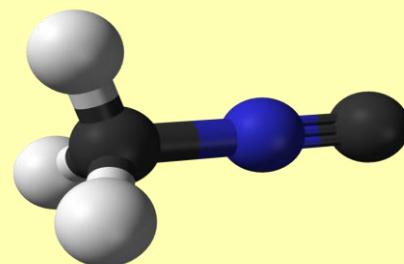
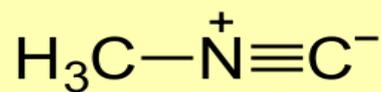
MIC is produced by combination of phosgene, a deadly poisonous gas used in the First World War with methyl amine. In the accident nearly 42 tones of poisonous MIC gas was released into the air. MIC gas causes burning sensation in the eyes, removes oxygen from the lungs resulting in breathing trouble and chest tightness, and also cyanide generation in the body, which ultimately turn fatal and leads to death.

PESTICIDE USE TO KILL,
REPEL OR CONTROL
ANY PESTS.
MOSTLY USED TO
PROTECT PLANTS
FROM DAMAGING
WEEDS, FUNGI OR
INSECTS.



METHYL ISOCYANATE (MIC)

- A colourless and flammable liquid.
- It is soluble in water but at the same time it reacts with water and its reaction is most dangerous
- It is toxic by inhalation, injection and contact



Bhopal Gas Leak- Night horror

Estimates showed that after the accidental release of MIC in to the air around 3,787 people immediately died because of the direct exposure to the gas. In next 72 hours 8,000-10,000 people were died. Around 7, 00,000 got exposed to the gas out of people 5, 58,125 got injured. Many of survivors lost their eyes, and its effects were faced by future generations too. It was recorded that many suffered from respiratory tract irritation, difficulty in breathing, liver and kidney damage, it also affects reproductive systems, increased number of stillbirth, spontaneous abortion and increased infant mortality.

MIC



Extremely
flammable

T+



Extremely
toxic





The Bhopal gas tragedy polluted drinking water, soils, tank and pond water. It killed thousands of animals and innumerable micro-organisms.

REASONS FOR THE ACCIDENT

This tragedy had happened entirely because of failure of the safety measures. Several circumstantial evidences point to the total breakdown of the essential safety provisions within the plant and the negligence of the authorities. Moreover, local government bodies and villagers were unaware about the chemicals used in the factory and how to deal with such situation if occurred. Such disasters can be prevented by adopting two basic things

1. Following pollution prevention and control norms. Comply with rules and regulations for storage, handling, disposal and transportation of such chemicals during production process.
2. Provide training and technical guidance to local governmental bodies and surrounding communities for emergency conditions.

ACTIONS TAKEN BY GOVERNMENT TO PREVENT SUCH ACCIDENTS

- ✓ Indian government has launched the variety of serious acts and rules for the control and prevention of pollution all over the India. Some of are:
- ✓ Water (Prevention & Control of Pollution) Act of 1974
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- ✓ Air (Prevention & Control of Pollution) Act of 1981
- ✓ Environment (Protection) Rules of 1986
- ✓ Environment (Protection) Act of 1986
- ✓ Manufacture, Storage and Import of Hazardous Chemical Rules of 1989
- ✓ Hazardous Waste (Management & Handling) Rules of 1989
- ✓ Manufacture, Storage, Import, Export & Storage of Hazardous Micro-Organisms Genetically Engineered Organisms or Cells Rules of 1989

**PREVENTION IS
BETTER THAN
CURE**



- ✓ Chemical Accidents (Emergency, Planning, Preparedness and Response) Rules of 1996
- ✓ Bio-Medical Waste (Management & Handling) Rules of 1998
- ✓ Recycled Plastics Manufacture & Usage Rules of 1999
- ✓ Ozone Depleting Substances (Regulation) Rules of 2000
- ✓ Noise Pollution (Regulation & Control) Rules of 2000
- ✓ Municipal Solid Waste (Management & Handling) Rules of 2000
- ✓ Batteries (Management & Handling) Rules of 2001.
- ✓ Maharashtra Bio- Degradable Garbage (Control) Ordinance of 2006
- ✓ Environment Impact Assessment Notification of 2006

The well functioning or malfunctioning of all the laws and rules are checked by the National Pollution Control Board (NPCB) or Central Pollution Control Board (CPCB) which is the governing body in India for the prevention of pollution. The natural resources like water, air, land or forest are being affected speedily by the different types of pollution which are very necessary to stop immediately by implementing the rules and regulations in the right way.

MAJOR POLLUTION DISASTERS IN THE WORLD

- 1) **Three Mile Island** : The Three Mile Island accident was a nuclear meltdown that occurred on March 28, 1979, in reactor number 2 of Three Mile Island Nuclear Generating Station (TMI-2) in Dauphin County, Pennsylvania, United States. It was the worst accident in U.S. commercial nuclear power plant history. A total of approximately 2.5 megacuries (93 PBq) of radioactive gases, and approximately 15 curies (560 GBq) of iodine-131 was released into the environment.
- 2) **Chernobyl Disaster:** Another big tragedy of the history was the Chernobyl disaster of the year 1986 in the Ukraine. A catastrophic nuclear accident on 26th April 1986 at the Chernobyl Nuclear Power Plant in Ukraine. An explosion and fire released more than a hundred times the radiation of the bombs dropped on Hiroshima and Nagasaki into the atmosphere which spread over much of western USSR and Europe. Thirty-one people died shortly after the explosion.

WORLDS WORST DISASTERS



Three Mile Island

currently uses only one nuclear generating station, TMI-1, which is on the right. TMI-2, to the left, has not been used since the accident.

National Pollution Control Day- Environment Awareness Event by ENVIS-IITM

The National Pollution Control Day was celebrated on Wednesday, 02 December 2015. The event was hosted by ENVIS centre at IITM. The day's celebration included presentations, screening of documentaries and competitions for school students. Pamphlets and registration forms were circulated in schools in Pune. Entries were invited in two categories for the standards 5th-7th and 8th-10th for competitions like Drawing, Essay writing, Best out of Waste and Quiz. From 17 schools 112 students participated enthusiastically in the Environment Awareness Event.

A Public lecture was delivered by Ms. Sanskriti R. Menon, Programme Director, Urban Programmes, Centre for Environment Education (CEE). She guided the young generation "how each one of us can make a difference", she highlighted various types of pollution such as air, water, solid waste, noise and the effects of them, she focused on the need of action to be taken, her talk ended leaving a thought in young minds to think on "Increase your Handprint, Decrease your Footprint!".

The students displayed their artistic view on the topics given for drawing competition. The thoughts were well framed by the participants of Essay competition. The creativity in students was very well displayed by the entries of Best out of Waste competition. The knowledge in young generation was well judged in the Quiz competition. All the participants were felicitated with participation certificate. As a step towards green environment samplings were distributed to encourage tree plantation in their school premises.

WORLDS WORST DISASTERS



Chernobyl Disaster

The nuclear reactor after the disaster.

Noble Initiative: Honda Celebrates National pollution Control Day

To mark the National Pollution Control Day, Honda Motorcycle & Scooter India Private Ltd., reached out to ALL two-wheeler customers advocating ways to control pollution. Honda mobilized its entire network of nearly 4000 sales & service touch-points, Mobile Service Vans (MSVs) to spread the message "Say no to Pollution". Fostering education towards environment and reducing carbon footprints, Honda offered free PUC and emission level check-up for all Honda and Non-Honda. Customers were educated about the importance of regular vehicle maintenance. Honda is committed to 30% CO2 reduction by the end of 2020. Honda maximized its outreach through specially created message banners at prominent locations.

**GLIMSES OF NATIONAL POLLUTION CONTROL DAY ORGANISED BY
ENVIS-IITM ON 2nd December 2015**



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