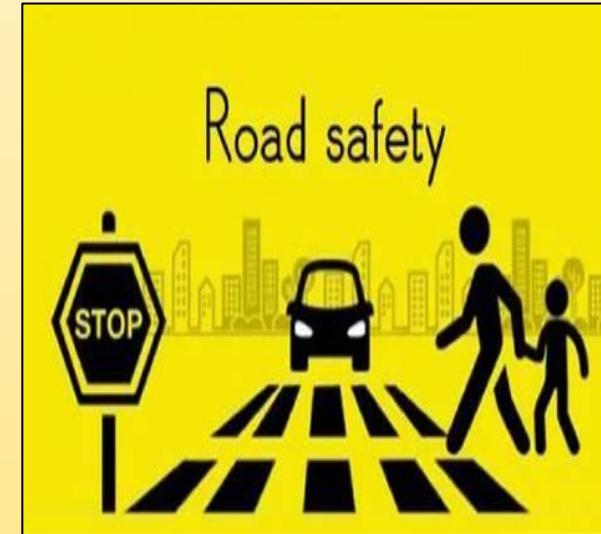


Maruti Suzuki India Limited

Welcome to the.....

Awareness Session on

- General Safety
- Home & Electrical Safety
 - Chemical Safety
 - Road Safety



Contents

1. Safety and its importance
2. Statistics on Previous Incidents
3. Hazards Related
4. Safety Measures
5. Quiz- Q/A Session

Why Safety



Spare parts
for humans
are not
as original as
those for cars.

गाड़ियों के कल पुर्जे
आसानी से मिल जाते
हैं लेकिन इंसान के
कल पुर्जे नहीं मिलते

Impact of Accident

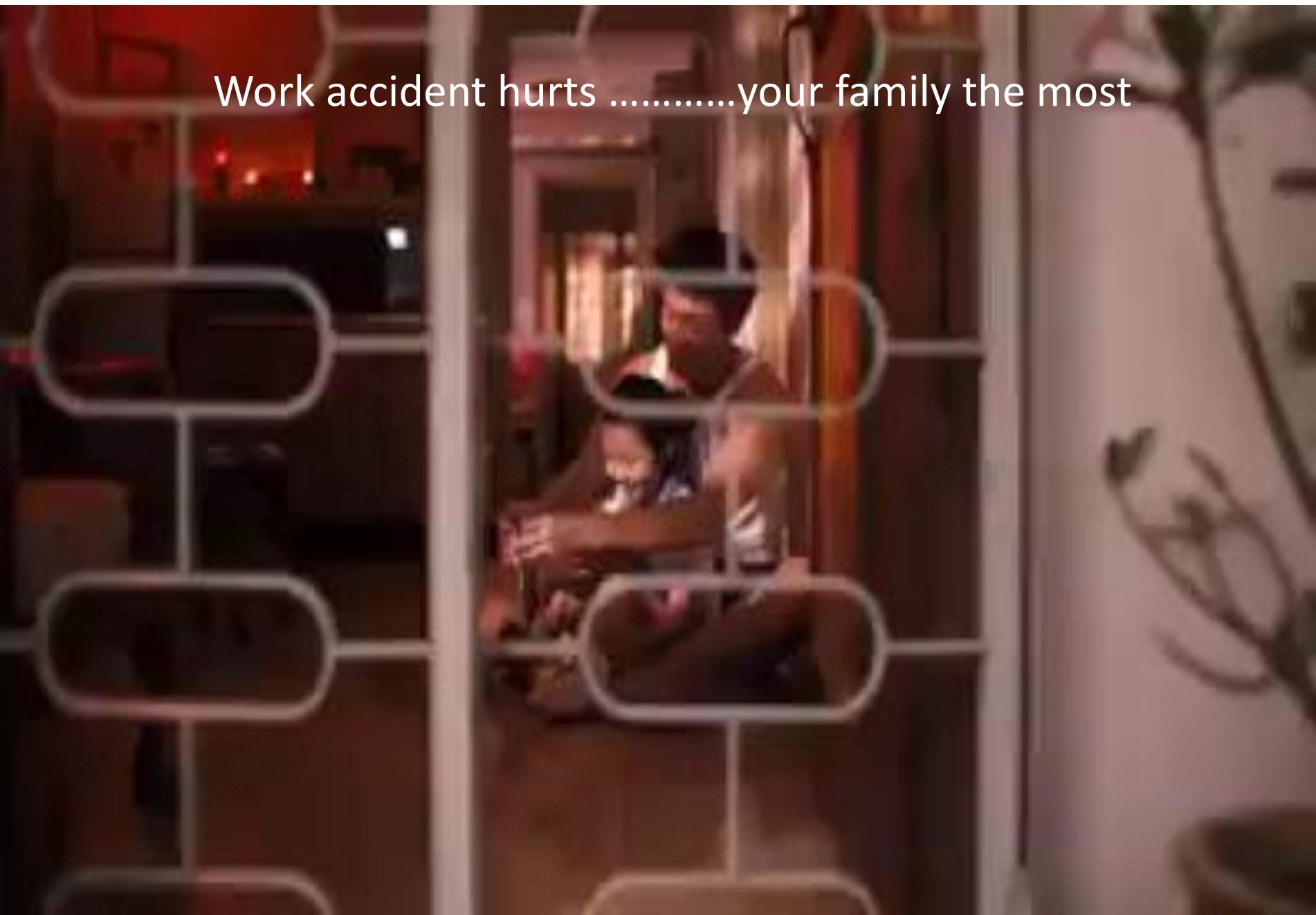
Direct Loss

- **Loss of Life**
- **Financial Loss**
- **Work time loss**



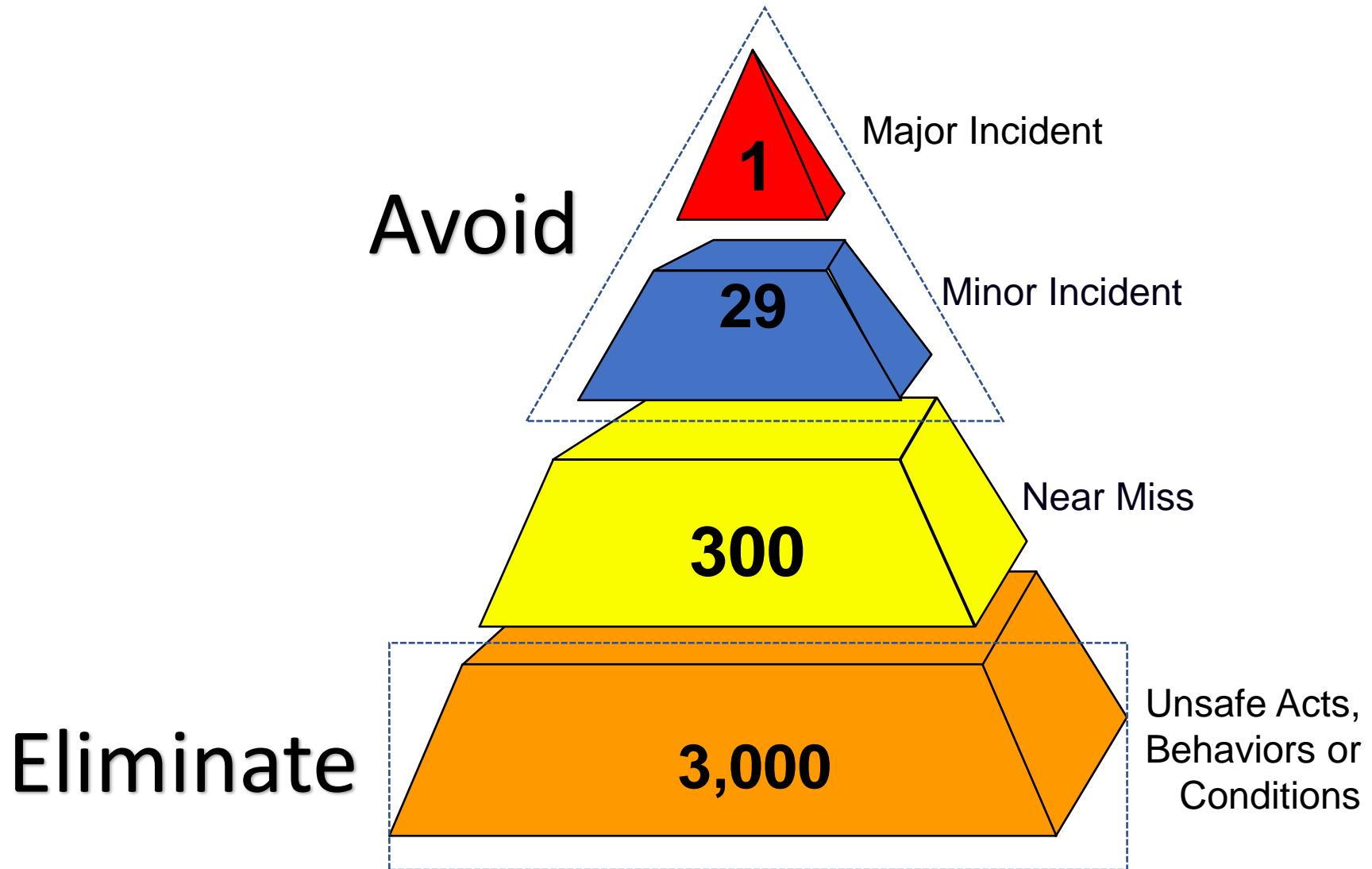
Indirect Loss –

- 1. Reputation Loss**
- 2. Morale**
- 3. Legal issues**
- 4. Loss of Business**

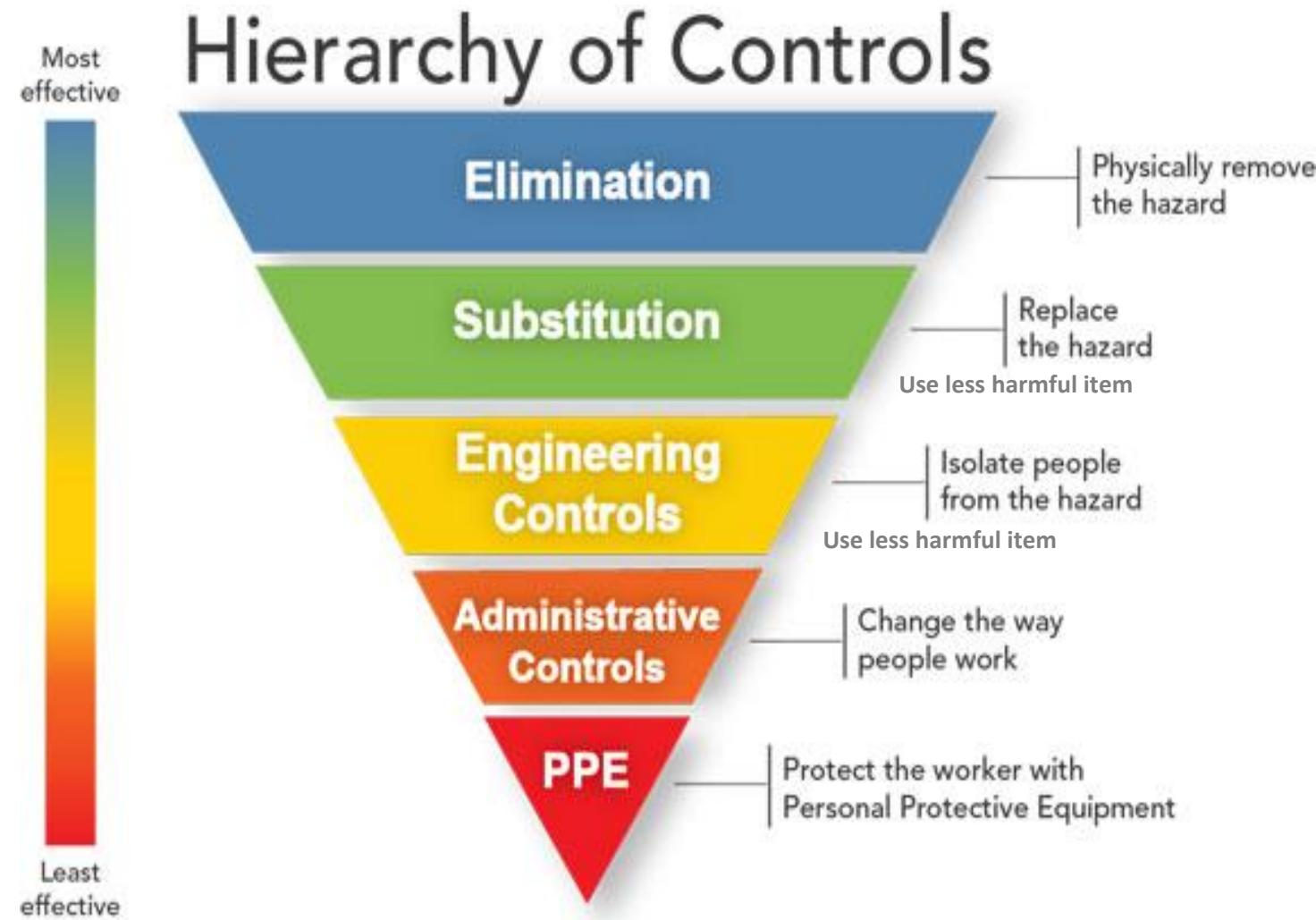


Work accident hurtsyour family the most

Heinrich Theory



Hierarchy of Controls



Home Safety

Why Home Safety is important?

LPG cylinder blast destroys building

Gas leak leads to massive explosion triggered by electrical discharge

ALAHANU HH

A MASSIVE explosion, which nearly obliterated a building, believed to have originated from a leaking domestic LPG gas cylinder, destroyed an eatery, damaged an adjacent confectionary shop and nearby houses in Kg Serambungas, Tuting District.

The explosion happened at the eatery yesterday around 6.50am. Fortunately, no casualties were reported except for a minor injury.

The explosion, which happened inside the eatery, was so strong that it blew off the walls part of the adjacent concrete wall and nearby houses with debris scattered over a large area.

Fortunately, only one man living in an adjacent house suffered a minor injury to his chest and was brought to the hospital.

An investigation by the Fire and Rescue, Operation T Branch, Tuting District, found that the hose connected to a domestic gas unit was leaking and the strong explosion was triggered by an electrical discharge, either from an electrical appliance or a power switch.

(Continue To Page 2)



Building that housed the eatery and confectionary shop damaged in the explosion

दिल्ली में दर्दनाक हादसा, भीषण आग में एक ही परिवार के 4 लोगों की मौत ...

1 dead, 6 injured in LPG cylinder blast in UP's Lucknow

One person died while six others were injured after a gas cylinder exploded in Uttar Pradesh's Lucknow, late night on Monday.



Rajasthan News in Hindi Fire in Gas Cylinder during Cooking in Jhalawar ...

Bengaluru: 23-year-old girl dies of electrocution

Source: Internet

Statistics

1.

Home fire causes 75% of fire death and 73% of fire injuries.



2.

Cooking incidents caused more than half of all house fires (51.6%) in 2017 according to data from the US Fire Administration, followed by heating (9.1%), electrical malfunctions (6.5%), and open flames (4.3%).



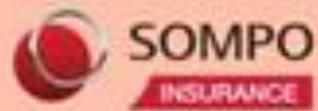
4.

Falls account for half (50%) of accidental deaths in the home. Much of the time these falls occur at ground level and not at an elevation such as staircase.

3.

The World Health Organization (WHO) says that 37.3 million falls occur each year that are severe enough to warrant medical attention.

Source (National Fire Protection Association , .(National Floor safety Institute), US Fire Administration Source: Internet



Common to avoid at **home**



Home Hazards

Falls



Fire Hazard



Choking



Drowning



Electrical Hazard



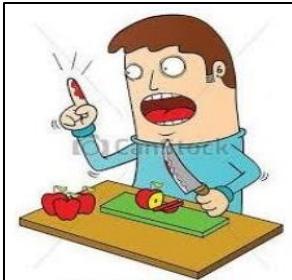
Burns



LPG Blast



Cuts



Slip & Trip Hazard



Poisoning



Associated Home Hazards

Hazards
Associated

Electric Hazard



Fire Hazard



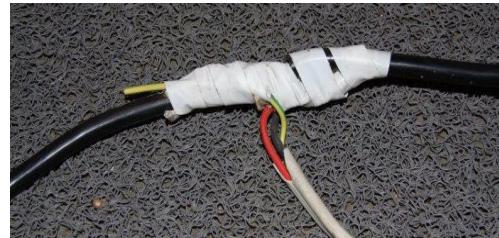
Slip & Trip
Hazard



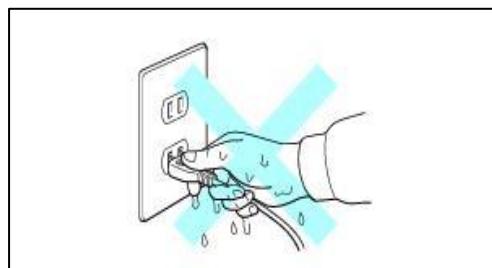
Electrical Hazards Present in our homes /Some Common mistakes



Electrical Sockets & Equipment's within the reach of small children.



Poor Wiring and Defective Electric Wires with cuts and joints



Touching electrical sockets and equipment's with wet hands and bare foot



Using Wires without plug tops



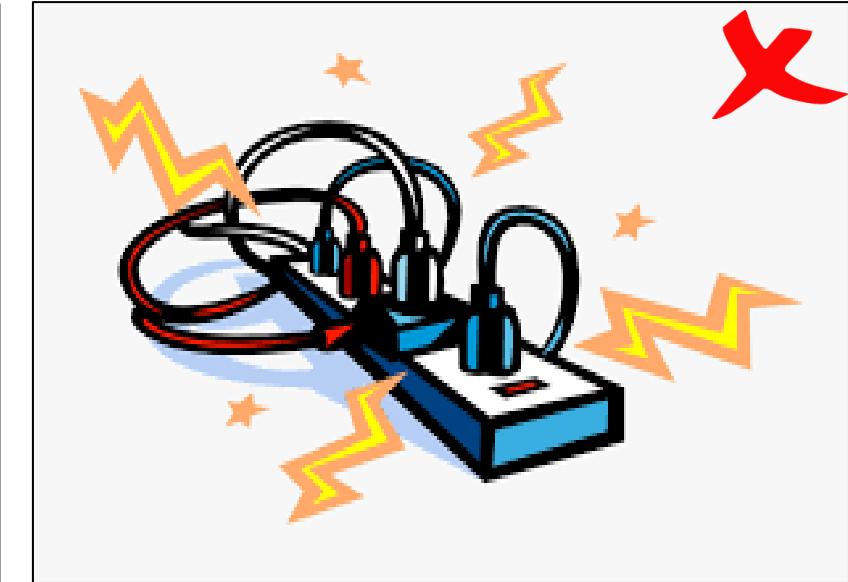
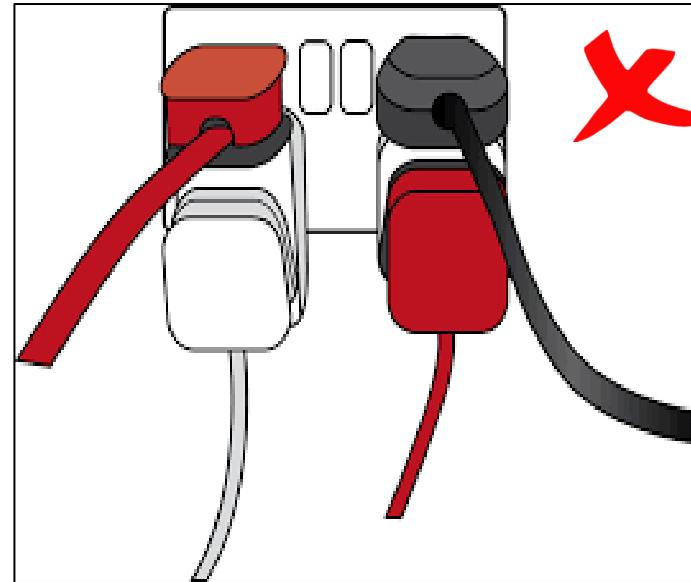
Pulling the cord to disconnect an electrical appliance from the electrical socket

- General Safety Precautions in Electrical Supply Wiring

General Safety Precautions while handling Electrical Equipment's

Do not overload the electrical sockets as it may lead to short circuit and fire.

Avoid using the extension cords for providing multiple connections to the electrical equipment's.



Do not lay wiring on or under the carpets. Ensure not to store combustible items like paper, clothes etc. near the electrical sockets as it may lead to fire.



General Safety Precautions in the Electrical Supply Wiring

Ensure all electrical wires and cables are of ISI mark.



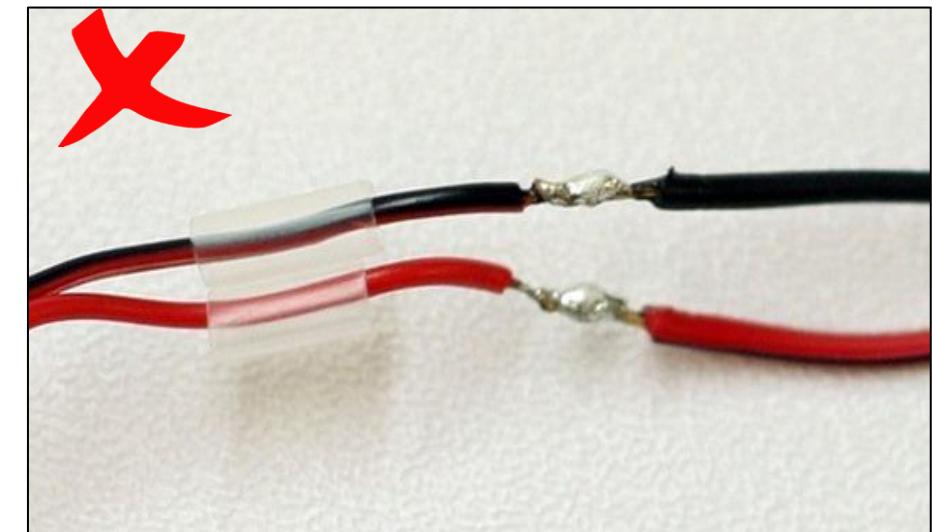
Use ISI marked wires in your electrical system

Ensure that ELCB along with MCCB/RCCB is installed in the house to provide protection against any electrical shock.

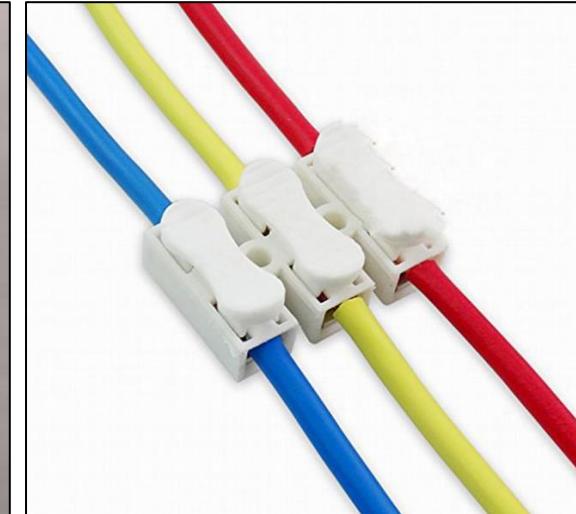


General Safety Precautions in the Electrical Supply Wiring

Ensure Properly insulated Cables are used with no cuts and joints.

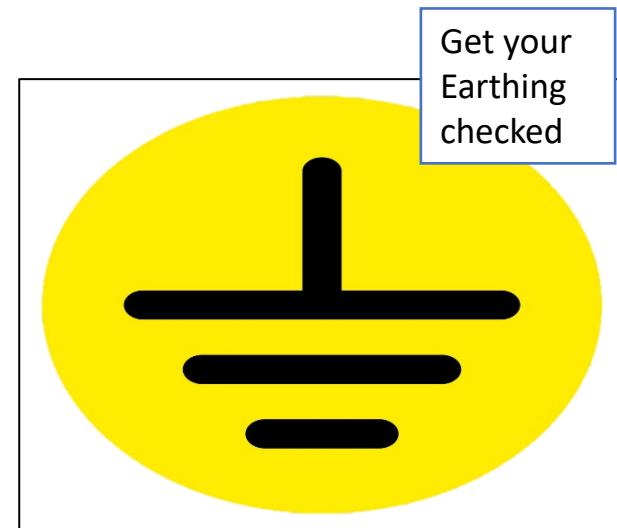


Ensure that electrical wires are laid properly in conduits. If any Joints, ensure that they are connected with jointers and not with tape.

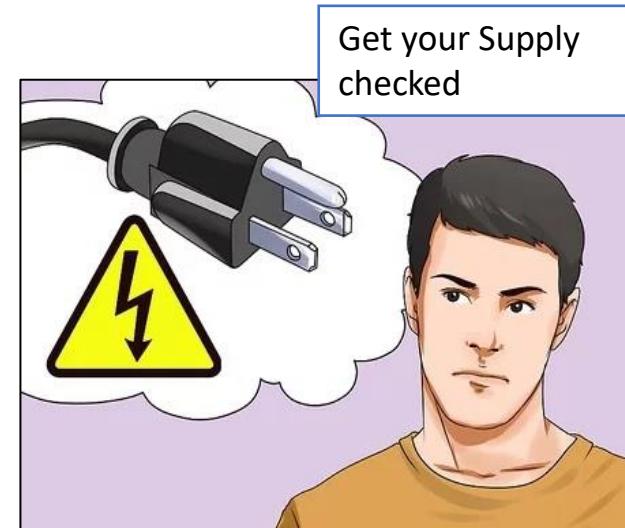


General Safety Precautions in the Electrical Supply Wiring

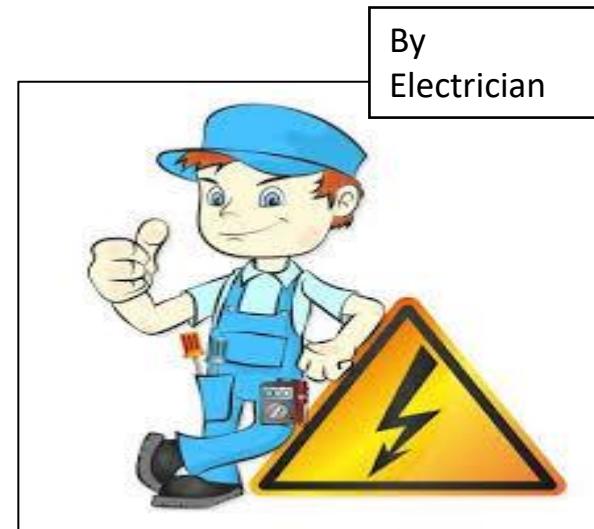
Ensure Earthing is available.
Periodically get your electrical supply checked by an electrician



Get your Earthing checked

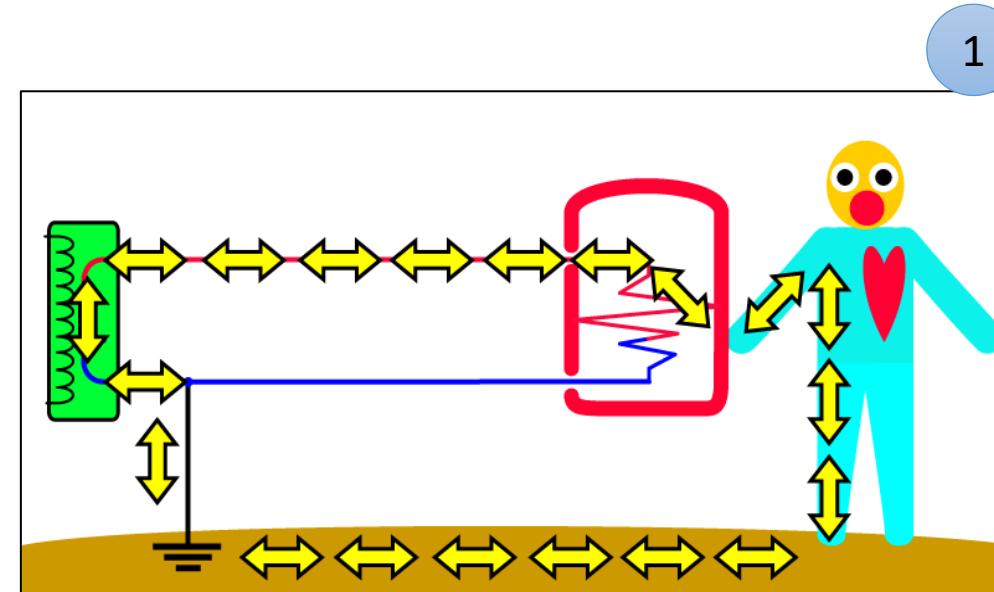


Get your Supply checked

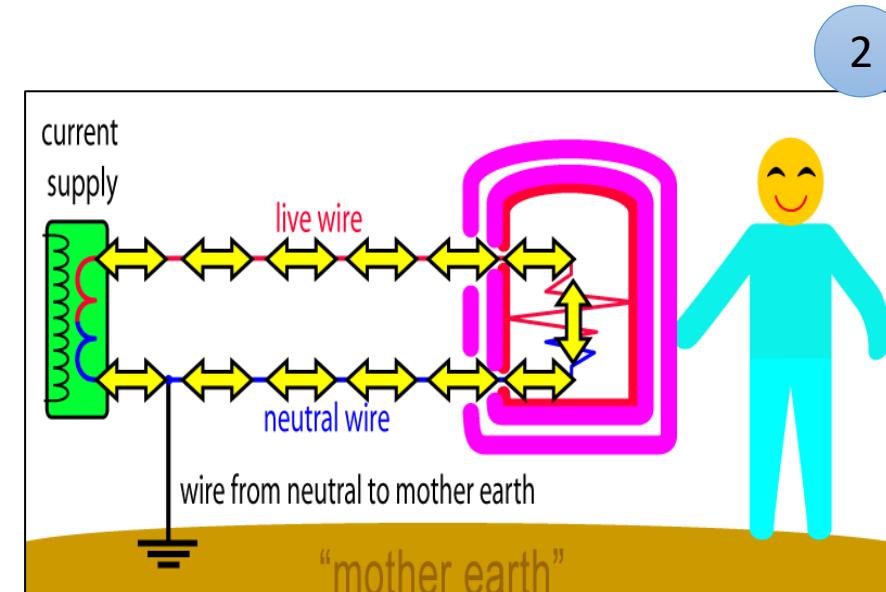


By Electrician

How Earthing Works ?
Figure 1 shows without Earthing &
Figure 2 shows with Earthing



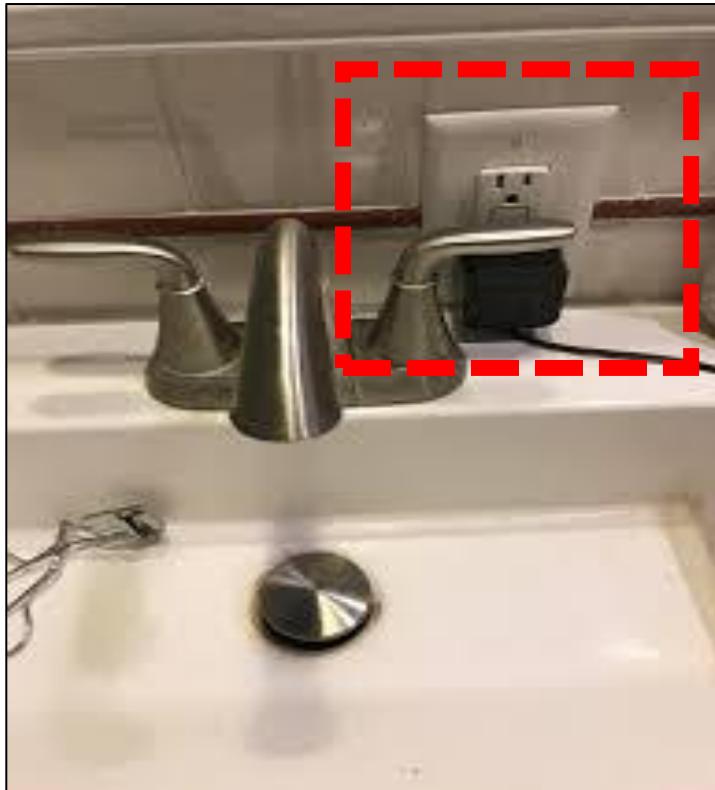
1



2

General Safety Precautions in Electrical Sockets

Ensure that Electrical Sockets are not installed close to water source like near water taps, water supply pipelines.



General Safety Precautions while handling Electrical Equipment's

Always switch off the power supply of the electrical equipment's when not in use.

Never Replace a 3 pin plug with a 2 pin plug



Never try to repair any electrical equipment yourself. Always go for an electrician for repairing the electrical equipment's.



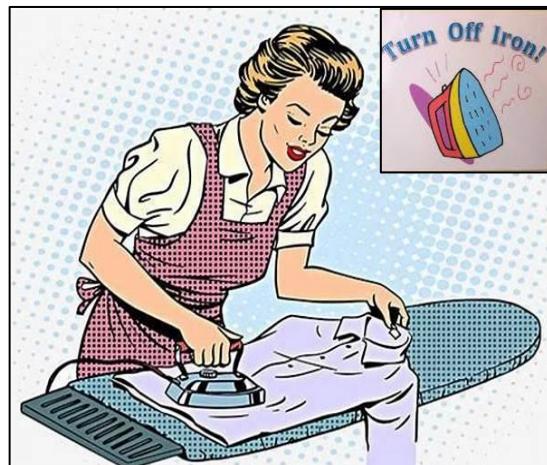
General Safety Precautions while handling Electrical Equipment's

Do not throw water on the electrical equipment's in case of fire.

Do not use fire extinguisher on electrical equipment unless it is clearly marked for that purpose



Never Use Electrical Equipment's like iron for clothes etc. with supply power ON. Check the automatic shut off of the iron before starting the work. Have a Emergency Power off switch for your homes.



General Safety Precautions while handling Electrical Equipment's

Ensure good house keeping is maintained. This can avoid fire and trip and fall incidences.

Get a central isolation switch installed in your homes for cutting off the power in case of any emergency.

Do not store chemicals near electrical sockets and source of heat as it is flammable and can easily catch fire.

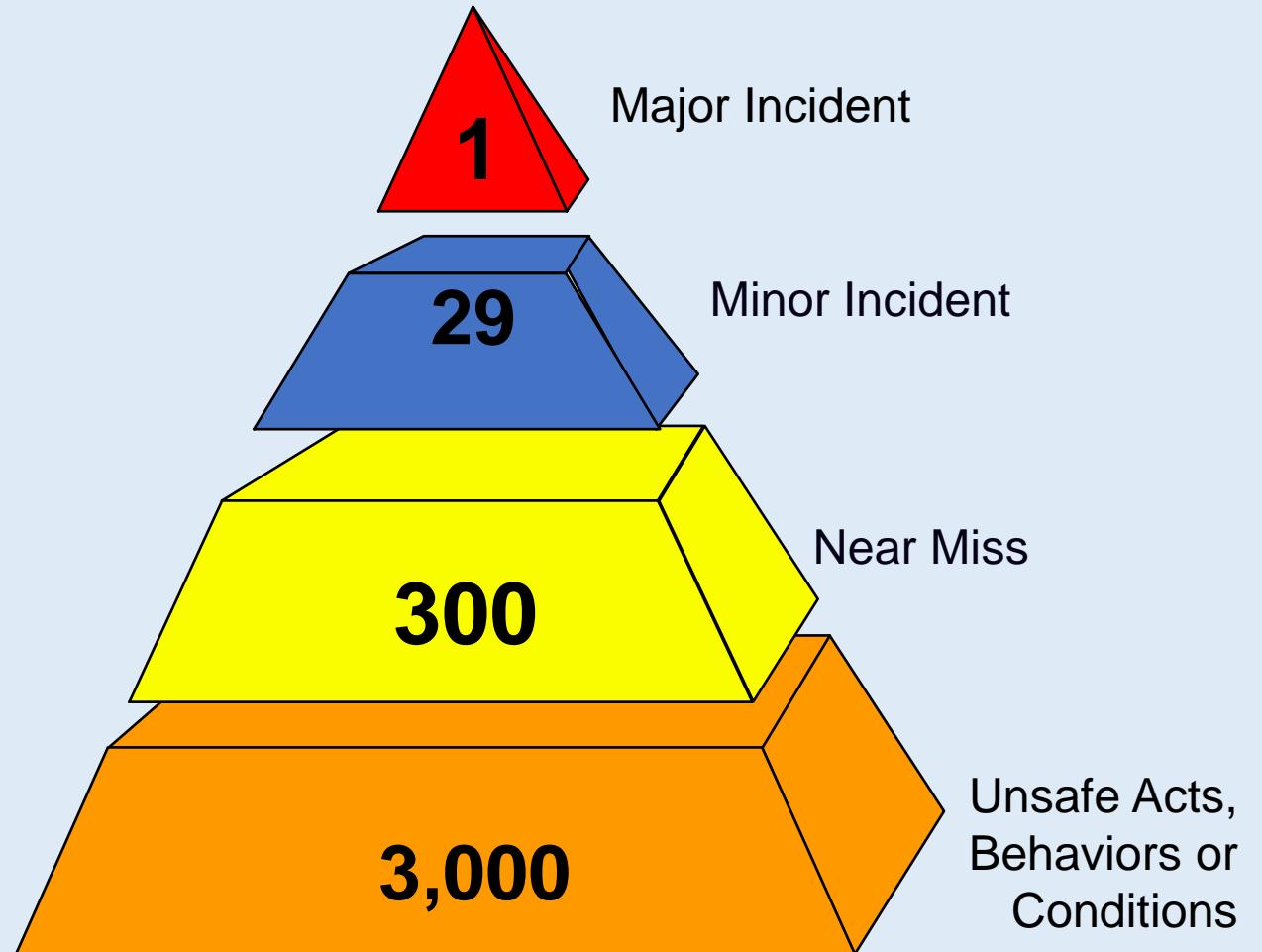


Quiz - 1!!!!



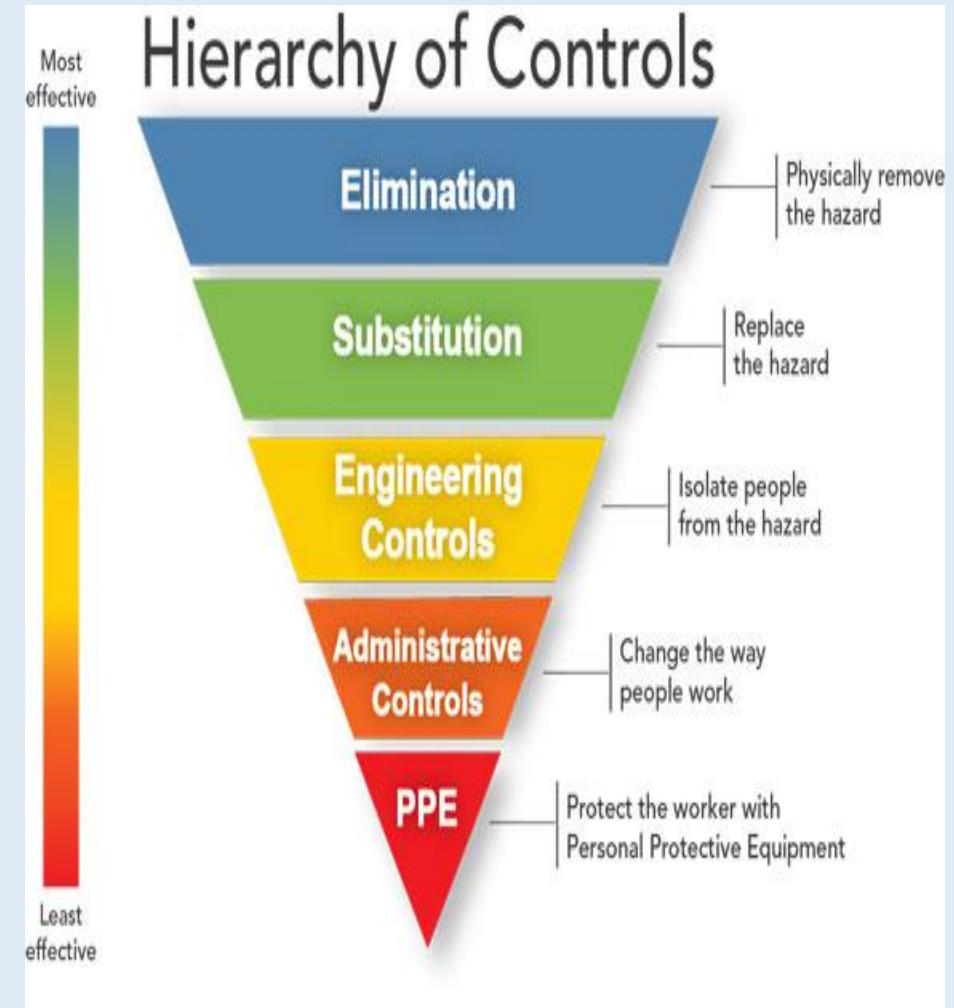
Q.1 As per Heinrich Theory, for 1 Major Accident how many Near Miss have already took place?

Answer: 300



Q.2 Which of the following is not included as a part of “Hierarchy of Control”?

- A. Elimination
- B. Substitution
- C. Tool Box Talk
- D. Engineering Controls
- E. PPEs



Q.3 The process of transferring the immediate discharge of the electrical energy directly to the earth by the help of the low resistance wire is known as?

- A. Voltage Current
- B. Earthing 
- C. Arc Flash
- D. Power Transmission

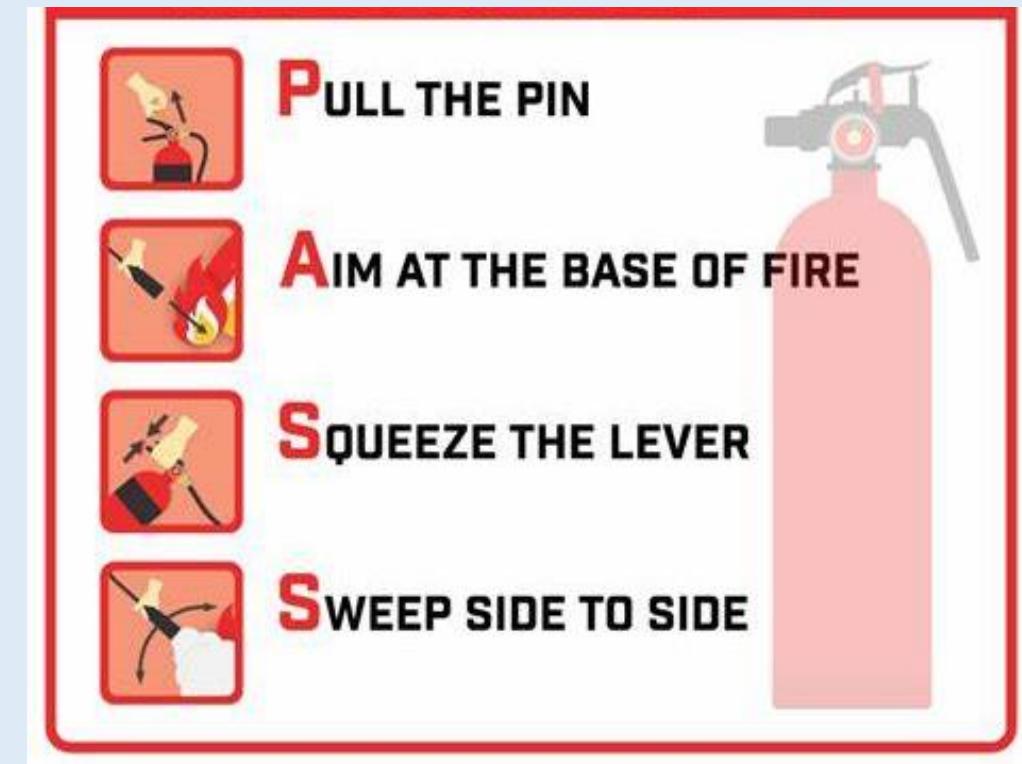
Q.4 Which of the following is a good conductor of electricity?

- A. Wood
- B. Plastic
- C. Rubber
- D. Water



Q.5 What is Full Form of PASS While Operating Fire Extinguisher?

- A. Pick up, Aim, Squeeze, Squirt
- B. Push, Alarm, Swirl, Sweep
- C. Pull, Aim, Squeeze, Sweep 
- D. Pull, Aim, Swirl, Swat



General Safety Precautions in Bathroom

Safety Precautions In Bathrooms

Electrical Hazards & Safety Precautions In Bathrooms

There are some common mistakes made while handling washing machine:

- Operating the machine bare foot.
- Adding water in the machine /draining the water with power supply in ON position.
- Removing the washed clothes with supply in ON position
- Using (2) pin plug instead of (3) pin plug.
- Switching the power supply ON /OFF and washing machine with wet hands

Safety precautions while handling washing machines

- ❖ Always wear rubber sole footwear when operating the machine.
- ❖ Always use (3) pin plug instead of (2) pin plug.
- ❖ Do not touch the supply switch or machine with wet hands(dry your hands and foot properly before touching).
- ❖ Ensure that the floor is not in wet condition while handling the washing machine.
- ❖ Ensure that the wires of the machine are properly dressed with no joints.



Safety Precautions In Bathrooms

Electrical Hazards & Safety Precautions In Bathrooms



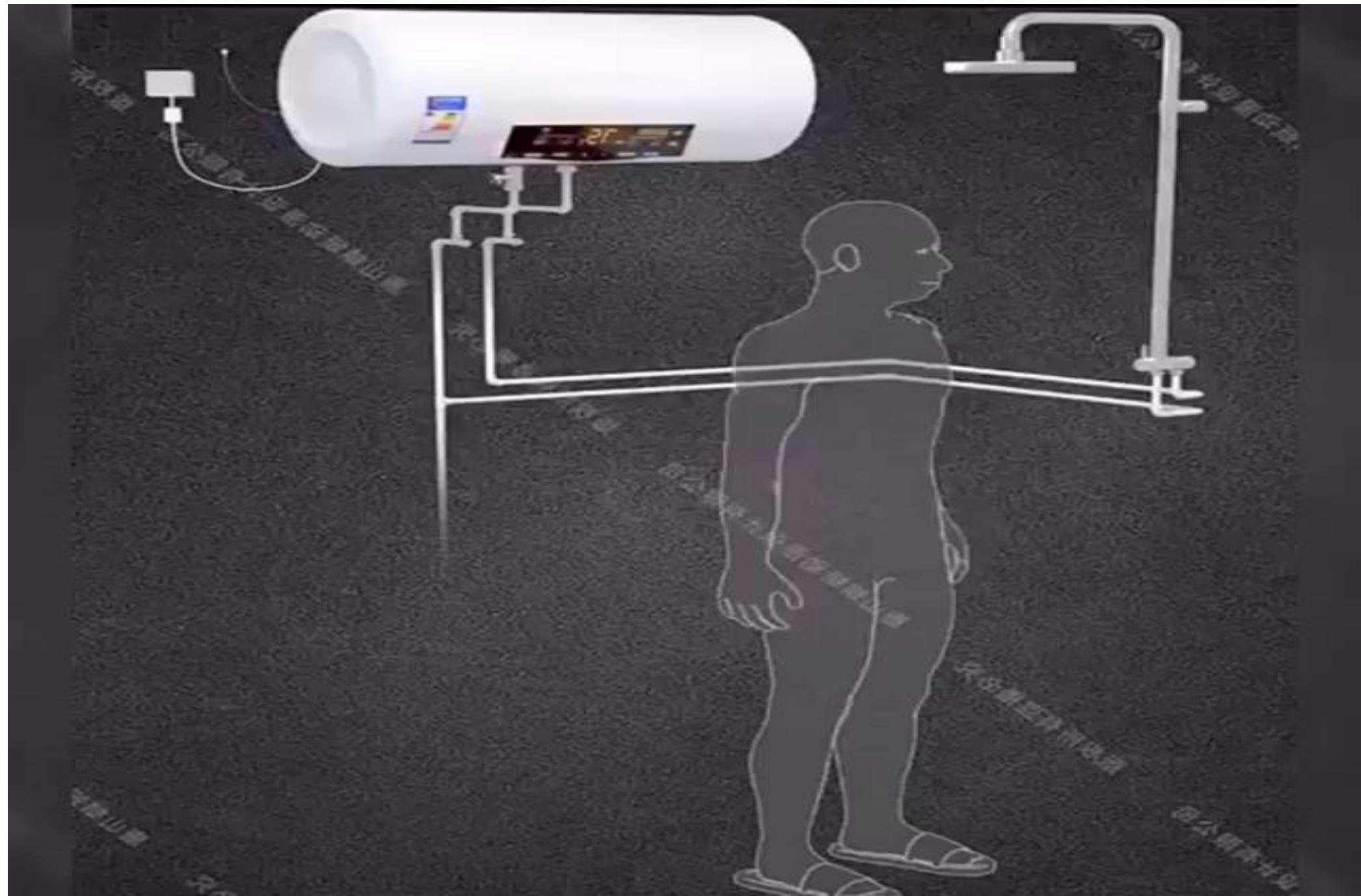
Common mistakes made by while handling Geyser

- ❖ Switching ON/OFF the geyser with wet hands and bare foot.
- ❖ Using (2) pin plug instead of (3) pin plug.
- ❖ Operating the geyser on wet floor.
- ❖ Wire of the geyser having cuts and joints.

Safety precautions while handling electric geysers

- ❖ Always wear rubber sole footwear when operating the Geysers.
- ❖ Always use (3) pin plug instead of (2) pin plug.
- ❖ Do not touch the supply switch or Geyser with wet hands(dry your hands and foot properly before touching).
- ❖ Ensure that the floor is not in wet condition while handling the Geyser.
- ❖ Ensure that the wires of the Geyser are properly dressed with no joints & cuts.

Gas geysers should only be set up in areas with proper ventilation and never in a confined space



Safety Precautions In Bathrooms

Electrical Hazards & Safety Precautions In Bathrooms



Common mistakes made by handling immersion rod:

Switching ON/OFF the immersion rod with wet hands and bare foot.

- ❖ Using (2) pin plug instead of (3) pin plug.
- ❖ Operating the immersion rod on wet floor.
- ❖ Wire of the immersion rod having cuts and joints.
- ❖ Touching the water bucket to see if the water has heated up.
- ❖ Dipping hand in the water to test the level of heating while immersion rod in ON position.

Safety precautions while handling immersion rod

- ❖ Always wear rubber sole footwear when operating the immersion rod.
- ❖ Always use (3) pin plug instead of (2) pin plug.
- ❖ Do not touch the supply switch or immersion rod with wet hands(dry your hands and foot properly before touching).
- ❖ Do not dip your hands in the water bucket and touch the bucket while Immersion rod is in ON position
- ❖ Ensure that the floor is not in wet condition while handling the immersion rod.
- ❖ Ensure that the wires of the immersion rod are properly dressed with no joints & cuts.
- ❖ Always switch off the immersion when not in use.

Electrical Safety Video



Safety Precautions In Bathrooms



Slip Trip & Fall Hazards

Always maintain Good Housekeeping. House keeping is the first and most important level in preventing falls due to slips and trips.

Clean all spills immediately and mark areas of spills and wet areas.



Kitchen Safety



Kitchen Safety

Some Common equipment's used in kitchen are as



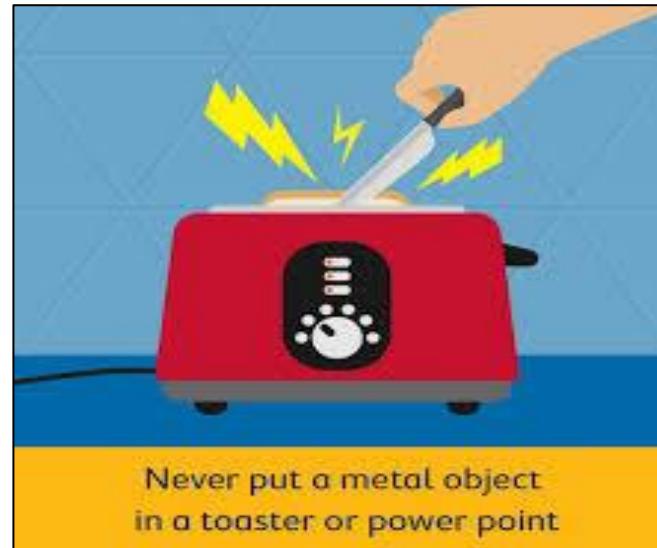
KITCHEN APPLIANCES



Kitchen Safety

Common Mistakes made in kitchen

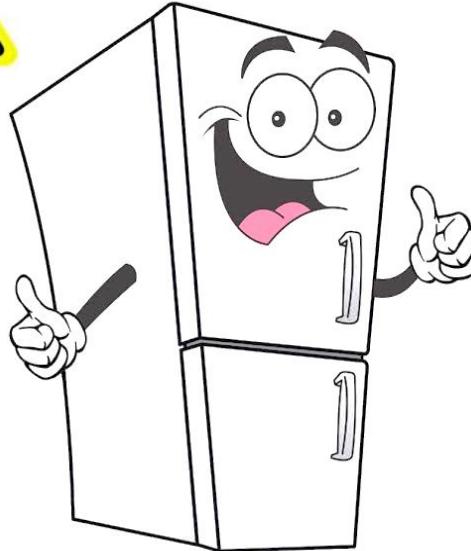
- ❖ Keeping the LPG Cylinder regulator in ON state when not in use
- ❖ Using the damaged LPG Pipe line.
- ❖ Keeping materials over the LPG Cylinders
- ❖ Wearing Loose clothing while cooking.
- ❖ Storing Combustible materials like packets, cardboards ,plastic cans near the gas burners
- ❖ Inserting metal knife in the toasters.
- ❖ Keeping electrical appliances like mixers /grinders etc. near the sink.
- ❖ Leaving the electrical appliance in ON State



Switch off & Unplug before cleaning

Kitchen Safety

Electrical Hazards & Safety Precautions



Common mistakes made while handling refrigerator

- ❖ Touching the fridge with wet hands and bare foot.
- ❖ Using (2) pin plug instead of (3) pin plug.
- ❖ Handling on wet floor.
- ❖ Wire of fridge having cuts and joints.
- ❖ Cleaning the Fridge while electrical supply in ON state.

Safety precautions while handling Refrigerator

- ❖ Always wear rubber sole footwear when handling the fridge.
- ❖ Always use (3) pin plug instead of (2) pin plug.
- ❖ Do not touch the supply switch & fridge with wet hands(dry your hands and foot properly before touching).
- ❖ Ensure that the floor is not in wet condition while using the fridge.
- ❖ Ensure that the wires of the fridge are properly dressed with no joints & cuts.
- ❖ Always switch off the power supply and unplug the fridge before cleaning.

Safety Precautions against the Fire Hazards

LPG Cylinder Video



LPG Cylinder Safety

Remember to replace the LPG gas pipe once cracks marks and scratches are developed on that . Always clamp the connection end of the pipeline firmly. It should not be loose as LPG may leak from the connection point.
Remember to close the regulator of the LPG cylinder when not in use.

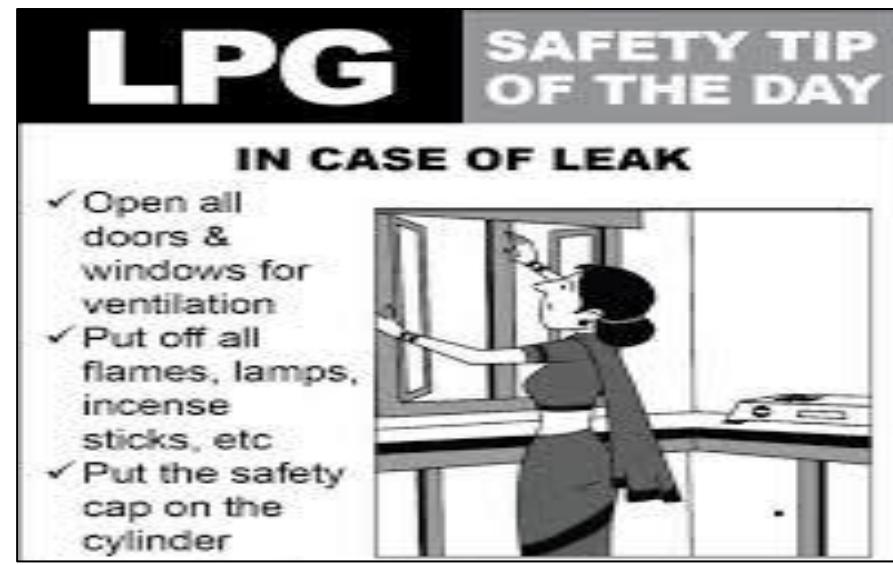


Always keep the LPG Cylinder in Upright condition. Keep the cylinder away from other sources of heat.

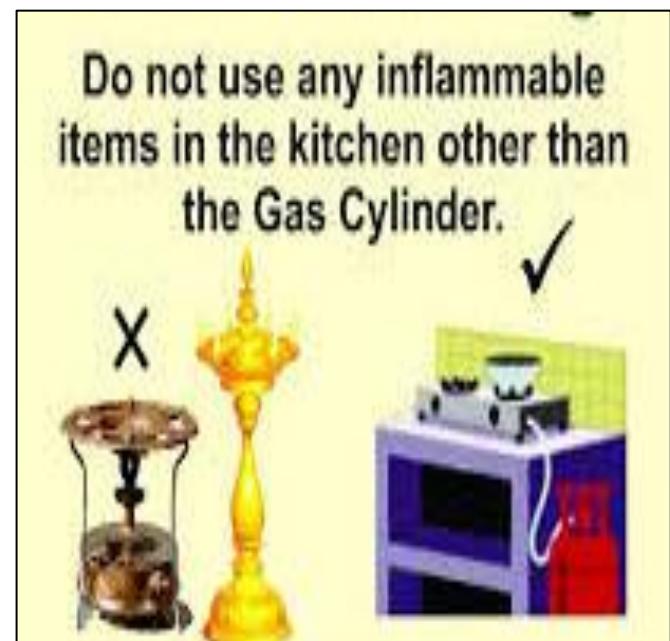


LPG Cylinder Safety

Ensure adequate ventilation in the kitchen. If you smell LPG gas do not light the matchstick or operate the electrical equipments,rather open the windows and doors. To check for any leakage, pour soap solution over the regulator.



Never wear loose clothing while cooking. Always use BIS approved appliances from authentic sources.
Empty cylinder must be stored in a cool and ventilated place with safety cap put ON.



Meaning of Number on LPG Gas Cylinder



The alphabet written in the code on the cylinder tells the month of testing that to be performed and the number indicates the year of testing.

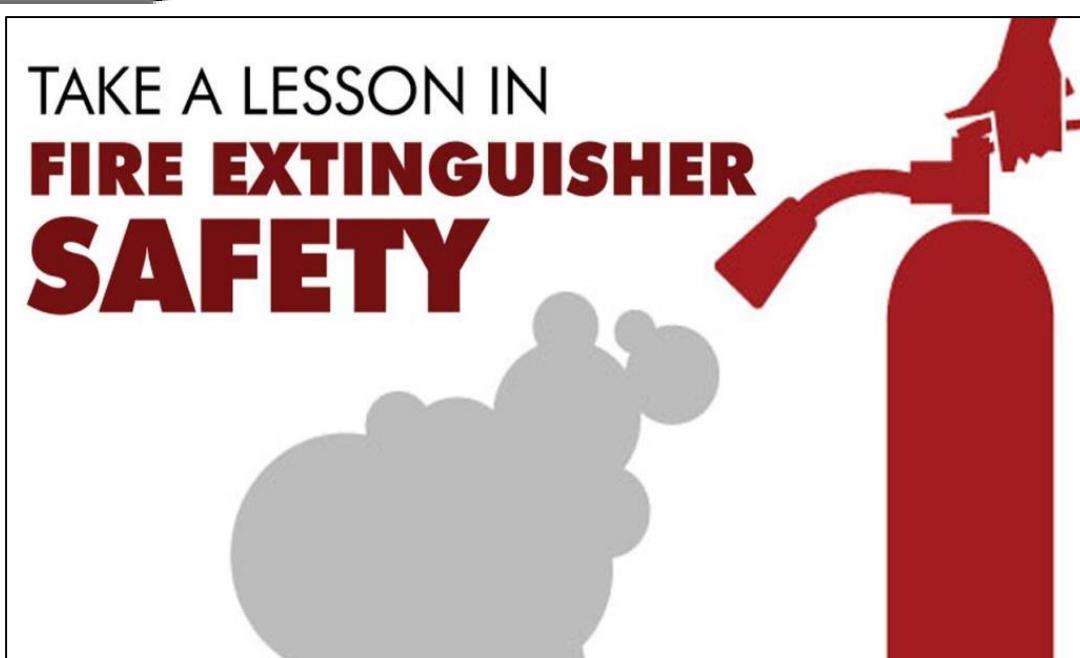
- | | |
|-------|----------------------------|
| A for | January - March quarter |
| B for | April - June quarter |
| C for | July - September quarter |
| D for | October - December quarter |

Kitchen Safety

Always keep your exits clear . Maintain house keeping in the kitchen to avoid any fire incident.
Try installing a Fire Extinguisher near your kitchen and learn to operate it.



Install a Fire
Extinguisher near your
kitchen and learn to
operate it



MSIL Emergency Contact Numbers

Emergency Contact Numbers आपातकालीन संपर्क नंबर

LOCATION स्थान	FIRE गांवर	SAFETY सुरक्षा	AMBULANCE एम्बुलेंस
Gurgaon गुरगाँव	0124-4393456 (I) - 3456	0124-4393500 (I) -3500	0124-4393514 0124-4393559 (I)-3514,3559
Manesar मानेसर	0124-4884066 (I)-4066	0124-4884095 (I)-4095	0124-4884079 (I)-4079
MPT (Engine) एम्पीटी इंजन	9871538981	0124-4884095	0124-4509718
MPT (Casting) एम्पीटी (कॉस्टिंग)	9871538991	0124-4884095	0124-4965922
Rohtak रोहतक	8396932467 (I)-6444	8396932467 (I)-6443	8396932461 (I)-6455

(I)-Intercom अंतरिक्ष कुटुम्ब

Video

Quiz-2 !!!!!



Q.1 We should use electrical equipment like washing machine wearing rubber sole footwear and with dry hands ?

- A. TRUE 
- B. FALSE

As water is a good conductor of electricity therefore we should use electrical equipment's with dry hands and wearing rubber sole footwear.

Q.2 What should be the code written on LPG Cylinder if its testing is due on April Month of Year 2025 ?

- A. A 25
- B. B 25 
- C. C 25
- D. D 25
- E. None of the above

A for	January - March quarter
B for	April - June quarter
C for	July - September quarter
D for	October - December quarter

Q.3 Which of the following option is the best position to place a cylinder?



OPTION –A



OPTION –B



OPTION –C



OPTION –D



Cylinder should always be kept in vertical upright position.

Q.4 The leading cause of fires in the kitchen is ?

- A. Burnt toast
- B. Unattended cooking
- C. Oven fires
- D. Microwave oven fires



Unattended cooking is major cause of kitchen fire.

“Chemical Safety”

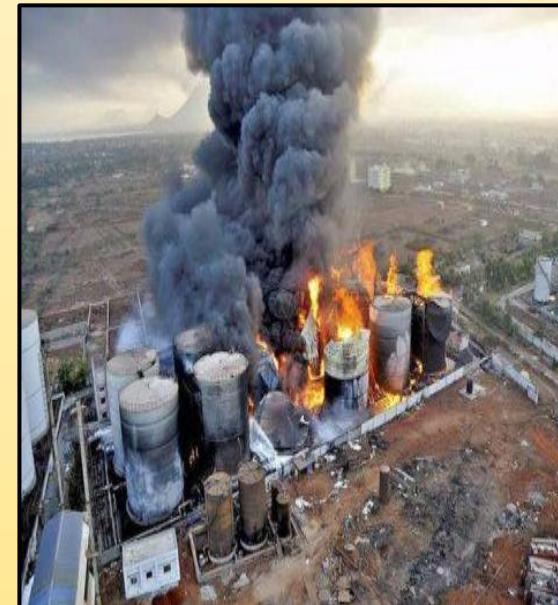




Importance of Chemical Safety

MARUTI SUZUKI

- About 32 million workers are potentially exposed to one or more chemical hazards
- There are approximately 650,000 existing chemical products, and hundreds of new ones being introduced annually
- Chemical exposure may cause or contribute to many serious health effects such as heart ailments, central nervous system damage, kidney and lung damage, sterility, cancer, burns, and rashes
- Some chemicals also have the potential to cause fires and explosions and other serious accidents





Incident Video

*Jaipur Oil Depot Fire
(2009)*





List of Chemical Disaster in India

Incident	Fatality
➤ Bombay Docks Explosion (1944)	- 800 people died
➤ Chasnala Mining Disaster (1975)	- 372 people died
➤ The Union Carbide Gas Tragedy (1984)	- Apx. 5500 people died and 5,27,894 affected
➤ Korba Chimney Collapse (2009)	- 45 people died
➤ Jaipur Oil Depot Fire (2009)	- 12 people died and injuring at least 130
➤ Visakhapatnam HPCL Refinery Blast (2013)	- 23 people died
➤ Nagaram GAIL pipeline explosion (2014)	- 18 people died and around 40 injured
➤ Bhilai Steel Plant Gas Leak (2014)	- 6 people died and over 40 injured
➤ Tughlakabad Gas Leak (2017)	- 200 school students were admitted
➤ Bhilai Steel Plant Pipeline Blast (2018)	- 9 people died and over 14 injured
and many more.....	



MSIL Chemical Safety Guidelines/Rules



Chemical Safety Booklet

Maruti Suzuki India Limited

" CHEMICAL SAFETY BOOKLET "

रासायनिक सुरक्षा पुस्तिका

SAFETY BASIC PRINCIPLES

1. Make Safety as first priority.
2. All accidents are preventable.
3. Safety is everyone's responsibility.

संरक्षा के मूलभूत सिद्धांत

1. संरक्षा को प्रथम प्राथमिकता दें।
2. प्रत्येक दुर्घटना को रोका जा सकता है।
3. संरक्षा प्रत्येक व्यक्ति की जिम्मेदारी है।

Chemical Safety Rules

MARUTI SUZUKI		MARUTI SUZUKI INDIA LIMITED		Occupational Health and Safety	
Safety Division		Chemical Safety Rules		Issue Date: 07.12.2017 Revision Date: 26-04-2022 Revision No: 01	
Control Number:- SFTY/C/ 17-18/006					
Sr. No	क्या करें ✓	क्या ना करें ✗			
1	केमिकल्स के साथ काहूं भी काम शुरू करने से पहले सुनिश्चित करें कि उसका MSDS उपलब्ध है, और एप्लिकेशन के सभी निर्देशों का पालन करें।	Material Safety Data Sheets	किसी भी ऐसे काम को शुरू न करें जिसमें उसके MSDS का उल्लेख किए बिंदा रसायनों का उपयोग शामिल हो।		
2	उचावट लेबल पढ़ें और सभी निर्देशों का पालन करें और केवल अधिकृत और प्रशिक्षित व्यक्ति को रसायनों का उपयोग करने की अनुमति हो।		विलुप्त होए रसायन या अप्रृष्ट स्थानों को कारेर या सीवर में नाड़ी लाइट करने के लिए दिए गए निर्देशों का पालन करें।		
3	MSDS में दिए गए फायर प्रिवेन्शन सिस्टम सुनिश्चित करें।		फायर प्रिवेन्शन सिस्टम को बाधित ना करें।		
4	सुनिश्चित करें कि आपातकालीन निकास लै-आउट कार्य क्षेत्र में प्रदर्शित है व संबंधित कर्मचारियों को सुनिश्चित किया गया, और आपातकालीन निकास मार्ग में किसी भी सामग्री को स्टोर न करें।		आपातकालीन निकास को अवृद्धि न करें व आपातकालीन निकास मार्ग में किसी भी सामग्री को स्टोर न करें।		
5	केमिकल हॉट / कार्य करते समय कार्य क्षेत्र में MSDS के अनुसार प्राथमिक उपचार के उपयोग सुनिश्चित करें।		पानी की बोतलों या अशात डिब्बों में रसायनों को ना रखें।		
6	MSDS व लेबल पर दिए गए उपचार की परिधि के अनुसार प्राथमिक उपचार के उपयोग सुनिश्चित करें।		रसायनों के साथ मौज मर्ती ना करें।		
7	रसायनों को केवल नामित स्थानों पर रखें एवं साथ भंडारण क्षेत्रों से दूर स्टोर करें।		खाद्य पदार्थों के पास रसायनों की साफ या उपयोग ना करें।		
8	हमेशा अच्छी हाउस कीपिंग एवं 55 बानाए रखें, एवं आपातकालीन रिसाव किट उपलब्धता सुनिश्चित करें।		कभी भी रसायनों के कैलाव को नज़रअंदाज़ ना करें।		
9	रसायनों की निरीक्षित भंडारण और अच्छी तरह हवादार जगह में स्टोर करें।		अँखों के शावर या आपातकालीन शावर के पानी का दुरुपयोग ना करें।		
10	कंटेनर्स को नष्ट करने से पहले संपूर्ण रसायन का उपयोग करें।		केमिकल भंडारण क्षेत्र के पास धूम्रपान ना करें।		

Chemical Safety Alerts

सेप्टी अलर्ट - हॉट वर्क/ केमिकल से जुड़े नॉन रूटीन कार्य के लिए दिशा निर्देश		MARUTI SUZUKI
Document No: SFTY-Alert/MFG/2223- 29	Date: - 20th April'22	Revision No. 00 Revision Date: -

- "During any non-routine work:-**
1. Involving the use of Chemicals always follow the instructions of Material Safety Data Sheet (MSDS) and
 2. Prepare Evacuation Plan

नॉन रूटीन कार्य के दौरान :-

1. "केमिकल के उपयोग से जुड़े किसी भी नॉन रूटीन कार्य के दौरान, हमेशा MSDS के निर्देशों का पालन करें और इवैक्युएशन प्लान तैयार करें।
2. इवैक्युएशन प्लान तैयार करें।

Flammable जलनशील	Explosive एक्सप्लोसिव	Toxic टॉक्सिक	Health Hazard हेल्थ हार्जर करें	Environmental Hazard पर्यावरण हार्जार्ड	Evacuation Plan इवैक्युएशन प्लान

1. All non-routine activities of hot work/any work dealing with chemicals which are either Flammable, Toxic, Explosive and lead to Health & Environmental hazard, permission from Safety Department is required before start of work.

नॉन रूटीन हॉट वर्क व नॉन रूटीन कार्य जिसमें केमिकल का इस्तेमाल होगा, जो की जलनशील, टॉक्सिक, एक्सप्लोसिव हेल्थ और एवं पर्यावरण हार्जार्ड व पर्यावरण हार्जार्ड पहुँच करते हैं, उस कार्य को करने के लिए सेप्टी डिपार्टमेंट से विशेष अनुमति लेना अनिवार्य है।

2. For Any Non -Routine Activity, Evacuation plan shall be made part of work permit and the same must be communicated to concerned employees & displayed at work -site.

किसी भी नॉन रूटीन कार्य को करने से पहले उस स्थान का इवैक्युएशन प्लान उस वर्क परमिट का भाग होना चाहिए और उस इवैक्युएशन प्लान को सभी एम्प्लाइज को कम्मीटिके करना और कार्य स्थल पर डिस्ट्री करना अनिवार्य है।

Note: The Instruction must be implemented with immediate effect.



Benefits from the Booklet

Provide participants with training to:

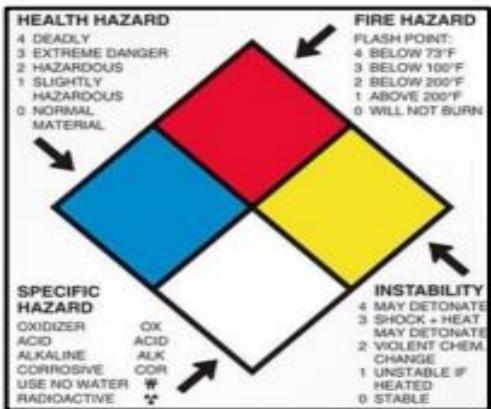
- Identify chemical hazards that exist in their workplaces
- Identify potential health effects of Chemical hazards
- Understand ways that chemicals can enter the body
- Understand principles of hazard prevention and control
- Apply principles of hazard control in the work place
- Understand employer responsibilities regarding exposure to hazardous chemicals
- Discuss and analyze strategies to create safer workplaces

MSDS and its Importance

एमएसडीएस और इसका महत्व

A MSDS is a written document that outlines information and procedures for handling and working with chemicals.

MSDS एक लिखित दस्तावेज़ है जो रासायनों को संभालने और काम करने के लिए जानकारी और प्रक्रियाओं की रूपरेखा तैयार करता है।



MSDS Contents:

MATERIAL SAFETY DATA SHEET - 9 SECTIONS	
SECTION 1 - PRODUCT INFORMATION	
Product Name	WHMIS Classification (optional)
Product Use	
Manufacturer's Name	Supplier's Name
Physical and Mailing Address	Physical and Mailing Address
Emergency Contact Phone Number	Emergency Contact Phone Number
SECTION 2 - HAZARDOUS INGREDIENTS	
Hazardous Ingredients (very specific)	
SECTION 3 - PHYSICAL DATA	
Physical State (What does it look like? Is it a liquid, gas, or solid?) What happens to it under a variety of circumstances? (i.e. heat, freezing, dropping, etc.) Flammability and how to extinguish. Includes a wide variety of details concerning how easily this product	
SECTION 4 - FIRE AND EXPLOSION DATA	
Will ignite / explode and how to deal with it. How stable is this product? How it reacts under various conditions.	
SECTION 5 - REACTIVITY DATA	
Incompatibility with other substances. Hazardous Decomposition Products. Information about how the product affects and enters the body. Immediate effect. Long term toxic effects.	
SECTION 6 - TOXICOLOGICAL PROPERTIES	
Exposure limits. In summary, immediate and long term effects to the human body.	
SECTION 7 - PREVENTIVE MEASURES	
Personal Protective Gear; ventilation, etc.; leak and spill info; waste disposal; handling and storage; special shipping instructions	
SECTION 8 - FIRST AID MEASURES	
Information for immediate first aid treatment. Usually always ends with "contact a Doctor"	
SECTION 9 - PREPARATION INFORMATION / Who prepared this and contact info	

MSDS अनुक्रमणिका

1 उपचार वालकारी
2 समाचार पट टारका / वालकारी
3 वारंटों की वालकारी
4 प्राथमिक विनियोग उपचार
5 अम बुखारों के उपचार
6 अवासनिक रिपीज उपचार
7 डैफलिंज और सबाद
8 व्यासांत्रिक लियोफार / व्यासिक तुड़ी
9 शीर्षिक और रासायनिक नुस्खाविकार
10 इवार्स और प्रातिक्रियाविकार
11 टोकिंसिलीविकल तुड़ी
12 यारिंगियोलिकल वालकारी
13 विषाक्त विषाक्त
14 परिवर्तन वालकारी
15 विलियोगक वालकारी
16 अम वालकारी

Hazards and Diseases Related to Molten Metal Fumes

पिघले हुए धातु धुएं से संबंधित झाते और बीमारियां

- Fire hazard & Explosion
- Molten Metal spillage due to over flow
- Exposure to toxic metal / fumes
- Health Hazard



- आग व विस्फोट का खतरा
- ओवर पलो के करण मोल्टेन मेटल बिरचाव
- विषाक्त धातु धुएं से संपर्क
- स्वास्थ्य जोखिम



- Cough
- Muscle Ache
- Eye irritation
- asthma and allergies
- lung cancer



- तेज बुखार
- खांसी
- मांसपेशियों में ठर्ड
- आंखों में जलन
- अस्थमा और एलर्जी
- फेफड़ों का कैंसर

Chemical Handling & Safety Guidelines रासायनिक हैंडलिंग और सुरक्षा दिशानिर्देश

General Safety Rules for Chemical Handling:

- Handle with Caution
- Always follow WIS/OCP procedures
- Read all labels and MSDS printed on the container
- Keep yourself and the workplace clean

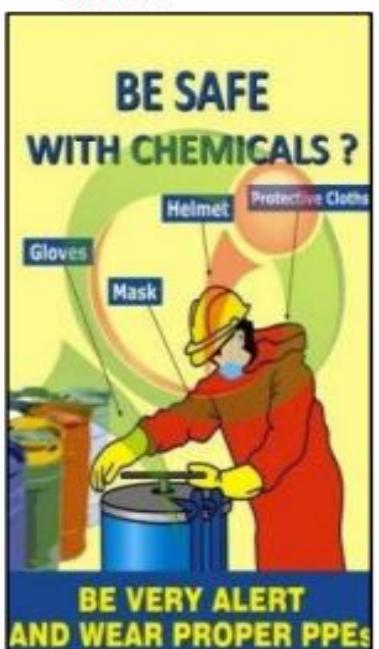
रासायनिक हैंडलिंग के सामान्य सुरक्षा नियम :

- सावधानी के साथ संभालें
- हमेशा WIS/OCP प्रतियांत्रोंका पालन करें
- कंटेनर पर विपक्षाएं जए सभी लेबल और MSDS पढ़ें
- अपनोआप को और कायदक्षेत्र को साफ रखें



General Safety Guidelines :

- Do not eat , drink or smoke while using hazardous chemicals.
- Use prescribed personal protective equipment
- Make sure all chemical containers are handled properly and the label is fixed
- Never taste or smell chemical
- Always use chemicals only for a predetermined purpose



सामान्य सुरक्षा गाइडलाइन्स:

- खतरनाक यासायों का उपयोग करते हुए कभी भी स्थान, पीना या धूम्रपान न करें।
- व्यक्तिगत सुरक्षा उपकरण का उपयोग करें।
- सुनिश्चित करें सभी रासायनिक कंटेनर्स ठीक से संभाले जए हों और उन पर लेबल लगा दो ।
- कभी भी यासायों को सूखे या उम्रका स्वाद ना दें ।
- छोड़ा रसायनों का उपयोग केवल पूर्ण नियांत्रित उद्देश्य के लिए करें ।

Chemical Storage Safety Guidelines रासायनिक भंडारण सुरक्षा दिशानिर्देश

Proper storage of toxic chemicals:

- Make sure storage areas meet regulatory requirements
- Ground all drums properly
- Store in approved storage room/yard
- Store in small quantities
- Ensure Secondary containment.

विषाक्त रासायनों का उचित भंडारण:

- सुनिश्चित करें कि भंडारण क्षेत्र नियामक आवश्यकताओं को पूर्य करते हैं
- सभी ड्रम को ठीक से ग्राउंड करें
- अनुमोदित भंडारण कक्ष/यार्ड में स्टोर करें
- छोटी मात्रा में स्टोर करें
- द्वितीय रेक्षाम सुनिश्चित करें



Proper storage of flammable chemicals:

- Keep containers closed when not in use
- Keep away from fuel sources
- Avoid contact with incompatible material
- Transfer only to approved containers
- Bond electrical continuity to all receiving containers
- Thorough cleaning and disposal of waste



जलनशील रासायनों का उचित भंडारण:

- उपयोग में न आने पर कंटेनरों को बंद रखें
- ईंधन स्रोतों से दूर रहें
- असंगत सामग्री के संपर्क से बर्ते
- केवल अनुमोदित कंटेनरों में स्थानांतरित करें
- कवर की पूरी सफाई और निपटान करें

Flammable Gases Handling and Storage Guidelines ज्वलनशील गैसों की हैंडलिंग और भंडारण दिशानिर्देश

When storing flammable gas in the workplace:

- Provide proper ventilation to ensure flammable vapours do not accumulate
- Never store flammable gases near hot equipment or open flames
- do not store flammable gas cylinders with oxygen cylinders
- ensure that cylinders are properly secured so that they cannot fall over and valves protected from damage
- always use the correct fittings and valves for the specific cylinder, do not mix and match fittings
- Ensure flameproof lighting within the storage place.
- Ensure earthing and bonding to prevent accumulation of static charge.

कार्यस्थल में ज्वलनशील गैस का भंडारण करते समयः

- सुनिश्चित करने के लिए उचित वेंटिलेशन प्रदान करें, कि ज्वलनशील वाष्प जमा न हों।
- र्म उपकरणों या खुली लपटों के पास ज्वलनशील गैसों को कभी शी स्टोर न करें।
- ऑवर्सीजन सिलेंडर के साथ ज्वलनशील गैस सिलेंडर को स्टोर न करें।
- सुनिश्चित करें कि सिलेंडरों को ठीक से सुरक्षित किया जाता है ताकि वे निरंजन सकें और वाल्व क्षति से सुरक्षित हों।
- हमेशा विधिवत सिलेंडर के लिए सही फिटिंग और वाल्व का उपयोग करें, मिश्रण और मैट फिटिंग नहीं करें।
- भंडारण स्थान के भीतर पलेमेप्रूफ लाइट की व्यवस्था सुनिश्चित करें।
- स्थैतिक चार्ज के संबंधन को रोकने के लिए अर्थिंग और बॉन्डिंग सुनिश्चित करें।



Personal Protective Equipment's व्यक्तिगत सुरक्षा उपकरण

Always wear appropriate PPEs हमेशा उपयुक्त पीपीई पहनें



Types of Respirators

1. Air purifying half-face respirator
2. Air purifying full face respirator
3. Powered air purifying respirator
4. Air line respirators

रेसिप्रेटर्स के प्रकार

1. वायु शुद्ध करने वाला आधा घेहरा प्रवासयंत्र
2. वायु शुद्ध करने वाला फुल फेस रेसिप्रेटर
3. संचालित वायु शुद्ध करने वाला प्रवासयंत्र
4. एयर लाइन प्रवासयंत्र

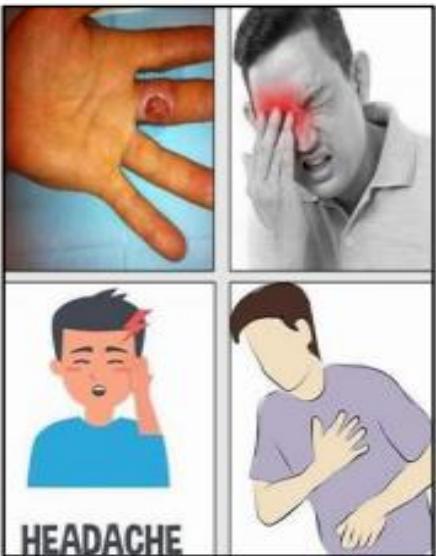


Diseases Caused due to Chemical Exposure

रासायनिक एक्सपोजर के कारण होने वाली बीमारियां

Diseases Caused due to Overexposure:

- Eye discomfort
- Difficulty in breathing
- Headache
- Vomiting
- Burning of skin



संभवित ओवरएक्सपोजर के लक्षण :

- आंखों की तकलीफ
- सांस लेने में कठिनाई
- सर चक्राना - सरदर्द
- जी मचलना - उलटी
- त्वचा की जलन



Chronic Diseases Linked to Toxins:

- Asthma
- Occupational Cancer
- Heart Disease
- Toxic Anaemia
- Toxic Jaundice



विषाक्त पदार्थों से जुड़े दीर्घकालिक रोग:

- अस्थमा
- व्यावसायिक कैंसर
- हृदय रेन
- विषाक्त रक्ताल्पता
- विषाक्त पीलिया

Measures in Case of Spillage

रिप्लेज के मामले में उपाय

Dealing with chemical emergencies

- Know Emergency Phone Number
- Find out how to control spills
- Know the process of closing the appropriate equipment
- Know proper evacuation routes
- Know emergency combination area/ Assembly Point



रासायनिक आपात दिव्यतियों से निपटना

- जानिए आपातकालीन फोन नंबर
- जानिए कैसे करे रिप्लेज को कंट्रोल
- उचित उपकरण बंद करने की प्रक्रिया को जाने
- उचित निकासी मार्गों को जाने
- आपातकालीन संयोजन धोत्र को जाने

CHEMICAL SPILL EMERGENCY RESPONSE



What the emergency personnel should know

- Emergency Cleaning and Disposal Measures
- Essential Protective Equipment
- Use of cleaning equipment
- Fire fighting and other emergency measures
- Use of other emergency equipment and spill kit.

आपत्कालीन कार्मिक को क्या पता होना चाहिए:

- आपातकालीन सफाई और निपटान के उपाय
- आवश्यक सुरक्षात्मक उपकरण
- सफाई उपकरणों का उपयोग
- अग्निशमन और अन्य आपातकालीन उपाय
- अन्य आपातकालीन उपकरण एवं रिप्लेज किट का उपयोग

HAZCHEM Codes and its Importance

HAZCHEM कोड और इसका महत्व

Hazchem code is a warning plate system used for vehicles that transport hazardous substances. Actually, it gives information's about the actions to be taken in case of accidental fire or spillage or leakage, or any emergency.

HAZCHEM कोड खतरनाक पदार्थों के परिवहन के बाह्यों के लिए इस्तेमाल कि जाने वाली एक चेतावनी प्लेट प्रणाली है। यह आकर्षित आग, विस्फराव या रिसाव, या किसी भी आयात स्थिति के मामले में किए जाने वाले कार्यों के बारे में जानकारी देता है।



Table 1

1. Water jets 2. Fog 3. Foam 4. Dry Agent

Category	Violence	Protection	Substance control
P	V	Full	
R			
S		BA	
S	V	BA for fire only	Dilute
T		BA	
T		BA for fire only	
W	V	Full	
X			
Y		BA	
Y	V	BA for fire only	Contain
Z		BA	
Z		BA for fire only	
E		Consider evacuation	

Refer: Table 1

How to read the Hazchem code?

- The code consists of a number followed by one or two letters (e.g., 3WE, 4X, etc).
- First number indicates - the type of extinguishing media in case of fire.
- The first letter indicates - the type of personal protective equipment required.
- The last letter "E" indicates - evacuating people from the neighborhood of the incident.

HAZCHEM कोड कैसे पढ़ें?

- कोड में एक या दो अक्षरें (जैसे, 3WE, 4X, आदि) के पहले एक नंबर होता है।
- पहला नंबर सूचित करता है - आग की स्थिति में उपयोग में लेने वाला अनिश्चित यंत्र।
- पहला अक्षर सूचित करता है - आवश्यक व्यक्तिगत सुरक्षा उपकरण के प्रकार।
- अंतिम अक्षर 'E' सूचित करता है - घटना के पड़ोस से लोगों को खाली करना।

First Aid / Immediate Treatment

प्राथमिक चिकित्सा/तत्काल उपचार

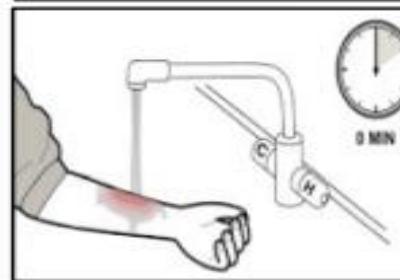
First aid for chemicals in the eyes

Don't rub your eyes, keep the eyelids open for 15 minutes and wash with water. Be careful not to pollute the other eye.



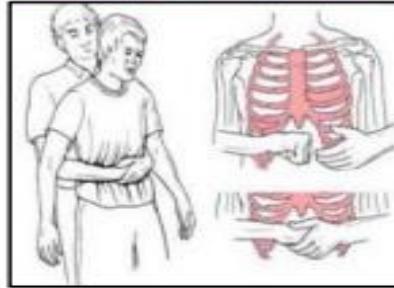
First aid for chemicals on the skin

Flush with lukewarm water for 15 minutes, Remove clothes and ornaments from burned skin . Look for extra medical treatment.



आँखों में रासायन के लिए प्राथमिक चिकित्सा अपनी आँखों को रगड़े नहीं, पलकों को १५ मिनट तक खुला रखें और पानी से धोएं। दूसरी आँख को प्रदूषित न करें, इसका ध्यान रखें।

त्वचा पर रासायन से प्राथमिक चिकित्सा १५ मिनट के लिए गुनबूजे पानी के साथ पलाश करे जले हुए क्षेत्र से कपड़े और गहने निकले अतिरिक्त चिकित्सा की तलाश करे।



First aid for chemical intake

- Take the victim to the open air
- Induce vomiting only when defined in MSDS
- Get immediate medical treatment

रासायनिक अन्तर्ग्रहण के लिए

प्राथमिक चिकित्सा

- पीड़ित को खुली हवा में ले जाए।
- रासायनिक नियंत्रण प्रतिक्रिया / MSDS में परिभ्रामित होने पर ही उल्टी को प्रेरित करे
- तत्काल चिकित्सा प्राप्त करे

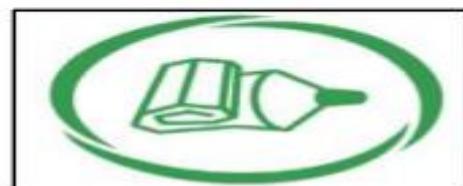
Do's and Dont's क्या करें / क्या ना करें

Do's (क्या करें)

1. Label all chemical clearly
1. सभी रासायनों को स्पष्ट रूप से लेबल करें



2. Use up all product before disposal of container
2. कंटेनर को नष्ट करते से पहले संपूर्ण रासायन का उपयोग कर ले



3. Have an emergency plan and conduct regular mock drills & ensure availability of emergency spill kit.

3. एक आपातकालीन योजना बनाएं और नियमित अभ्यास करें एवं आपातकालीन इसाव किट की उपलब्धता सुनिश्चित करें



DON'Ts (क्या ना करें)

1. Don't mix chemicals together
1. रासायनों को एक साथ ना मिलाएं



2. Don't smoke near Chemical Storage areas
2. केमिकल बंडार दोश के पास धुमापन ना करें



3. Never Ignore chemical spills. Report it!



Quiz Time- 3 !!!



Q.1 What does the MSDS stand for?

- A. Massive Safety Data Sheet
- B. Material Security Data Sheet
- C. Material Safety Data Sheet 
- D. Massive Security Data Sheet

Q.2 This signs represents ?

- A. Flammable
- B. Corrosion
- C. Irritation
- D. Explosion



Q.3 Which of the following can be found on a MSDS?

- A. Physical and chemical properties
- B. All hazards regarding the material
- C. Precautions for safe handling and storage
- D. All of the Above 

Q.4 STP stands for Sewage treatment plant?

- A. True 
- B. False

Q.5 Safety requirement prior to working in confined Space?

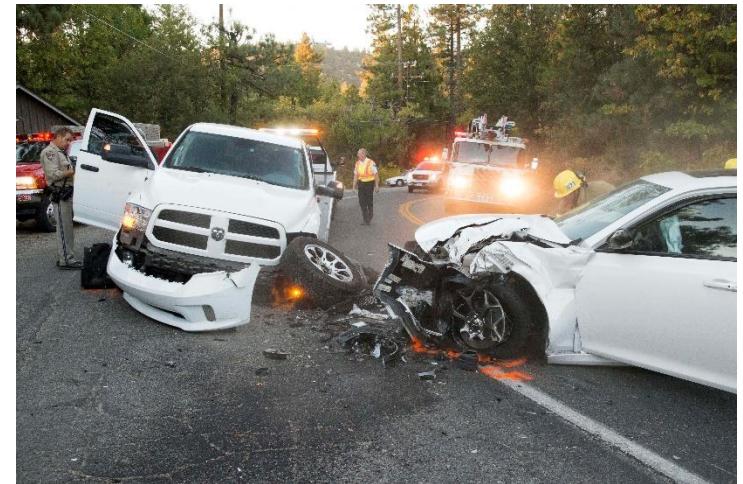
- A. Atmospheric samples must be taken (O₂, LEL, etc.)
- B. Work permission is required
- C. An attendant must be at the entrant
- D. All of the Above 

ROAD SAFETY



Hazards related to Road Safety

- Collision with object or other vehicles
- Getting hit by vehicle while walking
- Vehicle getting slipped
- Getting off the road/ track
- Slippery roads
- Road with pot holes



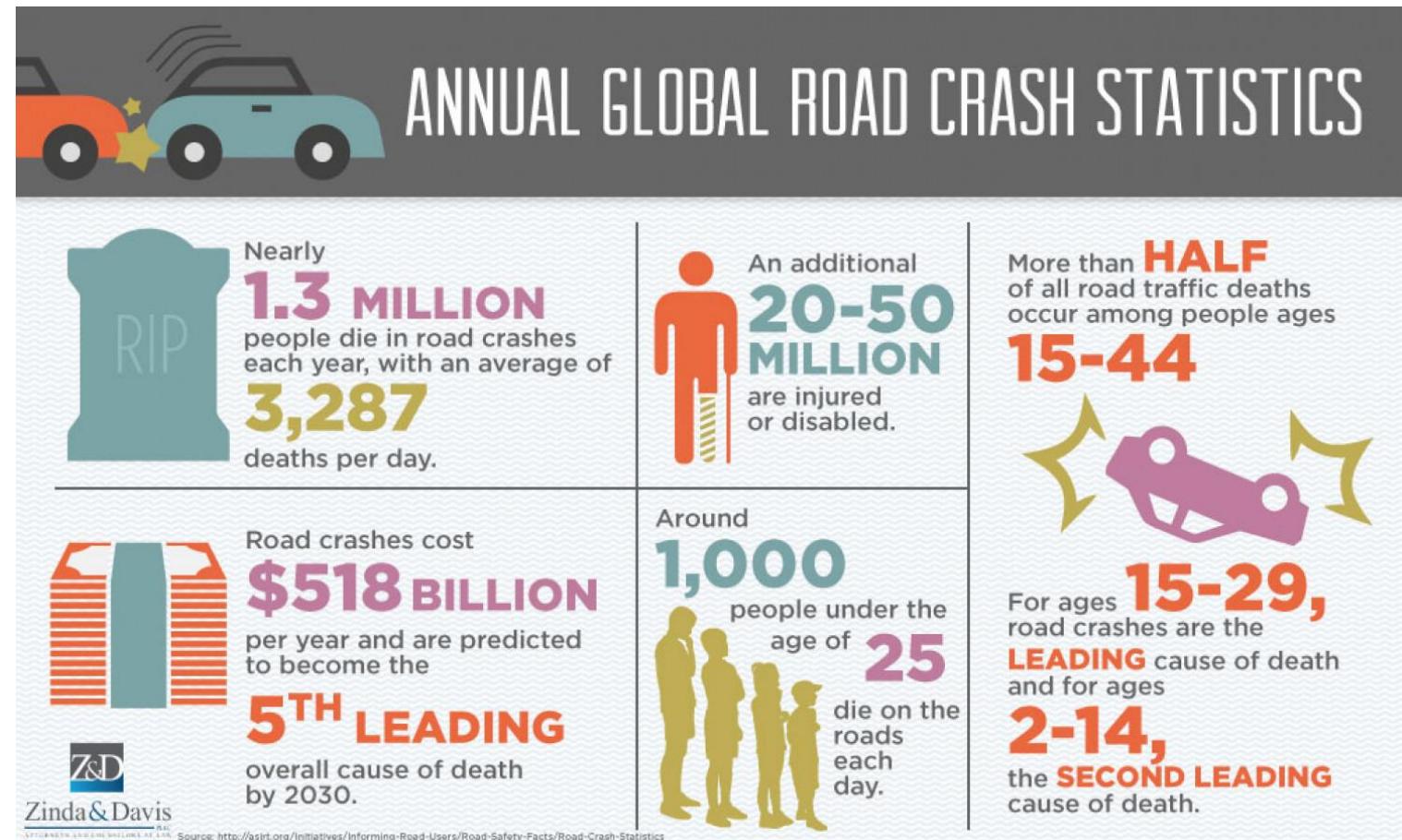
Outside Road accident due to Fog

- A contractual employee of MSIL met with an accident while he was commuting to company through his bicycle in C shift.
- An over speeding car hit him near Carterpuri road due to fog and lower visibility at night.
- He suffered injuries on his head & legs and was admitted in ICU.
- Recommendation:
 - Always wear helmet and watch for vehicles moving in high speed.
 - While commuting through bicycle use reflector on front and back.
 - Ride bicycles at side of road



Stats related to Road accidents

- More than 1 lac people get killed in road accident in India and around 12 lac people get severely injured yearly .
- As compared to global data, 10% of the fatal road accidents occurs in India.



Don'ts to prevent road accident

- Do not use earphones while walking or driving as you might not be able to hear the surrounding noises like horn, which may lead to accident.
- Don't cross road without looking at both the ends.
- Don't overtake from wrong side of vehicle, and don't jump traffic signals.
- Never drink and drive .
- Don't drive any vehicle if you are not having a valid driving license .
- Don't park your vehicle on a busy road.



Do's to prevent road accident

- Follow traffic rules
- Drive your vehicle at specified speed limits only.
- Ensure that all the lights of your vehicle are in working condition.
- Use indicator while turning.
- Use Rear view mirror before turning or changing lane.



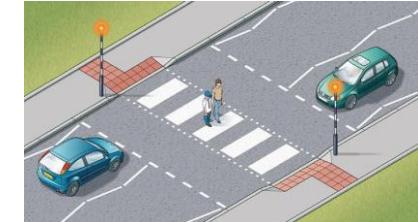
DO's for Two-wheeler riders

- Wear full face helmet
- Side stand of your vehicle must be retracted before riding.
- Use the front and rear brakes in combination for best braking.



DO's for Four-wheeler drivers

- Ensure the use of seat belt while driving and the rear passengers shall also wear seat belt.
- Slow down your vehicle before approaching zebra crossing or any turn.
- Inspect your vehicle for any warnings, damages, etc. before using.



Some Punishable Offences as per "Central Motor Vehicle Rules"



Drivers, co-drivers and rear passengers not wearing seat belts while driving/riding a four wheeler.
(Fine- 1000 Rs /-)



Over speeding while driving.
(Fine- 2000 Rs/-)



Drunken driving
(Fine - By Court of Law)



Wrong Side/Dangerous Driving
(Fine- 5500 Rs/-)

Some Punishable Offences as per “Central Motor Vehicle Rules”



Not wearing helmets by the driver and pillion rider
while driving a two wheeler.
(Fine- 1000 Rs /-)



Triple Riding on 2-Wheeler.
(Fine- 1000 Rs /-)



Interrupting a zebra crossing or stop line.
(Fine - 500 Rs/-)



Using mobile phone while driving.
(Fine - 5000 Rs/-)

Importance of Seat Belt Communication

Dear Sirs/Madam,

Greetings!

“Seat Belt plays a major role in saving someone’s life in case of Road Accident”.

According to the survey by NGO in India, less than 1% of people use **rear seat belt**, while 23.9 % of people did not even know that **rear seat belt** exist, the data further revealed that 77 % of the children who travelled in the **rear seat** did not wear a seat belt and 37.8 % of all the people surveyed did not even know that any such legal compulsion exist about the **rear seat belt**.

“In case of frontal car crash a person sitting in rear seat, not wearing seat belt, he /she severely get hurt by hitting the interiors, and also he/she would cause more damage to the person wearing seat belt seating in front row”.



As per Rule 138 (3) of “THE CENTRAL MOTOR VEHICLES RULES, 1989, “*it shall be ensured that the driver, and the person seated in the front seat or the persons occupying front facing rear seats, as the case may be, wear the seat belts while the vehicle is in motion is required to wear a seat belt*”, failure to do so may result in a fine of Rs 1,000.

Team Safety urge you to ensure all the passengers use seat belts positively including rear seat person and communicate the same to all your employees & family members to follow the same.

Communicated by DVM Safety on: 8th Sept'2022

Quiz -4 !!!



Q.1 As per Central Motor Vehicle Rules, what is the amount of fine for using mobile phone while driving?

- A. 2500
- B. 800
- C. 5000 
- D. 2000



Using mobile phone while driving.
(Fine - 5000 Rs/-)

Q.2 As per Central Motor Vehicle Rules, what is the amount of fine for overspeeding while driving?

- A. 2000
- B. 1500
- C. 5000
- D. 500



Over speeding while driving.
(Fine- 2000 Rs/-)

Q.3 The following sign represents..

- A. Right turn prohibited
- B. Sharp curve to the right
- C. U-turn prohibited
- D. One Way



Q.4 A motor driving license issued in any state of India ?

- A. Is Valid Throughout The World
- B. Is Valid Only In That State
- C. Is Valid Throughout India 
- D. Not Valid Anywhere

Q.5 When turning your motorcycle on the road you should ??

- A. Keep your hand on the front brake throughout.
- B. Do not use horn.
- C. Switch on your headlights.
- D. Check all around for other road users and use indicators. 

Thank You