



PT.SENDANG TIRTA KENCANA

SENTANA *Cargo Service*

Project Cargo, International Sea & Air Freight Forwarder

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HEALTH, SAFETY & ENVIRONMENT PROGRAM

PURPOSE

1. To protect and guarantee safety of every workforce and others at work.
2. To guarantee that every source of production can be used safely and efficiently
3. Improving welfare and productivity

CAUSES of WORK ACCIDENTS

A). Basic Cause

1. Lack of Procedures / Rules
2. Lack of Facilities
3. Lack of Awareness
4. Lack of Compliance

B). Indirect Cause

1. Work Factors
2. Personal Factors

C). Direct Cause

1. Unsafe Actions
2. Unsafe Conditions

D). Work Accident

1. Contact with danger
2. Malfunction

E). Loss

1. Human (Injury, Poisoning, Disability, Death)
2. Machinery / Tools (Machine/tool damage)
3. Material (Contaminated, Damaged, Failed in action/production)
4. Environment (Polluted, Damaged, Natural Disaster)

LOSSES DUE TO THE WORK ACCIDENTS

Direct Cost

1. Medical and Care cost
2. Compensation cost (insurance)

Indirect Cost

1. Building / property damage
2. Tools and machine damage
3. Product/material damage

4. Production disruption
5. Administrative cost
6. Emergency Facilities and Infrastructure Expenditures
7. Time and effort for investigation
8. Salary payment for missing time
9. Overtime expense
10. Extra supervisor fees
11. Time for administration
12. Decreased ability of workers returning due to injury
13. Business losses and reputation

WORK ACCIDENT PREVENTION EFFORTS

Hazard Identification and Control at Work

1. Unsafe condition monitoring
2. Unsafe action monitoring

Guidance and Supervision

1. Training and Education
2. Counseling and consultation
3. Resource development

Management Systems

1. Procedures and Rules
2. Provision of facilities and infrastructure.
3. Reward and sanction

HAZARD OF HSE

Definition

All sources, situation or activities that have the potential to cause injury and or illness to work.

Source

1. Human
2. Machine
3. Material
4. Method
5. Environment

Type

1. Action
2. Condition

Factor

1. Biology (bacteria, viruses, fungi, plants, animals)
2. Chemical (materials/liquids/gas/vapors, toxic dust, reactive, radioactive, explosive/flammable, irritant, corrosive)
3. Physical / Mechanical (Altitude, Construction, machines/equipment/vehicle/heavy equipment, confined space, pressure, noise, temperature, light, electricity, vibration, radiation)
4. Biomechanics (Repetitive movements, posture/work position, manual transportation, work place design/tools/machines.
5. Psychology /Social (Stress, violence, harassment, exclusion, environment, negative emotion).

PERSONAL PROTECTIVE EQUIPMENT

Compulsory completeness used when working in accordance with the hazards and risks of work to maintain the safety of the workforce itself and others at work.



Safety Helmet



Safety Goggle



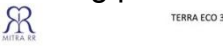
Safety work wear eye protection



Hearing protector



Safety gloves



Safety boots/shoes



Safety body protection suit

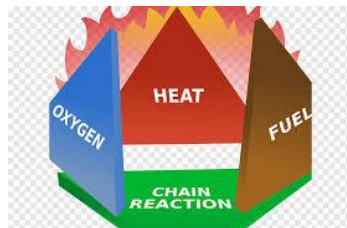


Life Vest



Raincoat

FLAME AND FIRE



Definition of flame

Flame is a fast chemical (oxidation) reaction formed by three elements (heat, oxygen and combustible substances) that produce heat and light.

Definition of fire

Small and large flame in places, situations and undesirable times which are detrimental and generally difficult to control.

Stages to become fire

First appeared

1. Three element reaction of flame
2. Extinguished by itself if the flame cannot reach the next stage
3. To determine flame black out method or to save yourself to a safety zone

Growing stage

1. Fire burns combustible material so the heat increases.
2. Flashover (igniting other combustible material around the fire due to the heat)
3. Men/women potentially trapped or causing injury / death for firefighters.

Peak stage

1. All combustible materials ignite
2. Fire become dangerous for anyone caught in.

Quits/Goes out stage

1. The stage of fire that takes the longest time
2. Significantly decreased levels of oxygen or flammable substances which cause fire fighting.
3. The presence of flammable materials that have not been ignited has the potential to cause a new flame.
4. Potential to cause backdraft (an explosion that occurs due to the sudden influx of oxygen supply from a confined space fire that is opened during a fire.

FIRE FIGHTING METHOD

Cooling down

1. Remove the element of heat
2. Using water-based media

Isolation

1. Cover the surface of the burning object to prevent oxygen element from igniting the flame
2. Use powder or foam media

Dilution

1. Blow inert gas to prevent oxygen element from igniting the fire
2. Using Carbon dioxide gas media

Separation

1. Separate combustible material from the element of flame
2. Move flammable materials away from the reach of fire

Termination

1. Breaking the chain of fire reaction by using certain materials to bind the free radicals that trigger the chain of fire reactions.
2. Using the basic ingredients halon (Halon use is now banned because it causes a greenhouse effect)


FIRE CLASSIFICATION and FIRE EXTINGUISHERS






 <h2>Fire Extinguishers</h2> <h3>Know The Difference</h3>						
Extinguishers Type	FIRE TYPE					Class D For fire involving combustible metals use special purpose extinguisher
	Class A wood, paper, plastic	Class B flammable & combustible liquids	Class C flammable gases	Class E Electrically Energised Equipment	Class F Cooking Oils and Fats	
 Water color code: 	✓	✗	✗	✗	✗	Dangerous if used on flammable liquid, energised electrical equipment and cooking oils/fat fires.
 Wet Chemical color code: 	✓	✗	✗	✗	✓	Dangerous if used on energised electrical equipment
 Foam color code: 	✓	✓	✗	✗	LIMITED	Dangerous if used on energised electrical equipment
 Powder color code: 	✓ (ABE) ✗ (BE)	✓ (ABE) ✓ (BE)	✓ (ABE) ✓ (BE)	✓ (ABE) ✓ (BE)	✗ (ABE) LIMITED (BE)	Look Carefully at the extinguisher to determine if it is a BE or ABE unit as the capability is different.
 Carbondioxide color code: 	LIMITED	LIMITED	LIMITED	✓	LIMITED	Not suitable for outdoor use
 Powder color code: 	✓	LIMITED	LIMITED	✓	✗	Check the characteristics of the specific extinguishing agent

LIMITED indicates that the extinguisher is not the agent of choice for the class of fire, but that it may have a limited extinguishing capability. Extinguishers such as water or carbon dioxide with water and foam/foam require special foam (water) but indicates the class or classes in which agent is most effective.

FIRE CLASSIFICATIONS
 LOOK FOR THE FOLLOWING SYMBOLS TO TELL YOU WHAT TYPES OF FIRES AN EXTINGUISHER IS MEANT TO PUT OUT:

LETTER SYMBOL	PICTURE SYMBOL	DESCRIPTION
A		USE ON WOOD, PAPER, TEXTILES AND RUBBISH
B		USE ON FLAMMABLE LIQUIDS
C		USE ON ELECTRICAL EQUIPMENT
D		USE ON COMBUSTIBLE METALS
K		USE ON COMBUSTIBLE COOKING MEDIA

Fire Classification 
Know How To Handle It

Classes Of Fires	Types Of Fires	Picture Symbol	Extinguisher
A	Wood, paper, cloth, trash and other ordinary materials.		Water Foam Spray ABC Powder Wet Chemical
B	Gasoline, oil, paint and other flammable liquids		Foam Spray ABC Powder Carbon Dioxide
C	May be used on fires involving live electrical equipment without danger to the operator		ABC Powder
D	Combustible metals and combustible metal alloys		ABC Powder Carbon Dioxide
K	Cooking media (Vegetable or Animal Oils and Fats)		Wet Chemical

DO YOU KNOW THE DIFFERENT TYPES OF FIRES?

CLASS	SYMBOL	PICTOGRAM	MATERIALS	EXAMPLES
A			Ordinary combustible materials	Wood, paper, cloth, rubber, and many plastics
B			Flammable liquids and gases	Gasoline, petroleum greases, oil, wax, oil-based paints, acetone, alcohol, propane, and butane
C			Energized electrical equipment	Computers, servers, monitors, handsets, and appliances
D			Combustible metals	Magnesium, titanium, aluminum, sodium, lithium, and potassium
K			Cooking oils and greases	Animal and vegetable fats

FOR ALL FIRES use the same, the ABCD K, items because they are designed to work on all the following fire classes and also for protection against wildland fire. For the best fire protection use the right fire extinguisher.

WWW.NFPA.ORG/113

FIRE EQUIPMENT MANUFACTURERS ASSOCIATION
 Fire Extinguishers, Fire Extinguishers

OBLIGATIONS OF ENTREPRENEURS (MANAGEMENT)

1. To write and install all required safety requirements in places that are easily seen and read according to the instructions of the supervisory staff or HSE expert in the workplace they lead.
2. To install all required safety pictures and all other coaching materials in places that are easily seen and read according to the instructions of the supervisory officer or HSE expert in the workplace they lead.
3. To provide PPE required for workers who are led or other people to enter the workplace accompanied by the instructions required according to the supervisory staff or HSE expert in the workplace they lead.

OBLIGATIONS OF WORKERS (LABOR)

1. To give correct information if asked by the supervisor /safety officer
2. To use PPE required
3. To meet and obey all HSE requirement
4. Requesting the management to carry out all HSE requirement
5. Stating work objection whenever HSE and PPE requirements to be doubted by the worker.

HSE Basic Requirements

1. To prevent and reduces work accidents
2. To prevent, reduce and extinguish fires
3. To prevent and reduces the danger of blasting
4. Providing emergency evacuation routes
5. To give first aid
6. Giving PPE to the workforce
7. Preventing and controlling the spread of temperature, humidity, dust, dirt, smole, steam, gas, radiation, noise and vibration.
8. To prevent and control occupational diseases and poisoning
9. To provide sufficient and appropriate lighting
10. To provide comfort temperature and humidity
11. To provide adequate ventilation
12. Maintaining cleanliness, health and order
13. To maintain workforce harmony, equipment, environment, working method and process
14. To secure and facilitatethe transportation of humans, animals, plants and goods.
15. To secure and maintain all type of building/properties
16. To secure and expedite loading, handling and storage of goods
17. To prevent of being exposed to dangerous electricity
18. Adjusting and perfecting job safety at higher risk