

# TEYSEER SERVICE CENTER

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**SAFETY and SYSTEMS  
MANAGER**





***IN RESPONSE TO KIND INVITATION FROM***





# **PRESENTS**

**THE ROLE OF HSE IN ENSURING SAFETY AND  
PROFESSIONAL QUALIFICATION SUCCESS  
(PROCEDURE FOR SAFE UNLOADING IN  
PETROL STATION)**



# What is the meaning of HSE ??

H : Health

S : Safety

E : Environment  
(Executive)

**HSE ensures that the business is to  
be conducted in such a way, so far as  
reasonably practicable that :**



nobody is exposed to risk to their  
health or safety **and** that  
environment or properties are not  
exposed to any damage





This can be achieved by HSE observations , inspections , investigations , in three words ( GOOD SAFETY POLICY )



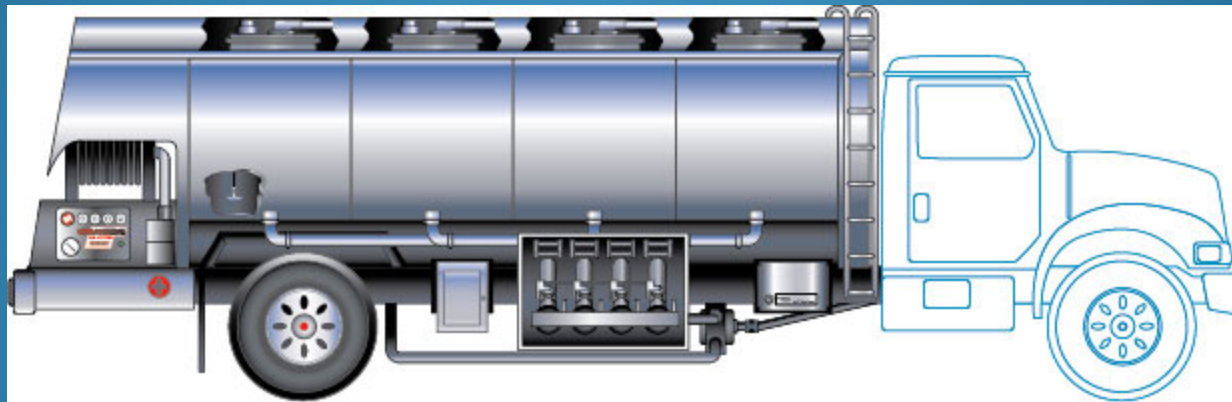
Then HSE have to take decisions , issue safety notices , forecast and issue advises to avoid situations which may lead to accidents and even prepare emergency plans to minimize accident consequences if any



Perfectly following instructions and trainings, added to staff professional skills will make professional qualifications high enough to lead to **SUCCESS**



- **SINCE WE ARE DEALING WITH DANGEROUS GOODS, CAN ALL HEAVY TRUCKS DRIVERS DELIVER SAFELY A PETROLEUM LOAD TO A PETROL STATION ?**





## THE ANSWER IS “ NO ”

NO Because a heavy truck driver should know so many more information which are even more important than driving it self due to nature and behavior of the carried load .



# AS SPECIFIC CASE WE ARE GOING TO CONCENTRATE ONLY ON :





**SAFE UNLOADING OF  
PETROLEUM PRODUCTS IN A  
PETROL STATION  
AND  
REQUIRED  
PRECAUTIONS DURING  
THE PROCESS**

# INTRODUCTION

A PROFESSIONAL PETROLEUM DRIVER HAVE TO PERFORM A POTENTIALLY HAZARDOUS AND IMPORTANT FUNCTION IN THE DISTRIBUTION OF PETROLEUM PRODUCTS.

SO IT IS CRITICAL THAT HIS TRAINING , QALIFICATIONS AND EXPERTISE ARE SPECIAL TO ENSURE THAT SAFETY IS NEVER COMPROMISED WITH RESPECT TO LIFE, PROPERTY AND ENVIRONMENT

# INTRODUCTION

Petroleum products are **hazardous**

Means : dangerous, unsafe, extremely  
risky ( if not handled properly )



# INTRODUCTION

HOW TO DEAL WITH THESE PRODUCTS SO  
THAT NO DAMAGE HAPPENS, WITH  
RESPECT TO LIFE , PROPERTY AND  
ENVIRONMENT.

IS CALLED SAFE HANDLING

# INTRODUCTION

WHAT ARE PETROLEUM PRODUCTS ??

# What are petroleum products ???

Petroleum products can be split in several categories

THEY ARE **CLASS 3** UNDER U.N RECOMMENDATIONS  
AND CLASSIFICATION OF DANGEROUS GOODS

Class 3 = (FLAMMABLE LIQUIDS)





# What are petroleum products ???

The most known and common ones are :

Gasoline :                      Petrol ( Super and Premium )



# What are petroleum products ???

The most known and common ones are :

Gasoline : Petrol ( Super and Premium )

Middle distillates: Diesel and kerosene

Aviation Products : Jet A , Jet A-1 ,Jet B .....

Heavy Fuel Oil : Mostly Lubricating oils



# HEALTH AND SAFETY

Petroleum products are **hazardous** since **very flammable** and it has been noticed that at least on the skin they can cause skin irritation and may in for long period contact cause skin disease .

So the question is

HOW TO DEAL WITH DIFFERENT SITUATIONS  
IF WE ARE EXPOSED TO SUCH PRODUCTS  
ESPECIALLY IN PETROL STATION ??

# HEALTH AND SAFETY

## Health precautions when handling petroleum products

**SKIN CONTACT** : In case of skin contact ,

wash thoroughly with soap and water



# HEALTH AND SAFETY

## Health precautions when handling petroleum products

**EYE CONTACT** : if product is sprayed on the face ,  
avoid rubbing the eyes ,flush eyes  
immediately with large quantities of  
water for at least 10 minutes.





# HEALTH AND SAFETY

## Health precautions when handling petroleum products

**PETROLEUM VAPOR EXPOSURE** : If someone is affected by petroleum vapors , this may cause dizziness and headaches and may lead to respiratory problems .

Rapidly provide them with fresh air  
but if they have difficulties in  
breathing , a sore throat or continuous  
cough seek urgently medical attention



# HEALTH AND SAFETY

## Health precautions when handling petroleum products

### PETROLEUM SPILLED ON CLOTHINGS :

Avoid all sources of ignition , Slowly remove clothing immediately , Take a bath if petroleum products touched skin , Store contaminated clothing wetted , in safe place and wash it as soon as possible

# HEALTH AND SAFETY

Health precautions in handling petroleum products

IF SWALLOWED

Do not induce vomiting , seek medical assistance at once .



# HEALTH AND SAFETY

Health precautions when handling petroleum products

**TO AVOID MOST OF THESE ACCIDENTS  
IT IS A MUST THAT WE USE OUR  
PERSONAL PROTECTIVE EQUIPMENT  
(PPE )**

# HEALTH AND SAFETY

PPE

PERSONAL PROTECTIVE  
EQUIPMENT

# HEALTH AND SAFETY

## PPE

### - SAFETY GLASSES



# HEALTH AND SAFETY

## PPE

- SAFETY GLASSES or FACE SHIELD (To avoid eye accident )





# HEALTH AND SAFETY

## PPE

- FUME RESISTANT CLOTHING (100% Cotton or cotton blended to avoid static electricity . Synthetic or nylon are not allowed ) (To protect our body )



# HEALTH AND SAFETY

## PPE

-FUEL RESISTANT GLOVES (To avoid skin contact ....)



# HEALTH AND SAFETY

## PPE

RESPIRATOR COMMONLY NAMED :MOUTH MASK



# HEALTH AND SAFETY

## PPE

### ANTISTATIC SAFETY SHOES / BOOT



# HEALTH AND SAFETY

## PPE

### REFLECTIVE VEST





# HEALTH AND SAFETY

## handling petroleum products safely

Petroleum products that we deliver to petrol stations are generally in liquid state but **always they evaporate** and give off **vapors** which when exposed to the air and a source of ignition **will burn**

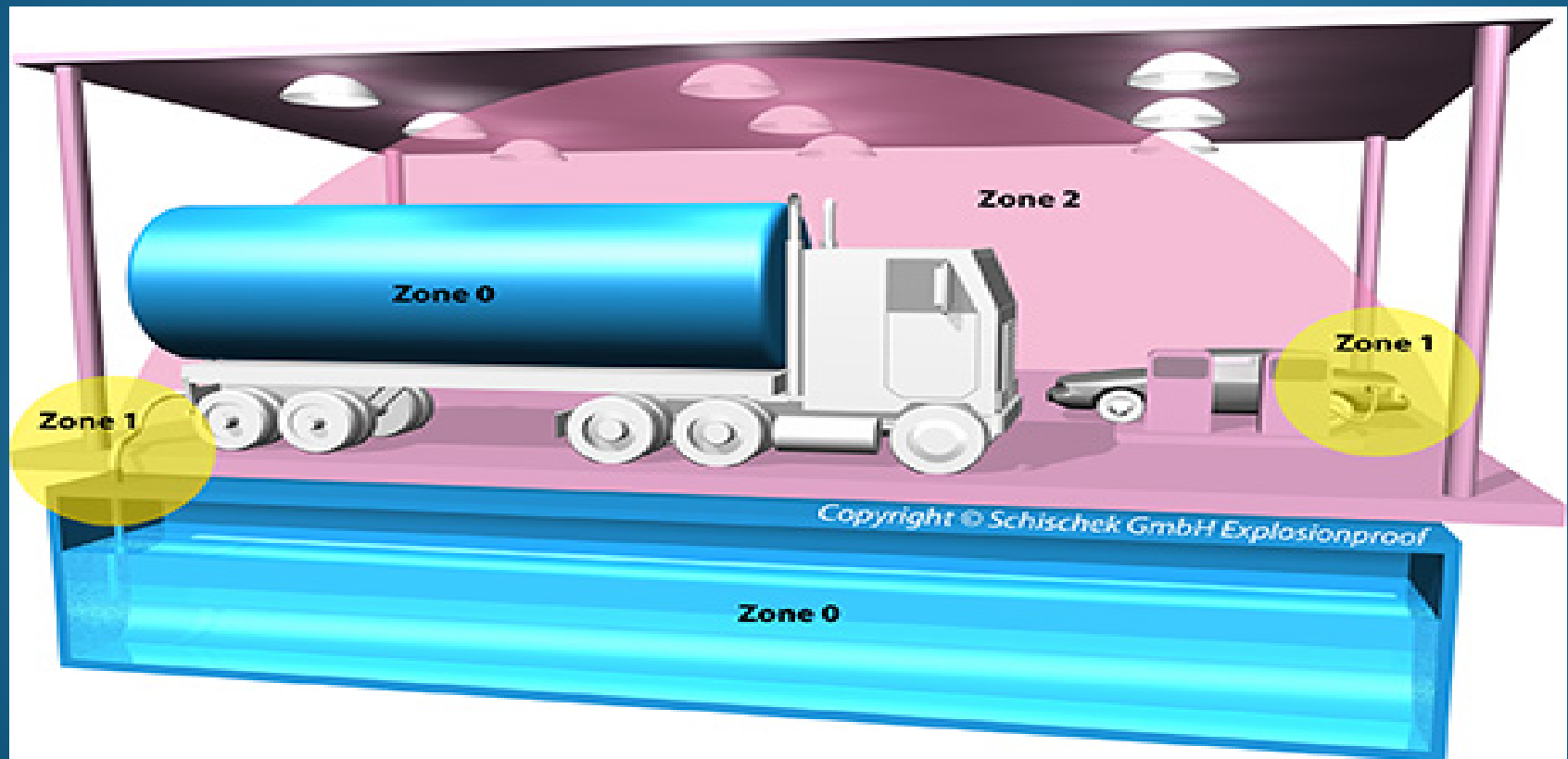
# HEALTH AND SAFETY

## handling petroleum products safely

These vapors can affect a large area around the source this area is known as “hazard zone” and may extend to at least 4.5 meters in all directions and up to one meter above the source. local conditions such as wind and temperature may extend that area

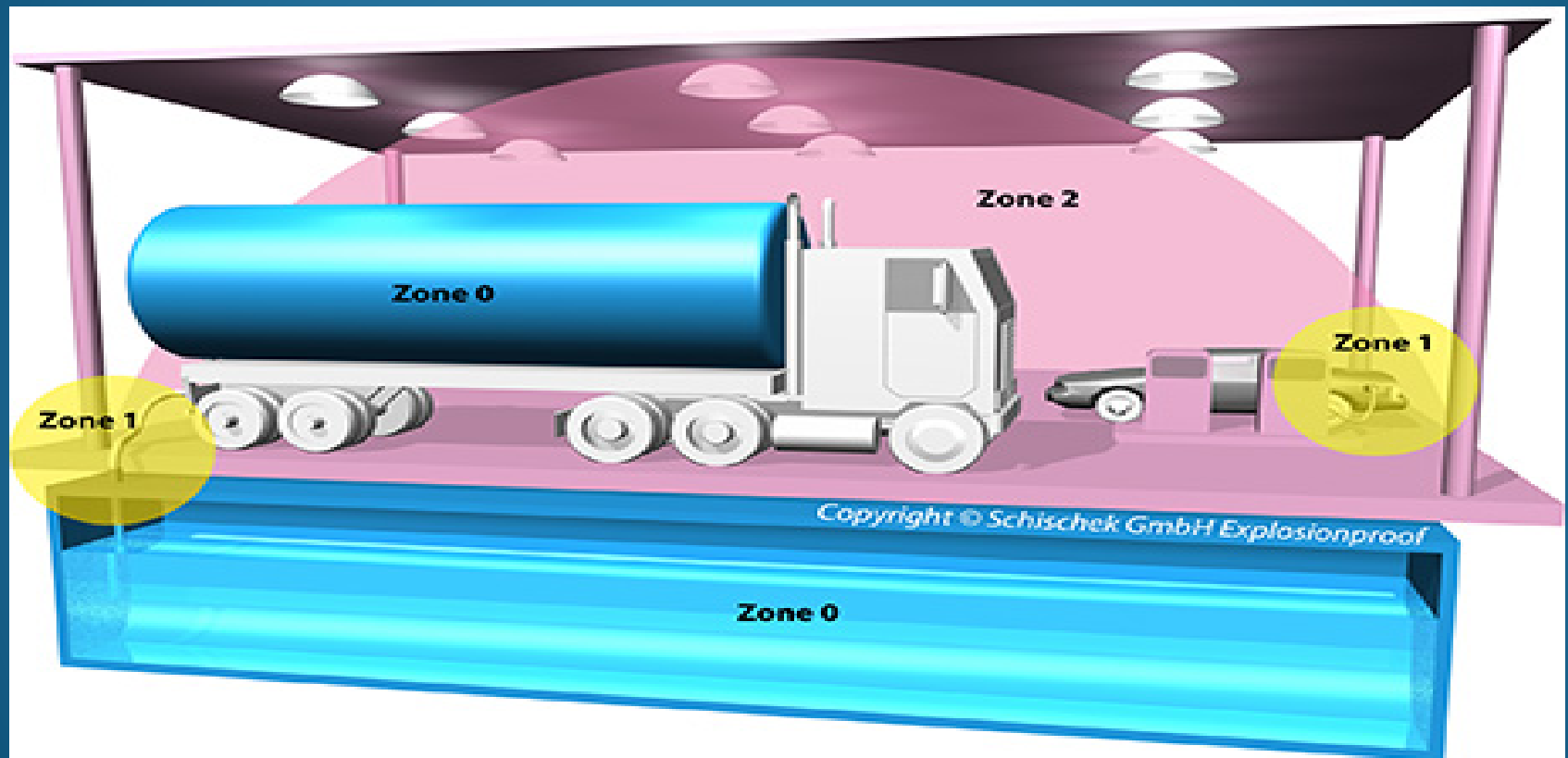
# HEALTH AND SAFETY

## ZONES CLASSIFICATION IN PETROL STATION



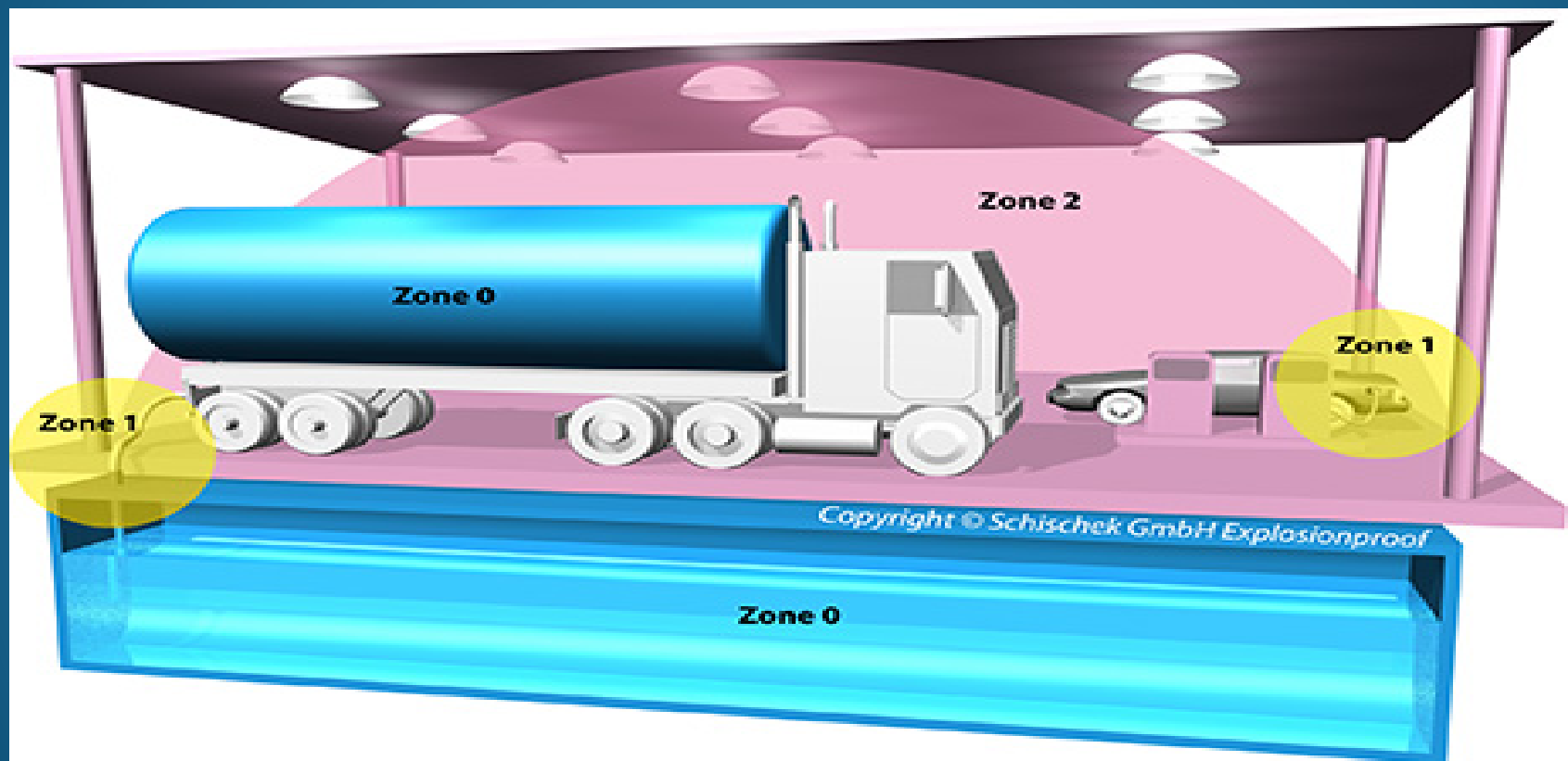
# HEALTH AND SAFETY **ZONE 0 :**

Area in which an explosive vapor/air mixture is continuously present or present for long periods



# HEALTH AND SAFETY ZONE 1 :

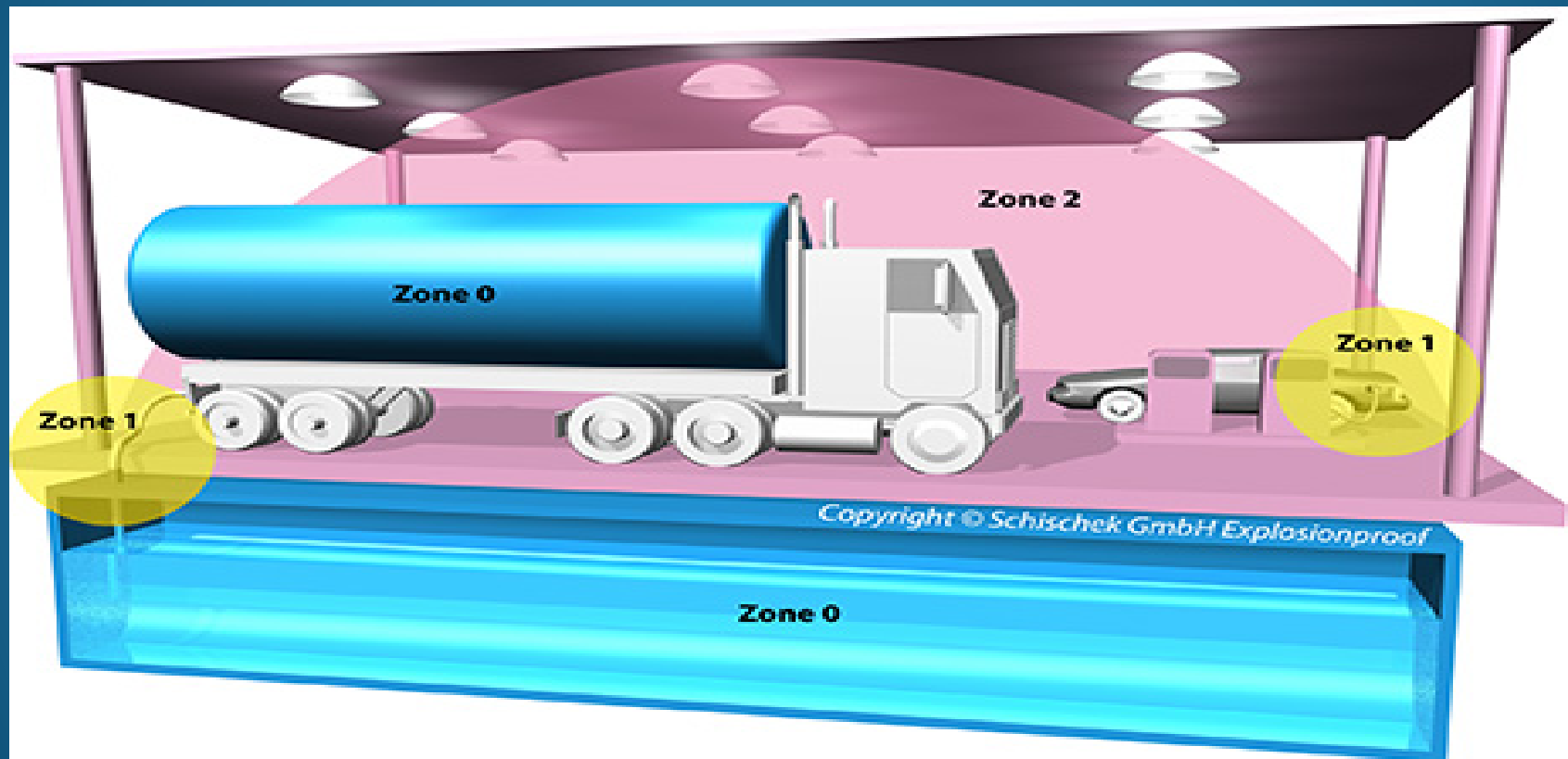
Area in which an explosive vapor/air mixture is likely to occur in normal operations.





# HEALTH AND SAFETY ZONE 2:

Area in which an explosive vapor /air mixture is not likely to occur in normal operation and if it occurs it will only exist for a short period



# HEALTH AND SAFETY

## handling petroleum products safely

Petroleum products are flammable, are having very low flash point. This means that the temperatures above which a vapor (generally colorless) is produced ( $-43^{\circ}\text{C}$  for petrol). This vapor is heavier than air and that is capable of being ignited by a flame, spark or even heat source.

# HEALTH AND SAFETY

## handling petroleum products safely

It is also important to mention that petrol vapor emission is always present in petrol stations and this is associated with the filling of vehicles.

**SO IN A PETROL STATION WE SHOULD  
BE ALWAYS VIGILANT**

# HEALTH AND SAFETY

## handling petroleum products safely

DUE TO PETROL HANDLING HAZARDS THE  
RESPONSIBILITY OF AVOIDING ANY ACCIDENT  
IS SHARED BETWEEN :

TANKER DRIVER AND PETROL STATION  
STAFF

THIS CAN BE ACHIEVED BY WORKING SAFELY

# HEALTH AND SAFETY

## Responsibility of the driver

The driver is responsible for the delivery of dangerous goods in a safe way. He is also responsible to cancel delivery if he notices that safety measures are not fulfilled. So he have to apply safety measures and instructions all time, even before and after delivery



# HEALTH AND SAFETY

## SAFETY MEASURES BEFORE DELIVERY

1) The driver have to be fit to deliver :

The key person in a delivery is the driver so it is a must that he is fit to do it safely:

Someone who didn't sleep properly , sick or taking some drugs which makes him sleepy ,reduce his attention ,reaction time. Have to inform his manager who may declare him unfit for delivery

# HEALTH AND SAFETY

## SAFETY MEASURES BEFORE DELIVERY

WE HAVE GIVEN ONLY ONE EXAMPLE BUT THERE ARE SO MANY OTHER SAFETY POINTS TO BE CONSIDERED BEFORE ARRIVAL TO PETROL STATION AND SINCE OUR SUBJECT IS LIMITED TO PETROL STATION THESE WILL NOT BE DISCUSSED NOW .

# HEALTH AND SAFETY

## Safety check list before entering petrol station

Does the driver knows the petrol station  
??

# HEALTH AND SAFETY

## Safety check list before entering petrol station

Is the site safe to enter ?

# HEALTH AND SAFETY

## Safety check list before entering petrol station

Can we exit the site safely, in the case of an emergency?



# HEALTH AND SAFETY

## Safety check list before entering petrol station

When reversing is required, can this be done safely?

# HEALTH AND SAFETY

## Safety check list before entering petrol station

Is the working area clean and free from any hazard such as previously spilled dangerous goods ?

# HEALTH AND SAFETY

## Safety check list before entering petrol station

Is the placement and use of protective barriers, safety cones or assistance in place



# HEALTH AND SAFETY

## Safety check list before entering petrol station

Can the work area be secured to limit exposure to any danger : ignition sources, pedestrians or vehicles ?

# HEALTH AND SAFETY

## Safety check list before entering petrol station

Did we locate the nearest Station  
EMERGENCY SHUT-OFF switch ?





# HEALTH AND SAFETY

## Safety measures before entering petrol station

IF THE ANSWER FOR ANY OF ABOVE  
QUESTIONS IS **NO**  
**WE SHOULD NOT ENTER THE PETROL  
STATION**



# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Did we park properly and made sure that  
our tanker area is well barricaded

Always safely ??

# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Did we turned off all unnecessary lights ,  
radio and other electrical equipment ??

# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Did we set brakes and shut off engine ??

# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Did we conduct a safety walk-around  
inspection ??

# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Did we put our PPE ??

# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Are all tanks and dip  
stick holes  
securely capped ??





# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Did the driver confirm and agreed with petrol station staff that it is the correct product that he is going to unload ?

# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Did we confirm and agreed with petrol station staff about the tank where we are going to unload the product ??



# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Are the tank and corresponding fill point  
clearly marked with capacity and correct  
product ID ?



# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Did we personally check and confirmed with petrol station in-charge that the tank can hold the whole quantity of petroleum product that we are going to unload ??



# HEALTH AND SAFETY

## Safety check list before starting unloading procedure

Can all hose connection points be visible during delivery of bulk product ? **Remark:**  
**We did not connect hoses yet**



# HEALTH AND SAFETY

## Safety check list before entering petrol station

Is fire fighting equipment , enough in  
number , easily accessible  
and in  
good condition ?



# HEALTH AND SAFETY

## Safety check list before entering petrol station

Is spill kit available , easily accessible and in good condition ?



# HEALTH AND SAFETY

## Safety check list before entering petrol station

Is a working telephone (or any other communication equipment) , easily accessible  
available to use in case off emergency ?

# HEALTH AND SAFETY

## Safety check list before entering petrol station

Is communication equipment away from  
(or especially made for) hazardous area  
(intrinsically safe IS )

# HEALTH AND SAFETY

Safety measures before starting  
unloading procedure

IF THE ANSWER FOR ANY OF ABOVE  
QUESTIONS IS **NO**  
**WE DO NOT PROCEED TO THE NEXT  
STEP.**

# HEALTH AND SAFETY

## Preparing unloading

Connect grounding wire to tanker

# HEALTH AND SAFETY

## Preparing unloading

Take out delivery hose

(Do not drag it on the ground to prevent spark)

Check hose connectors there should be gaskets on both sides



# HEALTH AND SAFETY

## Preparing unloading

Connect first at the filling point  
Make sure that internal safety valve :  
(BELLY VALVE) is closed  
Make sure that discharge valve is closed  
Open seal and connect hose to tanker

# HEALTH AND SAFETY

## Starting unloading

CAREFULLY Open discharge valve and  
always check for leaks



# HEALTH AND SAFETY

## unloading

Driver must always remain attentive to the unloading process within a safe distance from discharge valve

# HEALTH AND SAFETY

## unloading

No paper work should be filled out while unloading product

# HEALTH AND SAFETY

## unloading

TANKER MUST NEVER BE LEFT  
UNATTENDED WHILE ANY HOSE IS  
CONNECTED !

# HEALTH AND SAFETY

**Delivery completed**

Close delivery valve and carefully  
remove hose Tanker side



# HEALTH AND SAFETY

## Delivery completed

Verify that the compartments are empty by using a bucket or better by cupping the hose under discharge valve and slightly opening the valve

# HEALTH AND SAFETY

## Delivery completed

Close all safety and discharge valves verifying the valves that were open to unload products ,  
Remained in the open position throughout the delivery process (these valves can shut prematurely before compartment is empty )

# Delivery completed

Drain any residual product from hose to petrol station tanks

Replace all storage tanks , fill points caps

Return all hoses and fittings to unit without dragging them on ground

# Delivery completed

Complete paper work

# **Delivery completed**

DEPARTING FROM PETROL STATION

# RECOMMENDATIONS

SENSIBILISATION CAMPAIGNS ABOUT  
PETROL STATIONS SAFETY



# RECOMMENDATIONS

DUE TO DANGER OF DELIVERY TRUCK  
ON ROADS

CAN DELIVERY BE LIMITED TO CERTAIN  
CHOOSEN TIMES ???

# RECOMMENDATIONS

IT IS ADVISABLE THAT A HELPER  
IS RECRUTED FOR TAKING CARE OF  
DELIVERY TRUCK IF DRIVER IS  
MOMENTARELY ABSENT FOR ANY REASON

# RECOMMENDATIONS

CAN AN AWARD BE CREATED TO  
IMPROVE COMPETITION AMONG  
PRIVATE PETROL STATIONS IN THE  
FIELD OF SAFETY ????

# *THANKS*

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