

# Occupational health and safety in port of Röyttä, Tornio 2021





Learning time:  
20 minutes



Please enable  
your audio



Passing this course is a  
prerequisite for getting a  
pass

# Learning objectives



1

Get an overview of the port area of Røyttä



2

Identify specific hazard factors and know how to prepare for them



3

Know the specific safety requirements of the area



# Occupational health and safety at the port



Welcome to port of Røyttä!



Moving around in the area



Safety in the port area



Key quality and environmental guidelines



Summary and final test



# Welcome to the port of Røyttä

An aerial photograph of the port of Røyttä, showing a large industrial complex with numerous buildings and structures. The port is situated on a peninsula or island, surrounded by water. A large shipping lane is visible, and several wind turbines are scattered across the landscape. The sky is clear and blue.

Located in  
Tornio

Port operator  
Outokumpu  
Shipping Inc

Shipping lane  
is 9m deep and  
120m wide

RÖYTTÄN  
SATAMA

PORT OF TORNIO

## Port of Røyttä overview

151 ha  
20 ha  
500 vessels  
3M tons





# Businesses in the area



↓ LHOIST,  
lime terminal

↓ SMA,  
lime works

↓ Port office

↓ Outokumpu's Tornio factories are located  
about 1.5km from the port

↓ Manga Terminal Oy,  
natural gas terminal



# Specific requirements for the port



IMO  
general declarations



Provisions of the SOLAS  
Convention and the ISPS  
Code



A separate permit is  
always required for  
moving around the port



Port manual



Working alone is not  
allowed in the quay area  
less than 5 metres from  
the edge of the quay



# Occupational health and safety at the port



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# Moving in the port area



Personal access pass at check-in and check-out

No outsiders without permission



# Moving around in the port area



With access pass  
P19



Incoming traffic for vehicles  
P16



# Access pass



## Conditions

- Agreement between the subscriber and the supplier
- The safety of Tornio plants and environmental training
- Port safety training
- Access pass application



## Personal Access pass

- Outokumpu's main gate or by freight terminal.



## Driving pass

- Based on an application made by Outokumpu's responsible person



# RÖYTTÄN SATAMA

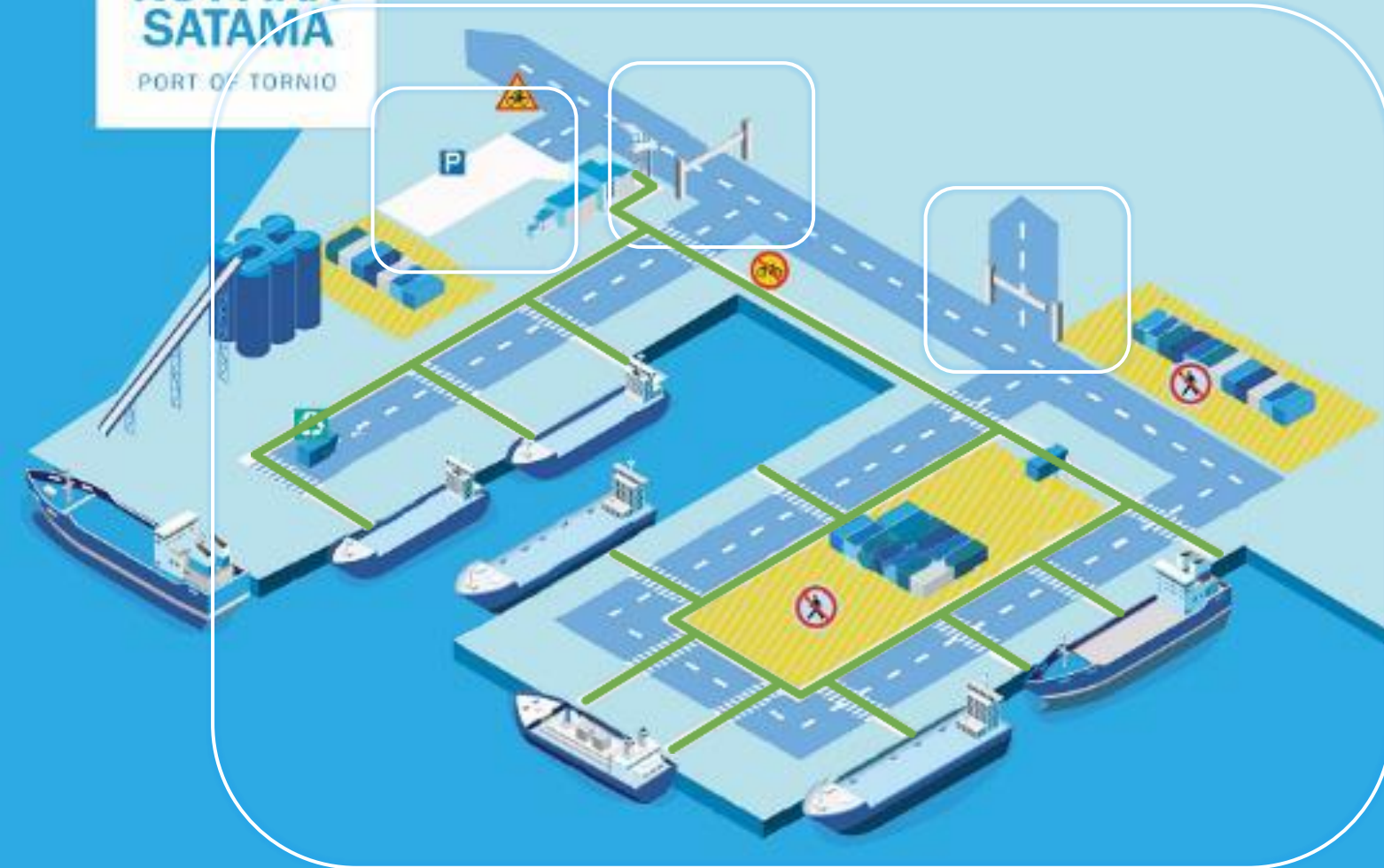
PORT OF TORNIO

## Traffic rules

Headlights, alarm signals  
and seat belts are used in  
work machinery at the port.

30  
km/h

5  
km/h





# Occupational health and safety at the port



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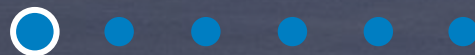
Summary and final test



# Port hazards



Noise

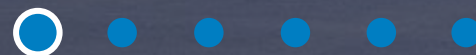




# Port hazards



Dust

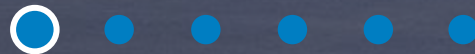




# Port hazards



Traffic

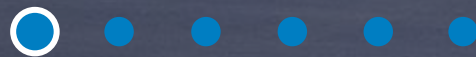




# Port hazards



Slipperiness





# Port hazards



Gases and chemicals





# Hazardous gases and chemicals are stored in or in the immediate vicinity of the port of Røyttä



Argon gas,  
IMO storage fields



Hydrochloric acid ,  
IMO storage fields



Liquefied natural  
(LNG) gas terminal

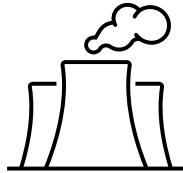




# Argon



## Common characteristics



**Colourless and odourless gas.**

Argon is not toxic, but high concentrations can displace oxygen from breathing air. In most serious cases, immediate suffocation can occur. Even two inhalations of oxygen-free air, such as pure argon, will cause suffocation.

Symptoms of slightly reduced oxygen levels include dizziness and nausea.



**Warning!**

**H281** Contains chilles gas; may cause frostbite.

**P282** Wear cold isolating protective gloves, a face mask and eye protection.

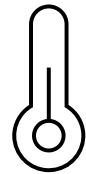




# Argon



## Safe handling



Argon is delivered in tank containers liquefied, so it is very cold (about  $-170\text{ }^{\circ}\text{C}$ ). Only experienced and properly trained persons should handle gases under pressure.



Eating, drinking and smoking are not allowed when handling the product.



Safety data sheets and chemical cards contain more information on safe argon handling.





# Argon



## First aid instructions



### Respiration

At high concentrations argon can cause suffocation. Symptoms may include loss of mobility or consciousness. Suffocation can occur without prior warning. Use a compressed air unit and move the victim into fresh air. Keep the victim warm and at rest. Call a doctor and give CPR if their breathing has stopped.



### Skin

Contact with volatile liquid may cause frostbite or skin freezing. If the clothes are saturated with the solution and attached to the skin, the area is melted with lukewarm water before removing the clothes. Not relevant because of the form of the product.



### Splashes in the eyes

Rise your eyes immediately with water. Remove contact lenses if it can be done easily. Keep rinsing. Rinse thoroughly with water for at least 15 minutes. Seek immediate medical attention. If medical advice is not immediately available, rinsing should be continued for 15 more minutes.





# Argon



## Fire prevention and measures in case of accidental release



### In the event of fire

- Move the argon containers away from the heating risk area.
- Evacuate the area.
- Use a compressed air unit and a portable oxygen concentration meter when entering the area.
- Close the leak if it can be done safely. Continue spraying with water from a protected place until the tank has cooled down.



During transport or storage, safety valves in tank containers may emit a little stream. These emissions are related to the operation of the container safety systems, and as the internal pressure of the container increases, the safety valves open and close again when the pressure returns to the limit value.



The pressure leveling normally lasts no more than a few minutes and the leakage rate is small in such cases. Movement near the container (25 m) should be avoided until the gas cloud gas evaporated. Leakage poses a risk of suffocation and frostification.

If the leakage continues or occurs several times, contact the transport company for possibly emptying the container. The container is lifted to a safe place and the surroundings of the container are isolated so as not to endanger passers-by.





# Hydrofluoric acid (HF)



## Common characteristics



Hydrofluoric acid is a colourless, smoking liquid, with a pungent smell.

**Very toxic** when inhaled, on the skin and ingested. Strongly corrosive to the skin and damaging to the eyes.



### Danger!

H290 Can corrode metals.

H300 Deadly when ingested.

H310 Deadly when in contact with skin.

H314 Strongly corrosive to the skin and damaging to the eyes.

H330 Lethal when inhaled.





# Hydrofluoric acid (HF)



## Common characteristics



### In the event of an accident

- Warn other people in the area.
- Call factory alarm number 016-45 2300.
- Isolate or evacuate the area if it does not endanger your own safety.



### In case of fire

During a fire, the tank may tear or explode. If possible, effort should be made to block the leakage. Water mist and foam are used to control and slow down vaporization. After the fire, cool the container for a sufficient period of time.

In the event of a leakage, fire extinguishing and rescue personnel must use appropriate protective equipment: a gas-tight chemical protective suit and compressed air equipment.

The leaking container is moved to a safe place or, as an extreme safety measure, dropped into the sea.



**Safety data sheet and chemical card** contain more information on safe hydrofluoric acid treatment and operating instructions.





# Hydrofluoric acid (HF)



## First aid



Persons giving first aid must take care of their own protection!

### Touch with skin

- **Take off** wet clothing immediately and rinse the exposed area with plenty of running water.
- **Spread** plenty of calcium gluconate gel (found in first aid closets) in and around skin injury, rubbing the area with fingers.
- **Protect** fingers e.g. with a sleeve. The gel can be applied on the lips and mucous membranes of the mouth, but not to the eyes.
- **Give** 6 chewable calcium tablets.



### Splashes in the eyes

- **Rise** immediately with plenty of water for at least 15 minutes.



### Respiration

- **Move** the patient into fresh air, give oxygen or resuscitate if necessary.
- **Give** 6 chewable calcium tablets for the conscious.



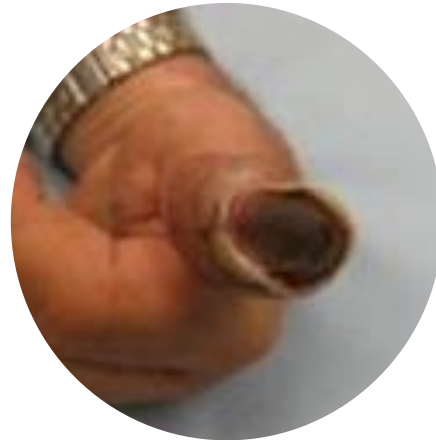
# Hydrofluoric acid (HF)



## First aid



1<sup>st</sup> day



3<sup>rd</sup> day



3<sup>rd</sup> month

The person must **always** be sent to get a medical examination, as symptoms might only appear hours later!

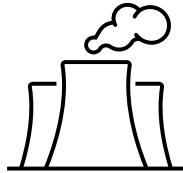




# Natural gas (LPG, Liquid Natural Gas)



## Common characteristics



Natural gas is lighter than air and rises upwards in the event of a leak.

The auto-ignition temperature of natural gas is 650 °C.



**Danger!**

**H220** Very flammable gas.

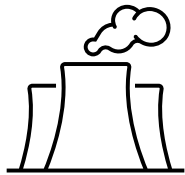
**H280** Contains gas under pressure, may explode when heated.



# Natural gas (LPG, Liquid Natural Gas)

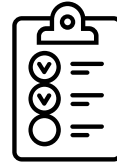


## Safe handling



Forms a flammable and explosive gas-air mixture with air if the methane content in the air is approximately 5–15 %.

Natural gas is scented to detect leakage situations.



In the event of a gas leakage, act in accordance with the general gas hazards.

- Move away from the gas cloud's affected area.
- Close the shut-off valves if possible.
- Save those in immediate danger, if possible.
- Do not enter the gas hazard area without a compressed air breathing device.



**Safety data sheet and chemical card** contain more information on safe natural gas treatment and operating instructions.





# Preparing for port hazards



General authorisations  
and provisions



Use of personal  
protective equipment



Moving in the port area

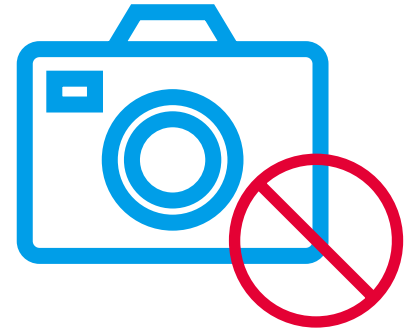
# General authorisations and regulations



Obligatory  
work permit



Intoxications  
forbidden



Filming  
subject to authorisation



# Preparing for port hazards



General authorisations  
and provisions



Use of personal  
protective equipment



Moving in the port area

# Use of personal protective equipment

Goggles or a protective helmet visor



Safety helmet with jaw strap attached



Hearing protectors



Protective protective outfits



Safety shoes



Protective gloves





# Preparing for port hazards



General authorisations  
and provisions



Use of personal  
protective equipment



Moving in the port area

# Safe movement in the port area





# Preparing for port hazards



General authorisations  
and provisions

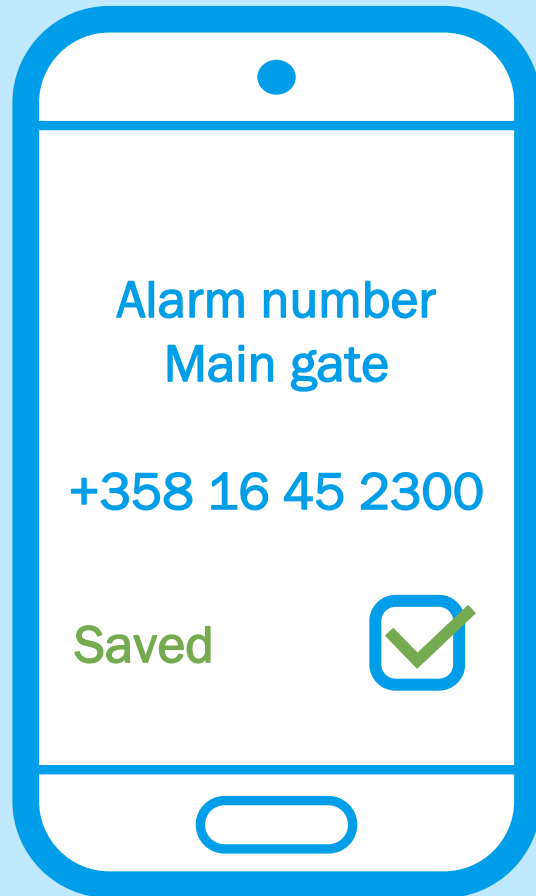


Use of personal  
protective equipment



Moving in the port area

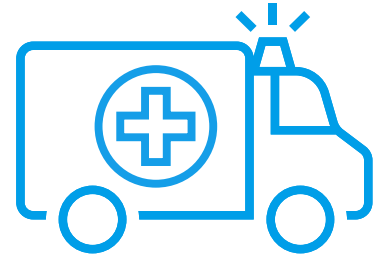
# Factory area alarm number



In resuscitation situations, call also to the emergency number 112



# Responding in emergencies



## Tell...

- Name, department and area, nearest berth
- What has happened?
- Are there any injuries?
- What kind of help is needed?
- The exact site of the accident
- Guidance to the site
- **Hang up only after getting permission**

After receiving the alert, the main gate alerts the **plant's first aid and firefighting teams** to the scene

The main gate also alerts and directs external rescue vehicles to the scene

# Occupational health and safety at the port



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Safety in the port  
area



Key quality and  
environmental  
guidelines



Summary and  
final test



# Quality guidelines

Outokumpu Stainless Oy

Overall responsibility

Employers

Responsibility of employees

Responsible party

Responsibility of actions

Every employee

About yourself, your actions and consequences

Every employee

Duty to point out shortcomings and defects

# Environmental damage

- 1 The most significant environmental risk is oil spills
- 2 Caused by ships or large machinery
- 3 The most important thing in the event of a leak is to prevent spreading
- 4 In the event of an oil spill, oilproofing brooms are used in the water
- 5 The control and oil extraction work is carried out in cooperation with the fire extinguishing teams and rescue services of the Tornio plants
- 6 Onshore, absorption peat and gravel is used to dam
- 7 Report oil spill immediately to the Regional Control Centre, port management and port manager.





# Waste management

## Prohibited



- Draining ship flume water into the port basin
- Draining unclean ballast water into the port basin

## Provisions



According to the current provisions, a ship entering a port on Finland's territory must, before leaving, leave all waste and cargo waste from the ship at the waste reception points in the port. According to MARPOL and the 1992 Helsinki Agreement, waste may not be discharged into the Baltic Sea.

## Waste fee: included services



- Engine room waste oils
- Lavatory waste
- Obsolete medicines
- Pyrotechnic equipment
- Non-EU biowaste
- Inquiries about ship clearance

## Paid services



- Suction car fir cargo hold flume water
- High performance vacuum cleaner for dry cargo waste
- Exhaust gas cleaning waste (sulphur scrubber)
- Offers and service orders for ship clearance

# Sorting instructions



## Biowaste

Brown Color

- Food
- Coffee filters and grounds
- Handpapers and napkins
- Egg cartons
- Plants and plant soil
- Wooden cutlery and tooth picks
- Other biodegradable waste
- **Don't put:** Plastic bags and packaging, metal packaging, foil, liquid waste, cigarette butts, vacuum cleaner dust bags, ice

## Paper

Light Blue Color

- Newspapers, magazines, advertising mail and envelopes (including windowed)
- Phone books, books with covers removed
- Copy and office paper and printouts
- **Don't put:** wet or dirty paper and disposable containers, aluminium or plastic coated paper or paperboard, gift paper or plastics



# Sorting instructions



## Combustible waste

Yellow Color

- Plastic (non-PVC)
- Styrofoam
- Dirty paper, cardboard and paperboard
- Wooden packages
- Hand towels
- Textiles and clothing
- **Don't put:** Biowaste, pressure-cooked wood, metal, glass, ceramics, stones, sand, soil, hazardous waste, diapers, sanitary napkins, patches, cigarette butts or ash

## Cardboard

Green Color

- Cardboard boxes, brown paperboard, power paper, corrugated board
- Cardboard cans
- Jars with a plastic nozzle
- Cereal and biscuit packets and bags of sugar and flour
- **Don't put:** wet or dirty cardboard, styrofoam, plastics

# Sorting instructions



## Glass

Lighter Blue Color

- Empty glass bottles
- Empty glass jars
- **Don't put:** crystal, porcelain, ceramics, window glass, car windscreen, light bulbs, bottle caps or lids, glass ceramics, mirrored glass

## Metals

Blue Color

- Aluminium and metal waste
- Metal cans and jars
- Metal objects
- Cables
- Empty paint jars
- Metal furniture
- **Don't put:** hazardous waste, electronic waste, electrical equipment, mixed waste, paint containers, air conditioning pipes



# Sorting instructions



## Mixed waste

Gray Color

- Unsorted mixed waste
- **Don't put:** biowaste, hazardous waste, electrical scrap, recyclable waste (paper, cardboard, glass, energy waste), car tyres

## Hazardous waste

Red Color

- Lubrication oil
- Oil-water mixtures
- Solvent waste
- Solid and pastelike oily waste
- Paints, ink, caps, vernes, glues and waxes
- Coolants
- Clutch and brake fluids
- Acids
- Bases
- Scrap batteries
- Battery waste
- Mercury discharge lamps and fluorescent tubes
- Aerosol bottles
- All aforementioned problem wastes in their own sorting containers



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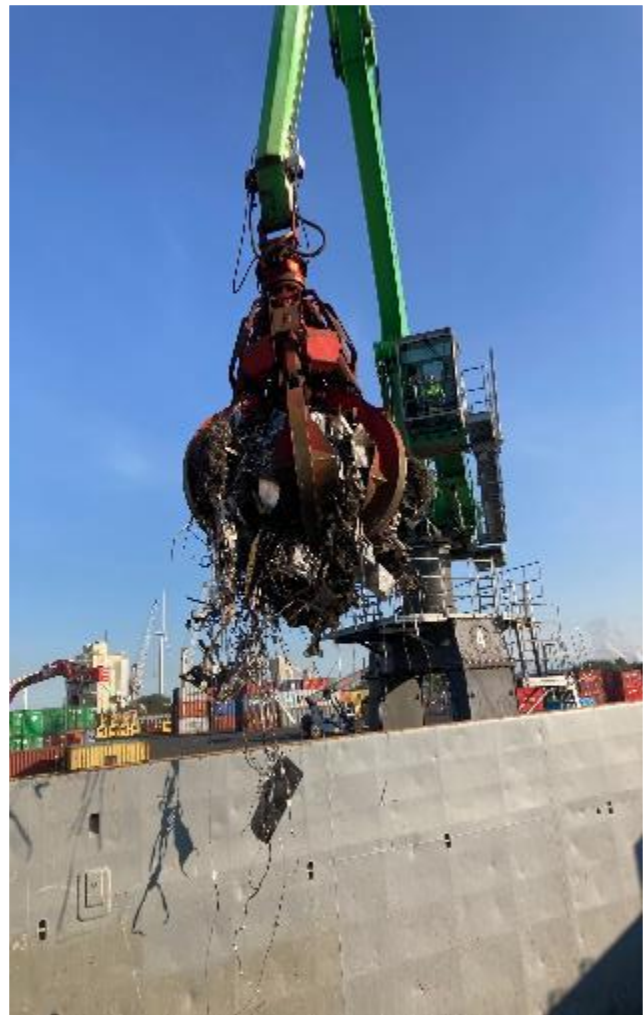
Key quality and  
environmental  
guidelines



Summary and  
final test



# Summary



1

Do the job safely every day

2

Comply with all safety regulations and safe working practices

3

Use protective equipment for machinery and personnel

4

Your behaviour is important

5

Always intervene in hazardous situations

6

Report incidents

7

Keep your safety expertise up to date



# Final test

Next, you will see 5 questions, each with one correct answer.  
**You need to answer all questions right to pass the course.**

If you answer incorrectly, you'll have to try again until you succeed.

Good luck!

[Start](#)