



# KYMPE

Kymenlaakso Rescue Department

## SAFETY INFORMATION BULLETIN IN THE EVENT OF A MAJOR ACCIDENT

for the residents of the Kotka region

This safety bulletin required by the EU's Seveso Directive describes:

- What kinds of leak and emission hazards exist in our region
- Whether your home or workplace is located in an area with the potential risk of an accident
- How the residents are alerted in different situations
- How to act in the case of a major accident
- When and where you can get information

Safety information bulletin is also available online

[www.kympe.fi](http://www.kympe.fi)

Read the bulletin  
frequently  
and store it in a place  
where it will be  
easy to find!



## A SAFE KYMENLAAKSO THROUGH CO-OPERATION

The inhabitants of our region must have the appropriate information about the chemical operation practitioners within the area.

This bulletin has been composed with the co-operation of said practitioners and the Kymenlaakso Rescue Department.

The content of the bulletin is conducted by the act on the safety of handling dangerous chemicals and explosives, the Government decree of the handling of dangerous chemicals and the supervision of their storage, the rescue act and the decree on external emergency plans by the Ministry of the Interior. Chemical railway yards are also led by a government decree on the transport of dangerous goods by rail.

The Finnish Safety and Chemicals Agency (Tukes) alongside other authorities regulate the activities of businesses. In addition, companies themselves continuously assess their environmental, health and safety risks. Chemical railway yards are supervised by the Finnish Transport and Communications Agency (Traficom).

**We encourage you to familiarize yourself with the content of the Safety Information Bulletin just in case of an emergency. Check whether your home or workplace is located near an area of potential impact of accidents. Learn the procedures for emergency cases.**

The businesses of our region have identified the risks of major accidents related to the stored and used chemicals and are doing their best to ensure the prevention of accidents and to limit their consequences. Technical procedures, and the careful use of the equipment, aim to ensure that the result of the operations pose no serious risk to the people or the environment. The key components are the high expertise of the personnel, effective monitoring, and the continuous maintenance of the equipment. The companies organize regular training in issues regarding safety.

Accidents cannot be fully ruled out. Natural phenomena can cause even surprising accidents and consequences. The same goes for equipment failures or human actions. It is our shared goal to make sure that in the event of an accident or danger, people can act as wisely as possible to avoid, or minimize, the damage.



Photo: Kotka city

## WHO IS RESPONSIBLE FOR THE EMERGENCY SERVICES?

The Kymenlaakso rescue department (KYMPE) are the ones in charge of the emergency services in Kymenlaakso.

The Kymenlaakso rescue department

- Takes care of the tasks concerning the emergency services
- Takes care of the supervisory jobs concerning the emergency services
- Provides guidance, advice, and safety communication pertaining to the emergency services
- Takes care the population is warned in the event of danger and accidents, as well as the necessary alarm system

Businesses posing a risk of major accidents are to compose and submit a safety report to the supervising authority to be assessed. This safety report describes the measures taken by the facility to prevent these major accidents. The preparation also includes an external rescue plan prepared by the rescue department based on the safety report, and the information in the internal rescue plan made by the facility.

The safety reports are available in the offices of the companies marked with a red square ■ in this bulletin. The companies' offices also provide information on the date of the last inspection of the facility, as well as information about the inspection and the inspection program concerning the facility.

The Kymenlaakso rescue department has composed external rescue plans and keep them up to date. An external rescue plan is a plan devised by the rescue department to ward off major accidents and minimize damages.

The rescue department organizes major accident rehearsals every three years in cooperation with businesses and other parties that take part in the emergency services.

The external rescue plans of this region are available for the residents at the permanent fire stations, in Kotka Takojantie 4, 48220 Kotka

**The instructions  
in the case of a major accident  
are on the back page!**

You can never fully rule out the possibility of serious accidents. Therefore it is important to prepare for them with care.



Juhani Carlson



Further information during office hours:

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## COMPANIES AND THEIR OPERATIONS

### IN THE PORT, RAILWAY AND INDUSTRIAL AREAS OF KOTKA

The following pages introduce the operations of those companies that handle chemicals or gasses that are classified as dangerous, as well as company-specific situations where the risk of an accident can arise in the port, railway and industrial areas of Kotka.

Liquid raw materials are brought into warehouse storages by railway wagons, ships or by road transport. The chemicals are stored in tanks built for them, which are placed in protective basins or protective bulwarks. The finished products are taken from the warehouses by ships, railroad or by road transport.

The guidelines for emergency services (TOKEVA) define the accident situations caused by dangerous substances, as well as **the limits within which the area must be isolated, and the limits within which the public must be warned.** These limits are also visible on the map on the pages 10 - 11.



**ISOLATION LIMIT** = Within which a 30-minute stay outside without a respiration filter can cause permanent or severe health impacts or symptoms that make leaving the area difficult.



**WARNING LIMIT** = Within which a 30-minute stay outdoors without a respiration filter can cause temporary health hazards. The symptoms possibly caused by the gas, however, do not complicate leaving the area.

**A fire** is possible everywhere and the combustion gases formed in a fire are always toxic. The size of the area to be isolated below the wind could be hundreds of metres, even kilometres.

**A natural gas pipeline** runs all throughout Kymenlaakso. In the case of a natural gas leakage, the risk of ignition is in the immediate vicinity of the leak. If such a leak causes a fire the impact of the accident can extend as much as hundreds of metres, depending on the diameter of the pipe. Outside factory areas the natural gas pipelines are clearly marked.

**Environmental impacts** occur alongside material and personal hazards in just about all accident situations. However, those are not listed in detail in this summary. Information on the environmental impacts caused by different chemicals can be found in the OVA guidelines at: [www.ttl.fi/ova](http://www.ttl.fi/ova)

- The red squares in this bulletin indicate the companies whose activities may cause a particular risk of major accidents and from which the Finnish decree of the industrial handling and storage of dangerous chemicals, drawn up in accordance with the EU directive, requires a safety report. These companies have delivered the required safety report and chemical listing to the supervising authority. These are available to be seen by the public in the offices of said companies. Other companies do not have this obligation.

Identify  
chemicals  
and gases  
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## INDUSTRIAL OPERATORS



Norskankatu 6, Kotkansaari

The Kotkamills mills (Kotkamills Oy, Kotkamills Absorbex Oy and Kotkamills Wood Oy) produce paper, board and sawn timber.

The Absorbex and board product lines handle and store hazardous chemicals. Kotkamills Oy is an operating document company and Kotkamills Absorbex Oy is a so-called authorized facility.

Dangerous chemicals used and generated in the factory's production include e.g. sulfur dioxide, lyes, turpentine and methanol.

At the power plant and elsewhere, natural gas is used as fuel in the processes. In addition, chlorine is processed at the company's water intake at the Langinkoski pumping station.

### Potential hazards:

Of the chemicals handled on the factory site, sulfur dioxide can pose a major-accident risk. Sulfur dioxide is a colourless, invisible, pungent-smelling, heavier-than-air, toxic and corrosive gas that does not burn or explode.

Sulfur dioxide is present in transport and storage tanks as a pressurized liquid that evaporates at atmospheric pressure.

Sulfur dioxide released in the event of a possible equipment failure can be a danger to the surrounding area. At the factory, however, the spread of the gas cloud is effectively limited by the dense hall building in which the storage tank is located and where the discharge of sulfur dioxide from the tankers takes place.

The warning limit for sulfur dioxide and chlorine is 2000 metres and the insulation limit 1000 metres.

Additional information on the Policy Document and the Inventory of Chemicals:  
Security Manager Eeva-Kaisa Hietala, tel. +358 5 210 1833



Norskankatu 6, Kotkansaari

Dongwha Finland Oy's impregnation plant is located inside Kotkamills Oy's factory area and the paper is processed there by impregnating the paper with phenol-formaldehyde resin.

Impregnated products are used in the manufacture of laminates and in the coating of plywood boards.

The most dangerous chemicals used in the area: phenol formaldehyde resins, methanol, natural gas.

### Potential hazards:

A large fire caused by hazardous chemicals, methanol or phenol-formaldehyde resins.

The risk of accidents outside the factory area can be caused by flue gases that may be released into the environment in the event of a fire caused by hazardous chemicals, methanol or phenol-formaldehyde resins.

Insulation and warning limit 600 meters.

Additional information on the safety report and chemical inventory:  
Occupational Safety and Health Manager Jari Jormakka  
tel. +358 40 562 8679



**storaenso** Sunila's mill, Pyötisensaari  
Sunilantie 1, Kotka

Stora Enso Oyj Sunila's mill produces bleached softwood pulp, as by-products turpentine and tall oil, and bioproced lignin separated from black liquor. The plant also has port operations in the area.

Chemicals are stored and handled on site. The most significant hazard is chlorine dioxide, which is produced on site and stored and used as an aqueous solution. In addition, soda liquor, oxygen, sodium chlorate, hydrogen peroxide and sulfuric acid are stored and used on the plant site, and natural gas is used. Chemicals are transported to the factory in tank trucks

## WAREHOUSING

### Nurminen Logistics ►►►

Mussalon kemikaalivarasto, Siikasaarentie 78

Nurminen Logistics Services Oy stores flammable, toxic, oxidizing, corrosive, irritating and harmful chemicals for commercial and industrial use. These include, for example, 99% liquefied ammonia, sulfuric acid, nitric acid, hydrogen peroxide, formalin and biocide.

The products are stored in small packages such as containers, sacks, IBCs and cartons. The products are brought into storage by road and sea containers and exported by road or rail.

The warehouse does not manufacture or process chemicals nor make small packages.



Mussalo terminal

The Stanoil Oy terminal has a permit for handling and storing various chemicals. The terminal specializes in the storage and handling of methanol.



#### Potential hazards:

The risk of leakage outside the factory area can only be caused by toxic chlorine dioxide. The most serious danger is the rupture of the chlorine dioxide transfer pipe running on the bridge, which may release an aqueous solution of chlorine dioxide into the factory area. Chlorine dioxide, which evaporates from the released solution, forms a cloud whose rate of development strongly depends on the outside air temperature. Cloud spread and dilution are substantially affected by prevailing weather conditions. With strongly windy air, the risk posed by a gas cloud is lower than with calm air.

In the event of a serious accident, the spill site must be insulated 50 meters in all directions and 300 meters below the wind. Symptoms of irritation may occur within a few kilometers. The official warning limit for chlorine dioxide is 1000 meters.

Additional information on the safety report and chemical inventory:  
Security Manager Timo Kärkkäinen, tel. +358 40 186 7424



#### Potential hazards:

Accidents or fires can release significant emissions into the environment.

In the event of a fire, the warning limit may be 700 meters under favorable conditions and the harmful concentration value of sodium hypochlorite or ammonia (htp 15 min) in leakage situations from 750 to 850 meters.

Additional information on the safety report and chemical inventory: Terminal Manager  
Timo Hyryläinen, tel. +358 10 545 5130



#### Potential hazards:

An explosion of an empty or nearly empty methanol storage tank would also cause serious damage to neighboring businesses.

The leak at the landing site and the pool pond fire could extend to the wagons on the harbor tracks. The harmful concentration value (htp 15 min.) formed by a large methanol pond can reach 600 meters under favorable conditions.

Additional information on the safety report and chemical inventory:  
Terminal Manager Kristian Liikkanen, tel. +358 40 756 1710  
Nikita Ushakov, President and CEO, tel. +358 44 559 9518



Mussalo terminals, Kuusisaarentie 679

Oiltanking Finland Oy handles and stores hazardous chemicals, such as acrylates, alkylates, alcohols, monomers, xylenes, ketones, olefins, paraffins and fuels, at its terminals located in the liquid port area.



#### Potential hazards:

Large-scale leaks and fires can have an impact on neighboring business areas. In such situations, significant amounts of gaseous emissions classified as harmful or toxic may occur.

The size of the warning limit varies from 25 m to 500 m depending on the substance to be treated and/or stored.

For additional information on the safety report and chemical inventory:

Terminal Manager Merja Porkka tel. +358 50 385 2363

## LOGISTICS



Hietanen and Mussalo terminals,  
(Kirkkokatu 1, home office)

Steveco Oy handles groupage transports of dangerous goods, those being containers, tank containers and trailers.



#### Potential hazards:

A container or tank container may be involved in a port fire, fall during its loading or unloading of a ship, or a machine moving a container may be involved in a traffic accident in the port area.

The size of the warning limit varies according to the substance to be treated: for example, the radius of the area to be insulated in a fire container fire is 800 meters.

Additional information:

Security Manager Arto Kauppila tel. +358 44 232 3723



Mussalo terminal

Tanking Terminal Kotka Oy unloads, stores and loads methanol.



#### Potential hazards:

Possible methanol leakage during the dismantling of tank wagons, ship loading or other terminal operations can pose an accident hazard. Fire can cause serious environmental damage.

More information about the activity:  
Nikita Ushakov tel. +358 41 317 5242



Väylävirasto  
Trafikledsverket

The Finnish Transport Infrastructure Agency is responsible for the development and maintenance of the state road network, railways, and waterways.

The Finnish Transport Infrastructure Agency is the operator of the railway network intended for the transport of dangerous goods in the designated VAK railway yards, responsible for the navigability of the railway yards as well as the fulfillment of the safety and quality requirements.

There are several operators in the multifunctional environment of the network. Some operators transport dangerous goods on the network. Operators responsible for the transport of dangerous goods from the yard shall strive to transfer them as soon as possible to the unloading tracks or further transport of the recipient companies.



#### Potential hazards:

There is a risk of a major accident in the event of a major leak, accident, or fire. The distance between the isolation and evacuation boundaries varies from tens of meters to kilometers, depending on the substance being transported.

Additional information about the activity:

Project Manager Arto Muukkonen, tel. +358 29 534 3069  
Expert Atte Kanerva, tel. +358 29 534 3848



# IDENTIFY CHEMICALS AND GASES

The following highly flammable, harmful, irritating and toxic chemicals and gases, including those hazardous to the environment, are stored and handled in the port and industrial area of Kotka and transported by rail. The transport of dangerous goods is marked with warning labels and identification plates. Based on these, the authorities can identify the substance being transported.

This list indicates the most essential hazards of the substance by means of labeling in accordance with EC Regulation No 1272/2008:



acutely toxic



acutely toxic, inducing skin, eye or respiratory tract irritation, narcotic, skin sensitizers



carcinogenic, mutagenic, toxic to reproduction, causing damage to organs, respiratory tract sensitizers



explosives



highly flammable



oxidizing



corrosive, causing serious eye damage



hazardous to (aquatic) environments



gas under pressure

SUBSTANCE	IDENTIFIERS	IMPACTS
<b>Ammonia</b> 	Gas: Colourless, strongly pungent in odor. Can be liquefied easily to become a colourless liquid	May form an explosive mixture with air. Reacts vehemently. Develops heat with acids and oxidants. Toxic by inhalation, very irritating to the respiratory tract, eyes and skin. Corrodes mucous membranes and retinas. Toxic to aquatic organisms.
<b>Benzene</b> 	Liquid: Clear, colourless, lighter than water, aromatic odor. Vapors: Heavier than air.	Highly flammable. Toxic on the skin and if swallowed or inhaled. In high concentrations, may cause loss of consciousness or loss of life (20,000 ppm / 2 vol%).
<b>Butyl acrylate</b> 	Liquid: Colourless, pungent odor.	Extremely volatile, flammable. Irritating to the eyes, skin and respiratory system.
<b>Epichlorohydrin</b> 	Liquid: Colourless, sensitive, volatile. Vapors: heavier than air, odor resembling chloroform, slightly irritating. Odor does not warn of health hazards.	Flammable, corrosive. In a fire it releases toxic and irritating gases: phosgene, hydrogen chloride and carbon monoxide. May polymerize under the influence of heat, acids, bases or water, causing containers to rupture. Toxic in contact with skin, if swallowed and if inhaled. Causes cancer.
<b>Phenol</b> 	Solid in railroad cars and molten at 50 to 55°C in tanker trucks: at a normal temperature colourless, pungent odor, turns reddish by the effect of air and light.	Strong oxidizing acids can cause an explosion with phenol. Calcium hypochlorite reacts with phenol, releasing heat and toxic flammable vapors. Isocyanates cause violent polymerization and heat generation with phenol. Corrosive. Toxic on the skin and if swallowed. Vapors cause nausea, dizziness and headache. High concentrations may cause liver and kidney damage. Large splashes on the skin (400 cm2) can cause death. Toxic to aquatic organisms.
<b>Oxygen, liquefied</b> 	Liquid: Blueish, odorless, tasteless, extremely cold.	Accelerates combustion, reacts easily with fats, oils and flammable materials. Symptoms resembling burns on the skin, risk of serious eye damage.
<b>Chlorine</b> 	Liquid: Orange. Gas: Pungent in odor, yellowish in large quantities, suffocating, heavier than air.	Toxic when inhaled, suffocating. Irritating to eyes, respiratory system and skin. Dangerous for the environment, very toxic to aquatic organisms.
<b>Chlorine dioxide</b> 	Aqueous solution: Yellowish, clear, pungent in odor. Gas: Yellowish green, irritating.	Solution: Irritant, the solution may release chlorine dioxide gas, which is toxic when inhaled. Gas: In high concentrations may decompose in explosive fashion. Toxic by inhalation. Corrosive, irritating to skin, eyes and respiratory system. Very toxic to aquatic life. Dangerous for the environment.
<b>Aviation gasoline</b> 	Liquid: Blue-ish, aromatic and ethereal in odor.	Extremely flammable, toxic, irritating, harmful. Dangerous for the environment.

AINE	TUNNISTEET	VAIKUTUKSET
<b>Natural gas</b> 	Gas: Scented for consumer use.	Extremely flammable. High concentrations displace oxygen, resulting in a risk of suffocation. Frostbite is also possible.
<b>Methanol</b> 	Liquid: Colourless, clear, mild alcoholic odor.	Highly flammable, explosive when gaseous. Vapours in low concentrations cause headache, fatigue and dizziness. Causes a risk of very serious, permanent damage by inhalation, skin contact and ingestion. Very small swallowed doses may cause death (80 - 150 millilitres) or blindness (4 millilitres).
<b>Motor petrol</b> 	Liquid: Yellowish, aromatic and ethereal in odor.	Extremely flammable. Toxic, causes a risk of cancer. Environmentally hazardous due to its toxicity to aquatic organisms and poor degradation. Additive MTBE is harmful to groundwater.
<b>Sodium hydroxide (caustic soda)</b> 	In solid state white, odourless and non-volatile, or lye.	May react strongly with many substances, generating so much heat that the nearby flammable materials will ignite. When diluted with water, so much heat may be generated that the solution begins to boil. Corrodes metals such as zinc, magnesium and aluminum, releasing flammable hydrogen gas. Dust and a diluted solution irritate the respiratory tract. A strong solution is corrosive and causes ulcerations. Risk of shock in the abdomen, risk of loss of eyesight in the eyes. A solution of less than 50% can migrate and dissolve various detrimental substances from the soil to groundwater. Harmful to aquatic organisms.
<b>Propane</b> 	Colourless and invisible when gaseous, almost odourless.	Extremely flammable. Suffocating in high concentrations.
<b>Orthoxylene and paraxylene</b> 	Liquid: Colourless, a benzene-like odor.	Flammable. May form a flammable mixture with air, risk of explosion indoors. Harmful by inhalation and in contact with skin, irritates skin.
<b>Sulphur dioxide</b> 	Colourless when gaseous, pungent smell.	Toxic and corrosive by inhalation, irritating to the eyes and respiratory organs, life-threatening in high concentrations. Harmful to aquatic organisms.
<b>Sulfuric acid</b> 	Liquid: Colourless or brownish in colour, odorless or slightly a pungent odor, oily. A strong acid that generates heat when dissolved into water.	Reacts violently with water and several metals. Quickly corrodes aluminum, copper and alloys containing these. Flammable gas may be created in a reaction with metal. Organic substances such as paper and cotton may ignite by the effect of sulfuric acid.
<b>Hydrogen sulfide</b> 	Gas: Colourless, a strong smell of rotten egg.	Leakage causes a risk of ignition outdoors and a risk of explosion indoors. A mixture of hydrogen sulfide and air can ignite anywhere. Reacts violently with strong oxidants and metal oxides and may ignite by itself. In a hot environment, hydrogen sulfide disintegrates into hydrogen and sulphur. The combustion and decomposition products are toxic. Dangerous to the environment. Very toxic to aquatic organisms.
<b>Styrene</b> 	Liquid: Colourless, syrupy, volatile, pungent in odor. Vapors: Heavier than air.	Flammable, combustion products are carbon dioxide and toxic carbon monoxide. Harmful by inhalation, irritating to the eyes and skin. Corrodes copper, may react violently with oxidants and strong acids. May polymerize by heat, light and peroxides, resulting in an explosion hazard. Toxic to aquatic organisms, may migrate to groundwater.
<b>Toluene</b> 	Liquid: Colourless, a sweetish and slightly pungent odor, benzene-like.	Highly flammable, corrodes some plastics and rubber, not metal. Harmful by inhalation. Toxic to aquatic organisms, may migrate to groundwater.
<b>Hydrogen peroxide</b> 	Liquid: Odorless, tasteless, strongly foaming, steaming.	Strongly oxidizing, does not burn but accelerates, and maintains, combustion. Disintegrates into water and oxygen forming heat that can ignite a burning material. Corrosive, irritating to the eyes, skin and respiratory organs. Toxic to aquatic organisms.
<b>Vinyl acetate</b> 	Liquid: Colourless, odor is pleasantly fruity, ethereal, but the sensation quickly becomes pungent and irritating.	Highly flammable, vapors are highly volatile. Can react in an explosion with hydrogen peroxides or oxygen and form an explosive mixture with vinyl acetate ozone and ozone. Harmful to aquatic organisms.



KOTKA  
2020

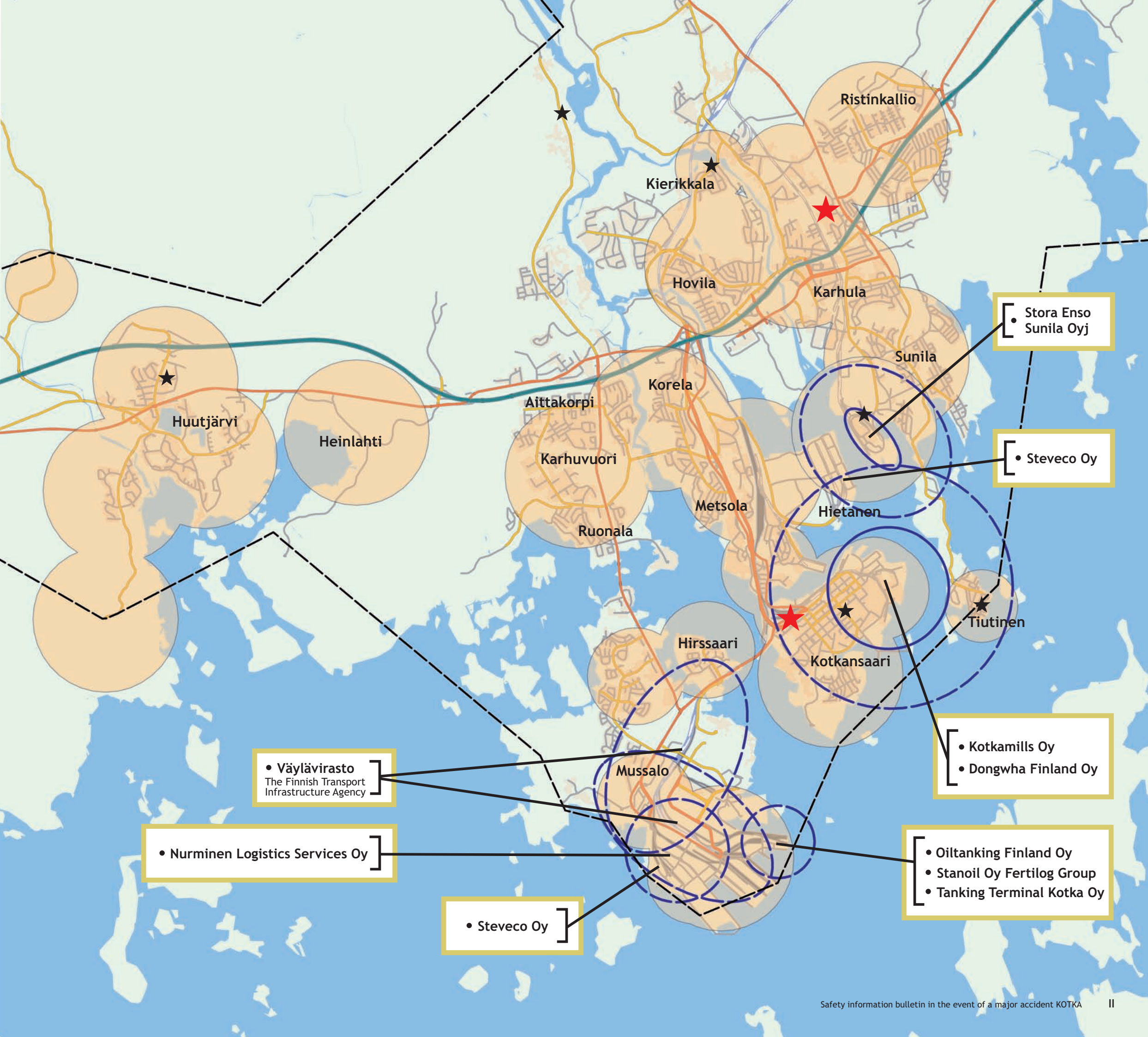
Map legend:

- ★ Permanent fire station
- ★ Contract fire department
- High-power alarm device/ coverage area

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Rescue area reach - 10 min

Company-specific alert limits:

- Isolation limit
- Warning limit





# INSTRUCTIONS IN THE EVENT OF AN ACCIDENT

Everyone in the region must obey the instructions and regulations given by the authorities in the event of an accident.

An accident is notified by means of the GENERAL DANGER SIGNAL.



This is a rising and descending sound signal which lasts a minute, which is REPEATED SEVERAL TIMES IN A REAL SITUATION.

A danger bulletin is always associated with the general danger signal. The bulletin is read on all radio channels and displayed in TV-programmes as a ribbon of text running at the top of the screen. Also, on the teletext page 112. The danger bulletins will also appear in the smartphone application 112 Suomi if it is downloaded. If necessary, sound trucks are also used.

## DANGER OVER -SIGNAL

A continuous steady sound with the length of ONE MINUTE.

## TEST SIGNAL

is a 7-second-long, steady sound. There may be a rise in the beginning of the sound and a descent at the end. This test signal can be heard in Kymenlaakso

on the FIRST MONDAY OF EACH MONTH AT 12.00.

Additionally, the rescue officials and industrial plants in the region test their alarm systems regionally by using the test signal.

## IF YOU ARE INSIDE



- 1 Close the doors, windows and stop the air conditioning.



- 2 Switch on the radio or tv and follow the instructions given.



- 3 Use the telephone only if you need immediate help.



- 4 If you sense the odor of gas, breathe through a damp cloth.



- 5 Try to get to the upper floors of the building if possible.

## IF YOU ARE OUTSIDE



- 1 Go indoors and follow the adjacent instructions. If you cannot get indoors, check the direction of the wind and try to avoid the gas by moving to the direction of the sidewind.



- 2 Try to get to a higher ground. It is safer higher up.



- 3 If you are exposed to gaseous air, move calmly. Protect yourself by inhaling through damp clothing.

Do not leave the area without permission from the authorities. Follow the instructions and wait until the danger is over



Suosittellemme lataamaan älypuheliimme 112 Suomi -sovelluksen.

Viranomaisten vaaratiedotteet julkaistaan sovelluksen kautta. Alueelliset vaaratiedotteet voidaan lähettää puhelimen sijaintitietoon perustuen. Vaaratiedotteiden lisäksi sovelluksella välitetään viranomaistiedotteita.

Lisätietoa hätänumeroon soittamisesta [www.112.fi](http://www.112.fi)

HÄTÄNUMERO  
SUOMI

112