

INFORMATION FOR THE AFFECTED PUBLIC

In the sense of Art. 15 of National Council of the Slovak Republic No 128/2015 on the Prevention of Industrial Accidents

1. Company Information

Name: FORTISCHEM a. s.
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FORTISCHEM a. s. is located in the cadastre of the Nováky municipality. Settlement (SÚ) Nováky is, as part of the organization of settlements of the Slovak Republic, classified as a settlement of local significance and, as part of the Project for Urbanization of the Slovak Republic, Nováky falls within the catchment area of the Prievidza region.

2. Sending the Announcement

Pursuant to Art. 5 of Act No 128/2015, the operator shall be obliged to submit an announcement concerning the plant classification, i.e. its update to the Regional Office. FORTISCHEM submitted Announcement concerning classification in the "B" category in Trenčín on 29 October 2015. In June 2016, an update of this announcement was submitted.

3. Plant Activities

FORTISCHEM a. s. operates in development, production, purchase and sale of products of inorganic, organic and macromolecular chemistry, as well as processing of plastics. Manufacturing operations are divided into three production plants manufacturing electrolysis products, basic organic chemicals, vinyl chloride, polyvinyl chloride and products of its subsequent processing, as well as calcium carbide and industrial gases. The company tries to keep the achieved positions in traditional production plants, and at the same time, develops activities to introduce new products and technologies while meeting the ecological criteria, ensuring the output quality parameters and meeting the market requirements.

The company has established efficient and functional infrastructure allowing the transport of raw materials and products (roads, filling and bottling sites, storage of solid and liquid substances, own sidetrack), telecommunications, gas connections, steam and electricity connections.

4. Hazardous Substances

The chart includes the list and classification of hazardous substances (NL) present in the plant along with their basic hazardous properties.

Chart Hazardous Substances in the Plant

Item	Hazardous substance name	CAS/EC No	Classification of NL pursuant to the Regulation of the European Parliament and the Council No 1272/2008	
			Code of the hazard class	Code of the hazard

			and category	pictogram
1	Chlorine*	7782-50-5/231-959-5	Ox. Gas 1	H270
			Acute Tox. 2	H330
			Aquatic Acute 1	H400
2	Hydrogen	1333-74-0/215-605-7	Flam. Gas 1	H220
3	Hydrogen chloride*	7647-01-0/231-595-7	Acute Tox. 3	H331
4	Natural gas	68410-63-9/270-085-9	Flam. Gas 1	H220
5	Acetylene	74-86-2/200-816-9	Flam. Gas 1	H220
6	Ethylene oxide*	75-21-8/200-849-9	Flam. Gas 1	H220
			Acute Tox. 3	H331
7	Propylene oxide*	75-56-9/200-879-2	Flam. Liq. 1	H224
			Acute Tox. 3	H331
8	Methanol	67-56-1/200-659-6	Flam. Liq. 2	H225
			Acute Tox. 3	H331, H311
			STOT SE 1	H370
9	Hydrazine	302-01-2/206-114-9	Acute Tox. 2	H330
			Aquatic Acute 1	H400
			Aquatic Chronic 1	H410
10	Petrol	86290-81-5/289-220-8	Flam. Liq. 1	H224
			Aquatic Chronic 2	H411
11	Diesel	68334-30-5/269-822-7	Flam. Liq. 3	H226
			Aquatic Chronic 2	H411
12	Anhydrous Ammonia*	7664-41-7/231-635-3	Flam. Gas 2	H221
			Acute Tox. 3	H331
			Aquatic Acute 1	H400
			Aquatic Chronic 2	H411
13	Sodium hypochlorite	7681-52-9/231-668-3	Aquatic Acute 1	H400
			Aquatic Chronic 2	H411
14	Ammonia water	1336-21-6/215-647-6	Aquatic Acute 1	H400
15	1,2-dichlorethane	107-06-2/203-458-1	Flam. Liq. 2	H225
16	2-chloroethanol (ethylene chlorohydrin)	107-07-3/203-459-7	Acute Tox. 1	H310
			Acute Tox. 2	H300 + H330
			Flam. Liq. 3	H226
17	Novamal	111-91-1/203-920-2	Acute Tox. 1	H310
			Acute Tox. 2	H300 + H330
18	Chloroparaffins	85535-85-9	Aquatic Acute 1	H400
			Aquatic Chronic 1	H410
19	Calcium carbide	75-20-7/ 200-848-3	Water-react. 1	H260
20	Acetone	67-64-1/200-662-2	Flam. Liq. 2	H225
21	Benzoyl chloride	100-44-7/202-853-6	Acute Tox. 3	H331
22	Sodium nitrate	7631-99-4/231-554-3	Ox. Sol. 3	H272
23	Sodium nitrite	7632-00-0/231-555-9	Ox. Sol. 3	H272
			Aquatic Acute 1	H400

24	Epichlorohydrin	106-89-8/203-439-8	Flam. Liq. 3	H226
			Acute Tox. 3	H331
25	Ethylene*	74-85-1/200-815-3	Flam. Gas 1	H220
26	Ethylenediamine	107-15-3/203-468-6	Flam. Liq. 3	H226
27	2-ethylhexyl chloroformate	24468-13-1/246-278-9	Acute Tox. 1	H330
28	Mercuric chloride	7487-94-7/231-299-8	Acute Tox. 2	H300
			Aquatic Acute 1	H400
			Aquatic Chronic 1	H411
29	Isobutanol (2-methylpropane-1-ol)	78-83-1/201-148-0	Flam. Liq. 3	H226
30	Kurita S-6200	12578-12-0	Aquatic Chronic 2	H411
31	Listab 51	109-10-1/203-550-1	Aquatic Acute 1	H400
			Aquatic Chronic 1	H410
32	Methyl isobutyl ketone (4-methyl-2-pentanone)	98-94-2/202-715-5	Flam. Liq. 2	H225
33	N,N-Dimethylcyclohexylamine	108-01-0/203-542-8	Flam. Liq. 3	H226
			Acute Tox. 3	H331
			Aquatic Chronic 2	H411
34	N,N-Dimethylethanolamine	84852-15-3/284-325-5	Flam. Liq. 3	H226
			Acute Tox. 3	H331
35	Naftomix G RX 349 C	7439-97-6/231-106-7	Aquatic Acute 1	H400
			Aquatic Chronic 1	H410
36	Nonylphenol	7727-21-1/231-781-8	Aquatic Acute 1	H400
			Aquatic Chronic 1	H410
37	Mercury	115-07-1/204-062-1	Acute Tox. 2	H330
			Aquatic Acute 1	H400
			Aquatic Chronic 1	H410
38	Potassium persulfate	3710-84-7/223-055-4	Ox. Sol. 3	H272
39	Propylene*	119-64-2/204-340-2	Flam. Gas 1	H220
40	TERM-N-ATOR® P (N,N-diethylhydroxylamine)	108-05-4/203-545-4	Flam. Liq. 3	H226
			Aquatic Chronic 2	H411
41	Tetralin (1,2,3,4-tetrahydronaphthalene)	1330-20-7/215-537-7	Aquatic Chronic 2	H411
42	Vinyl acetate	630-08-0/211-128-3	Flam. Liq. 2	H225
43	Xylene	75-01-4/200-831-0	Flam. Liq. 3	H226
44	Carbon monoxide*	123-38-6/204-623-0	Flam. Gas 1	H220
			Acute Tox. 3	H331
45	Vinyl chloride*	67-64-1/200-662-2	Flam. Gas 1	H220
46	Propionaldehyde	100-44-7/202-853-6	Flam. Liq. 2	H225
47	Propane-butane (LPG)		Flam. Gas 1	H220
48	Carbide desulphurization mixtures	75-20-7/ 200-848-3	Water-react. 1	H260

Note: Ox. Gas – oxidizing gas, Ox. Sol – oxidizing solid substance, Flam. Gas – flammable gas, Flam. Liq – flammable liquid, Acute Tox – acute toxicity, STOT SE – specific target organ toxicity (single exposure), Water-react – in contact with water; flammable gases are released, Aquatic Acute – hazardous to the aquatic environment, Aquatic Chronic- hazardous for the aquatic environment with long-term effects

*marked substances have potential impact also outside the plant site in case of emergency

Characteristics of NL with effects outside the plant site, when ZPH occurrence is likely

HYDROGEN CHLORIDE – HCl

Colourless, caustic and choking poisonous gas. It is not flammable, it is significant due to its strong irritating smell. It is heavier than the air. When exposed to the air, along with the air humidity creates thick corrosive fog. Causes serious burns to the skin, eye mucosa and airways. HCl vapours irritate upper and lower airways and cause mucosa necrosis.

CHLORINE – Cl₂

It is a poisonous yellow-green gas heavier than the air, well soluble in water. Under normal conditions, when exposed to the air, it is not flammable and does not create explosive mixtures with the air. It is not breathable. Intoxication usually starts with strong irritation of eyes and leads in particular to sharp, painful cough that can last for several hours.

ETHYLENEOXIDE – C₂H₄O

It is colourless, extremely flammable poisonous gas smelling of rotten apples. Gas and fogs are heavier than the air, they remain by the ground. With the air, it creates explosive mixture. Has irritating effects on human organism. The signs of inhalation are listlessness, leg pain, incorrect facial expressions, monotonous speech, deterioration of tendon reflexes, finger trembling, red-and-violet colour of peripheral parts of the body, vegetative malfunctions and pulmonary arrest.

AMMONIA – NH₃

It is colourless poisonous gas with a characteristic acrid smell, lighter than the air, well soluble in water. With the air, it creates explosive mixtures. It irritates in particular airways and causes failure of the central nervous system. It can cause coughing, insufficient breathing, headaches and nausea. It can cause burns in the mouth, throat and stomach. It can cause headaches and nausea. High concentration can cause pulmonary arrest.

VINYL CHLORIDE – C₂H₃Cl

Under normal conditions, it is a colourless, extremely flammable gas of sweetish taste. It is 2.2x heavier than the air. With the air, it creates explosive mixtures. During thermal decomposition, toxic products, such as phosgene, are created. Liquefied, it can cause frostbites. Vinyl chloride vapours, when inhaled, can have narcotic effects, longer exposure to higher concentrations causes various levels of intoxication with stupefaction, nausea, dizziness, deep narcosis and eventually death.

PROPYLENE – C₃H₆

Propylene is extremely flammable gas. With the air, it creates dangerous explosive mixtures. In the gaseous form, it is heavier than the air. With the change of the state from liquid to gas, it quickly creates a fog heavier than the air. Propylene has narcotic effects, causes drowsiness and dizziness and can cause burns in contact with the skin or eyes. Signs: drowsiness, with longer exposure and higher concentration even unconsciousness. Liquefied propylene causes frostbites (fast vaporization), burning skin.

ETHYLENE – C₂H₄

Ethylene is extremely flammable and highly combustible liquefied gas. It evaporates quickly and creates cold fogs heavier than the air and explosive mixtures with the air. Ignition is possible by the effect of burning surfaces, spark, open fire and also static electricity charge. Vapours quickly spread to long distances. In areas under the terrain level and in closed premises, the risk of explosion and suffocation occurs. The substance is virtually insoluble in water, floats on the surface and creates explosive mixtures with the air above the surface. In case of leakage to the sewer, the danger of explosion occurs. The substance most irritates eyes and airways, it has a significant narcotic effect, inhalation of vapours may cause drowsiness and dizziness.

PROPYLENE OXIDE – C₃H₆O

Propylene oxide is highly flammable, colourless liquid dangerous for aquatic organisms. With the air, it creates explosive mixtures. It releases flammable vapours under normal temperatures of the surroundings. Vapours can be heavier than the air. They can spread to long distances on the ground before ignition and return the flash back to the source of the vapours.

Vapours can irritate eyes, nose and throat, can cause CNS, depression (fatigue, dizziness, loss of concentration, collapse, unconsciousness and death in case of serious overexposure). High concentrations can irritate upper airways. Ingestion can cause nausea and irritation of the gastrointestinal tract and CNS depression (fatigue, dizziness, collapse, unconsciousness and death). The substance can bind, and under certain conditions damage genetic material.

CARBON MONOXIDE – CO

It is a colourless gas without taste or smell, lighter than the air and insoluble in water. It is extremely flammable (burns with a blue flame) and poisonous, with expansion, it creates explosive mixtures with the air. Under high temperatures, it acts as a reducer. It is reactive towards chlorine (creating phosgene) and metal (creating carbonyls).

Its main effects is blocking blood pigment and thus causing suffocation. Acute poisoning with low exposures manifests by headaches, the feeling of pressures at the temples and chest pressure. Serious poisoning manifests by nausea, vomiting, deteriorating sight and hearing, even hallucinations. With high poisoning, the affected loses consciousness, with the option of preceding spasms, later deep unconsciousness and no movement. Irregular breathing, accelerated heart rate. In this state, death can also occur.

5. **Dangerousness of Serious Industrial Accident**

Serious industrial accident (ZPH) is an event, in particular excessive emission, fire or explosion with the presence of one or more selected hazardous substances, caused uncontrollable development in operation immediately or subsequently causing serious damage or danger to life or health of persons, the environment or property as part of the plant or outside the plant.

When handling and storing SL in the plant site, even despite consistent following and checks of all legislative and internal rules, it is not possible to eliminate potential leaks of NL outside the site and technology due to:

- human negligence (human error)
- wear of construction materials, corrosion
- manipulation error (technological failure) or operator failure
- electricity or auxiliary media supply blackout
- accidents on the sidetrack or in-complex roads
- extreme adverse events (fire, plane crash, etc.)
- natural disasters (floods, earthquakes, glaze frost, etc.)
- intentional damage, sabotage

NL leaks can cause ecological danger, under certain conditions, with flammable NL also the occurrence of fire and explosive events. Each NL leak is serious regardless of development of such event.

Elimination of effects of potential serious industrial accident or their limitation to the lowest possible level is, with timely sponsorship, ensured by the intervention of Internal Fire Brigade performing the activities of the emergency response service with sufficient supply of human, material and economic resources.

Human Resources:

Internal Fire Brigade (ZHÚ) has 39 active fire fighters. Operations include employees with fire patrol and anti-gas training.

ZHÚ employees are professionally capable and trained to perform fast and efficient interventions to eliminate ZPH and limit its consequences including saving human lives, as well as protection of the environment and property.

Material Resources:

ZHÚ is equipped with sufficient number of extinguishing agents and is also prepared for liquidation of ecological accidents.

ZHÚ Machinery Equipment:

2 × CAS 32 Tatra 815

1 × PHA 32 Tatra 815

1 × PLF 6000 Tatra 148

1 × SHA 540 Avia 30

1 × PPS – 12

1 x sanitary vehicle Peugeot

1 x Peugeot Boxer – atmosphere monitoring

1 x Iveco Daily + trailer with a pump and a compressor, vehicle equipped for intervention in ecological accidents

6. Warning of the Citizens and Informing Persons in Case of ZPH

Warning of the citizens and informing of persons within the fenced area after the occurrence of an extraordinary event or prior to an immediate threat of its occurrence is performed through the following signals:

Activation Subject	Signal (S)	Signal length	Verbal information (R)
Chemical danger (S,R,R,R)	↗↘↗	2 min	Attention, chemical danger, stay at home or enter the closest building and close the windows and doors! Listen to the broadcast of the local media and follow the instructions. (R)
Fire (S,R,R,R)	↗↘↗	2 min	Attention, fire danger! (R)
Danger eliminated (S,R,R,R)	→→	2 min	Attention, fire danger! (R)
Sirens check (R1,R1,R1,S,R2,R2, R2)	→→	2 min	Attention, sirens check! (R1) Attention, sirens check completed! (R2)
↗↘↗ vibrating tone →→ straight tone			

Check of operability of the warning systems using 2-minute straight sirens tone is concluded in the sense of the specification of the Ministry of the Interior of the Slovak Republic. Radio, TV and the press provide information about regular check of sirens functionality and other extra checks.

7. Recommended Behaviour When You Hear Sirens

When you hear the siren warning signal, you can assume there was an extraordinary accident with the potential consequence of endangering health or life of citizens, the environment or property. After the warning signal, information about the specific type of emergency and recommendations for the citizens will follow. Then, you need to pay attention to the public-address system or other available communication tools.

For self-protection, you must comply with the following generally applicable rules:

- keep calm, act prudently, do not panic
- follow the instructions of the rescue services, local government and national administration
- warn other persons in danger
- immediately leave the endangered area, if possible
- before leaving the building, terminate any activities including open fire, switch of electric and gas devices
- protect yourself according to the type of the emergency and your capacity and your capacity to also protect other persons

Procedures according to the accident type

➤ **In case of fire**

- quickly leave the centre of fire and do not linger in the endangered area
- seek shelter in buildings, close the windows and doors, switch off the A/C
- wait for further instructions from competent institutions

➤ **After explosion**

- do not stay in the immediate surroundings of the emergency site and retreat to a safe distance
- seek shelter in buildings, close the windows and doors, switch off the A/C
- wait for further instructions from competent institutions

➤ **In case of leak of selected hazardous substance**

I.) when in a building

- stay in the building and remain in a room opposite the wind direction with the lowest number of windows possible, or hide in a shelter (if accessible)
- create isolated closed space – close and seal the doors, windows, ventilation openings, switch off the A/C (tape leakages, fill bigger leaks with cloth soaked in water with detergent)
- prepare improvised protection of your airways, eyes and exposed body parts
- monitor broadcasting of local media, do not underestimate the risk
- make phone calls only if absolutely necessary, do not overload phone lines
- keep calm
- only leave the building following an instruction by competent bodies

II.) when not in a building

- keep calm, check the situation and immediately leave the area endangered by the hazardous chemical substance,
- leaving the area depends on the direction of spreading of the hazardous substance from the

source and your position ⇒always leave the endangered area going perpendicularly to the wind

direction,

- if you are in the wind direction and have no time, immediately seek a shelter in a building and proceed according to the instructions for being inside a building.

It is important to immediately find a shelter. That applies to everyone – at work, at home, at school. Children remain at school, where they will be sufficiently informed. If warning finds you in a car, leave it (park it so that it does not block any roads) and seek shelter immediately.

Seeking shelter means **staying at home, if you are in the immediate surroundings of your home**, going back home, or entering the closest building (residential building, shop, office).

Improvised Protection of Airways

The most convenient protection of your mouth and nose is to cover them with a piece of flannel cloth or terry cloth wetted in water, sodium-water solution or citric acid-water solution.

Evacuation – a situation when you will have to quickly leave the town you are in, following the instruction of rescue services, can occur. In that case, close off the gas, water and electricity mains and get together your most important things (documents, valuables, medicine) and make sure your neighbours know they are supposed to leave, too.

8. Prevention of Serious Industrial Accidents

FORTISCHEM a. s. as the operator of a B-category plant prepared a safety report with the objective to show it has met the prescribed obligations in the area of ZPH prevention. The Safety Report was approved by Decision No OU-PD-OSZP-Z/2014 – 00002.

Check of compliance with law is performed, in a coordinated manner, once a year by the Slovak Inspection of the Environment. The last check was performed in the period September – December 2015.

The check in particular focuses on:

- * performing legal obligations in the area of ZPH prevention,
- * performing measures to ensure operational health and safety,
- * operational reliability of technological systems influencing prevention of accidents,
- * ensuring performance of obligations related to civil protection of citizens,
- * performing measures of protection against fire,

9. Performing obligations in the area of civil protection

- every year, we provide information on potential danger, its scope, way of protection and liquidation of impacts, through the card of civil emergency planning,
- occurrence of extraordinary event is announced by the relevant national body in the sense of Information and Announcement system, which is part of the Internal emergency plan
- address service for employees, people under care, other persons and municipalities that are in immediate danger is ensured through internal address system and autonomic announcement system (6+1 sirens)
- the plant ensures monitoring of hazardous substances within the complex through stationary monitoring systems and in case of emergency, monitoring of the endangered area is prepared through ZHÚ mobile monitoring

In case of emergency exceeding the borders of the plant, units under IZS will be informed and required.

10. Citizens Protection Plan

Documentation of the *Citizens Protection Plan* includes measures to protect the citizens during production, transport, storing and handling of hazardous substances.

11. Further Information

Information we thus provide to the citizens, represents a piece of advice how to behave and what to do in case of such an emergency in the plant that could manifest also outside its borders and cause serious industrial accident in the surroundings.

We follow the principle that the more information the inhabitants of the affected municipalities get, the better they will be prepared to face potential risks and contribute to the improvement of their own safety.

The information is also available at the website of the plant www.fortischem.sk and at <http://enviroportal.sk/environmentalne-temy/starostlivost-o-zp/pzph-prevencia-zavaznychpriemyselnych-havarii/informacny-system-pzph>.

Contact numbers for providing information in case of danger:

General emergency telephone numbers:

☎ 112 – Integrated Rescue System

☎ 150 – Fire Rescue Brigade

☎ 155 – Medical Rescue Service

☎ 158 – police

☎ 0915 981 151 – change officer of FORTISCHEM a. s.

☎ 0905 207 198 – risk management department of the Regional Office in Prievidza

Information for the public was prepared by the appointed person with professional capacity:

Ing. Dagmar Orlicková, ZPH prevention specialist, authorization No: 0006, tel. 046/568 3236

In Nováky on July 2016