
Petrochemicals, an unknown hazard outside the Camp de Tarragona county

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When Jaume Guillaumet contacted us to give a talk to the members of the Philosophy and Social Sciences section of the Institut d'Estudis Catalans (IEC) during their visit to Tarragona, we immediately agreed. Ever since we published the book *La gran explosió. Corrupció, perill i deixadesa en la petroquímica més gran del sud d'Europa* (The Great Explosion: Corruption, Danger and Negligence in the Largest Petrochemical Complex in Southern Europe, Editorial Folch i Folch) in January 2023, coinciding with the third anniversary of the IQOXE accident – the most serious mishap in the history of this petrochemical complex, which has been there for more than half a century – we have not stopped teaching a reality that is surprisingly unknown in Catalonia outside the Camp de Tarragona county. We say unknown because in the many interviews we have held since the book was published, we have been somewhat perplexed to find that not only were the national media unaware of the potential danger of this petrochemical company in Tarragona, but often our fellow journalists were also unaware of the scope of this group of companies, divided into two industrial parks (north and south) separated by little over six kilometres – but connected via a network of pipelines transporting chemical products – located near towns with more than 300,000 inhabitants (including Tarragona and Reus). Indeed, this figure rises exponentially during the summertime with the massive influx of tourists to towns like Salou. This is precisely one of the peculiarities of the Camp de Tarragona; namely, the coexistence of two economic engines that initially seem incompatible: fun-in-the-sun tourism in the shadow of the petrochemical factories' huge smokestacks; towels spread atop hundreds of thousands of plastic pellets on bustling beaches such as La Pineda; getting a tan while admiring the blue Mediterranean with a dozen oil tankers on the horizon waiting their turn to enter the port of Tarragona; the skyline of a region that is bookended by the sinuous structure of the Dragon Khan rollercoaster and the belfry of the cathedral of Tarragona, and between them steel deposits and torches spewing out fire, smoke and stench day and night.

This hard-to-grasp reality dates back to the 1960s and has not always been such an easy fit as it might seem today. In the homestretch of the Franco regime in the early 1970s, the tourism sector was openly hostile to the presence of petrochemical industries in the southern industrial park by the coast – between Tarragona and Vila-seca – and even took them to court. Hoteliers believed that the existence of these factories could harm them because nobody going on holiday wants to see an industrial landscape outside their hotel window. They wanted those industries to be moved to the northern industrial park, between the towns of Morell, La Pobla de Mafumet, Perafort and Constantí, the site of the huge Repsol refinery (originally Enpetrol). However, the companies did not leave because the judges found in their favour. They had earned acquired rights after so many years on those lands.

Decades later, this apparent incompatibility could indeed have exploded – there is no more apt term – after the IQOXE accident. On 14 January 2020, a reactor at this company's by-product plant exploded, leaving three people dead. Two of the victims were factory workers, but the third was a resident at home almost three kilometres from the accident site. A plate weighing 500 kilos hit the building where he lived, entered the flat above him, caved in the ceiling and crushed him to death. That night, more debris scattered out from the factory in all directions. Some of it landed on what used to be the Universitat Laboral, a school attended by almost 2,000 students. Other debris fell in the port of Tarragona. Places like Les Gavarres shopping centre, cinemas, restaurants and shops are all located less than two and a half kilometres from the site. Port Aventura is just over three kilometres away.

To exemplify the risk people were faced with, and especially the political irresponsibility surrounding it, we always engage in a hypothetical exercise using the formula of a series of jokes that were very popular around 20 years ago. "A Frenchman, an Italian and a German walk into a bar..." In other words, if that steel plate that killed a Tarragona resident had shot off towards Port Aventura one summer afternoon and injured or killed several foreign tourists, what would have happened? Would the press from those countries have been indifferent at the fact that one of the largest amusement parks in Europe was surrounded by dangerous industries? How big would the scandal have been? And a very relevant question today: Would they still be talking about building a Hard Rock hotel-casino?

Also, the catastrophe could have been even worse. Around 200 metres from the reactor that exploded, IQOXE was storing between 1,000 and 1,500 tonnes of a product called *ethylene oxide*. This company is the only plant producing it in the entire Iberian Peninsula. Ethylene oxide is extremely hazardous. It is used to make the most powerful bombs after atom bombs, that is, thermobaric bombs. If the steel plate that was ejected and killed that man had landed on those deposits, the devastation would have been huge. And we should also take into account the effects of a chain reaction, i.e., the concatenation of explosions as the neighbouring companies were affected. In fact, due to the burning of ethylene oxide deposits alone, the site where the IEC members gathered – the theatre in Torreforta neighbourhood – would have been wiped off the map. Torreforta is precisely where the man who was killed used to live.

But ethylene oxide is even more hazardous than that. Right now, this chemical compound is considered to pose the greatest risk of cancer due to industrial contamination. Even though Catalonia is home to the only factory that produces this substance on the entire Iberian Peninsula, it has no regulations for ethylene oxide; nor indeed is it measured. In fact, in the 60 years that it has been manufactured, it has never been measured. Several months after the accident, the Parliament of Catalonia set up a commission to investigate the disaster. The erstwhile Catalan Interior Minister, Miquel Sàmper, announced a two million euro investment to install a network of sensors to detect hazardous products around the two industrial parks in Tarragona. However, he immediately followed up with: “We don’t have the budget to do it”. After the most serious accident in the history of the largest petrochemical complex in southern Europe – which caused three deaths – the Government of Catalonia did not have two million euros to install sensors that had never been installed until then. In fact, no one knows how much contamination was emitted on the night of the IQOXE accident. Suitable measurements were not taken, and there is no documented record of the contaminants that may have been in the air. That night, Sàmper’s predecessor, Miquel Buch, posted a celebratory tweet marking 14 January 2020: “You can go outside now with complete peace of mind, but you are advised to remain at home”.

Someone might think that only the town of Tarragona is exposed to the dangers of ethylene oxide emissions, but that is not the case. A model developed by the United States Environmental Protection Agency (EPA) – the benchmark air pollution organisation worldwide – calculated that the pollution emitted by an ethylene oxide factory in the US could travel as far as 1,500 kilometres. Ethylene oxide is colourless and odourless.

Two and a half years after that accident, the company ASESÀ suffered a naphtha leak. Naphtha does smell (of petrol). To understand how these chemical compounds can travel through the air, suffice it to say that Civil Protection received phone calls from people living in the Maresme county (more than a hundred kilometres north of Tarragona) complaining about the smell coming from this company, which is located in Tarragona’s south industrial park. During this three-million-litre leak, political leaders quickly adopted one of the most common mantras used when a company in the petrochemical sector has an accident: “There were no negative external effects”. The Prosecutor’s Office even launched an investigation on its own initiative, but it was shelved after a few months because allegedly there was no proof it had affected people. However, our investigation showed that large amounts of benzene had been detected in the air hundreds of metres from the perimeter of the company site, and 90 people had to be treated at primary healthcare centres in Tarragona because of the leak.

These messages from political leaders and the institutions that are supposed to protect people have shaped a narrative of apparent safety around companies that, not incidentally, have contributed millions of euros to the town where they are located either through taxes or via sponsorships for everything from annual festivals to sports facilities. In a documentary aired on TV3 a month before the IQOXE accident, *És a l’aire* (It’s in the air), the then-president of the Chemical Business Association of Tarragona (AEQT) stated: “It has taken us 30 years for people to

perceive us as a safe industry”. This perception has been achieved through complete dominance over the narrative by those who hold all the data – the companies – and the Government’s failure to investigate. In fact, the Government has often acted as the protector of the industrial and economic activity rather than prioritising the safety of citizens, who have been systematically misinformed in order to “avoid undue alarm”.

Only the physical constraints of this article prevent us from presenting more arguments, although they are duly documented in *La gran explosió*, a book that has taken three years of work to complete. Indeed, a similar limitation – in this case time – prevented us from answering all the questions that members of the IEC’s Philosophy and Social Sciences section wanted to ask during our talk in Tarragona on April 2023. Fortunately, the answers can be found in the book.