

Dear Sir,

## Ref HS/040 OBJECTION

- Hazardous substance consent - Modification to quantity of Phosphine stored and used, and proposed storage and use of Hexane, Hydrogen peroxide and Cyanex on site.  
Ref. No: HS/040 | Status: Application Received

I wish to object to the hazardous substance consent HS/040.

I have concerns about a number of issues relating to this application. Firstly there has been very minimal publicising of this application after it was initially advertised and buried in the Express and Star classifieds for one single day on July 26th. Only in the last week, with one week to comment, have the details and documents associated with this been published on Sandwell council's planning website. This simply is not good enough, and I doubt if local residents have had a chance to look at and understand what is being proposed here.

Let us first consider what this Solway site currently is, a **COMAH top tier site. The Control of Major Accident Hazards Regulations 1999 (COMAH)** implement the Seveso II Directive, and are important for controlling major accident hazards involving dangerous substances in Great Britain.

COMAH sites in England are controlled by **The Environment Agency (EA)**, and **The Health and Safety Executive, (HSE)**– “the competent authority” that governs health and safety at work legislation in the UK, and also investigates failures- **as occurred in the infamous uncontrolled phosphine gas release and fire at this site in 2009.**

The following are detailed on the HSE website as being relevant risks to this type of installation.

*“Explosion – Levels of blast overpressure which may be harmful to humans and animals and damage buildings. Projectiles travelling at high speeds may also spread from the explosion presenting a risk to people, animals and damage buildings. Explosions may also initiate fires.*

*Fire – Ranges from an intense fire lasting several seconds to large fires lasting several minutes or hours. Potential for fire damage to people and the environment and fires may spread to other areas, a drifting cloud of flammable gas may ignite. Fires may generate smoke clouds*

*which may lead to breathing difficulties and deposition of soot on property and vegetation.”*

**That’s really great isn’t it and right on the doorsteps of many homes that probably are blissfully unaware!**

Solvay are seeking an increase in pressure for their use of the chemical they failed to control in 2009- the toxic highly flammable gas **PHOSPHINE**.

They are also seeking consent for new substances, **HEXENE, HYDROGEN PEROXIDE 35%, and CYANEX 923**- A mixture of the substances hexyldioctylphosphine oxide, dihexyloctylphosphine oxide, and trioctylphosphine oxide .

Firstly let’s look at the chemical hazard. Here is what the then Health Protection Agency (now Public Health England) see about the risks of phosphine and incident management .

One notes from this

*“Health effects of acute exposure*

*• Phosphine is acutely toxic; exposure to high levels cause immediate effects • Early symptoms of acute phosphine or phosphide exposure are non-specific and include respiratory problems, cough, headaches, dizziness, numbness, general fatigue and gastrointestinal disturbance (pain, nausea, vomiting and diarrhoea) . • Effects of exposure to higher levels of phosphine, the onset of which may be delayed by several days or more, include pulmonary oedema, convulsions, damage to the kidney, liver and heart, and death ...”*

The safety data sheet provided by Solvay- incidentally using the Rhodia brand -who were responsible for a phosphine toxic uncontrolled release occurring makes similar observations. Just to be clear, there is no difference between the two companies, just the name.



Rhodia/solvay identify that phosphine is “very toxic by inhalation”, “causes burns”, there is a ” risk of serious damage to eyes”, “inhalation may be fatal”, and it is “very toxic to aquatic organisms”. **GOT THAT?**

This application is mired in semantics about what Solvay actually intend to do with this chemical- but they fail to answer if they are INCREASING the amount of phosphine or DECREASING the amount of phosphine on site- instead talking about increasing the pressure used- **which can only increase the risk. Even if they are decreasing the amount, does this hide the risk with the associated increase in pressure used?**

[The 2009 phosphine fire at this site](#) laid bare the risks, the hazards and the failures of Rhodia- with the same HSE director **Tom Dutton** in control who makes this application for the rebranded “Solvay.” Incidentally at the time of the HS/008 application in 1992, as an Albright and Wilson employee he was then listed as “risk prevention manager”.

I accessed the HSE report only after a request to the Information commissioner’s office concerning the competent authorities attempted burial of the facts emerging into the public domain. It is essential that anyone making any decisions on this application is acquainted with the facts about this report and the failures of the company that day.

[https://www.whatdotheyknow.com/request/rhodiasolvay\\_hazard\\_risk\\_investi](https://www.whatdotheyknow.com/request/rhodiasolvay_hazard_risk_investi)



The acid gas cloud

picture Express and Star

Here is the HSE outline of what happened that day and how it made international news when there was an uncontrolled release of **37kg of phosphine and associated breakdown products**.

**A14 - Brief Executive Summary:**

1. There was an uncontrolled release at around 12:06hrs on 02 January 2009 at the premises of Rhodia UK Ltd ('Rhodia'), Trinity Street, Oldbury, West Midlands (i.e. Top Tier COMAH site) of approximately:
  - (i) 37kg of Phosphine (i.e. COMAH named dangerous substance); and
  - (ii) 179kg of Phosphorus vapour (i.e. COMAH dangerous substance).
2. Upon contact with air these substances spontaneously ignited to produce approximately:  
409kg of Phosphorus pentoxide (i.e. COSHH substance hazardous to health).
3. This would then react with water vapour in the air to produce approximately:  
564kg of 100% Phosphoric acid (i.e. COSHH substance hazardous to health).

As for Solvay's much heralded alarm system, they did not sound the alarm, as stated in the HSE investigation quite bloody laughably blaming this on West Midlands fire service for the following reason.

54. ~13:40hrs – Rhodia state that WMFS indicated that they did not want to sound the Off-site Alarm as they were concerned about alarming the public.

Hydrogen peroxide, hexane and cyanex are in addition seriously all bad risks – particularly the oxidiser Hydrogen peroxide- more associated as a key ingredient these days as Isis terrorist pressure cooker bombs than anything else.

A substance location plan for Hydrogen peroxide and cyanex is very worrying. **NB THESE SUBSTANCES ARE TO BE STORED ACROSS THE WHOLE SOLVAY SITE AS EVIDENCED BY THE PLAN S2 AND S3. Is SMBC comfortable with the elevated risk?**

And so then let's return to Solvay and what happened in 2009. This is what the HSE found in their report.

#### Managing the phosphine fire

42. There are several references in Rhodia's procedures to the way in which fires on the phosphine plant should be managed, including:

Rhodia's Plant Emergency Dossier, March 2005, page 10 para 2.4.9. states 'Fire fighting should normally be restricted to extinguishing any peripheral secondary fires, cooling plant items, and knock down of smoke or fume etc'.

And in the same Plant Emergency Dossier, on pages 9 and 10 paragraphs 2.3.1 and 2.4.8, and Rhodia's Plant Operating Instructions, August 2008, paragraphs 9.3.1 and 9.4.8, it states 'No attempt should normally be made to extinguish a burning phosphine fire by application of a water hose or fire extinguisher as this could lead to a toxic gas release or potentially explosive gas mixture'.

43. However, during the initial stages of the incident, upon seeing flames coming out of the converter stuffing box, employees used water hoses to direct water onto the flames in an effort to damp them down and to see what was happening. When asked whether this contravened or compromise their health and safety management or emergency arrangements, Rhodia responded that it did not, and went on to say that employees were using water to damp down the fumes to try and see clearly the leak source, and to note that at this temperature it would not be possible to extinguish the phosphine fire. They do not, however, appear to have considered the risks of water entering the converter and/or otherwise contacting the phosphorus/phosphine.

**They could not even get the basic fire fighting methods correct.**

37. Whilst the General Site Alarm was sounded during the incident, the Toxic Gas Alarm was not.
38. When asked why this was, the WIC responded that the incident was a fire and not a toxic gas situation, and Rhodia responded that it was because the incident was not one of a toxic gas nature, i.e. whilst phosphine gas is toxic, it is also highly flammable and thus burned immediately on contact with air to produce phosphorus pentoxide / phosphoric acid mist, which is not toxic, so they had not released a toxic gas.
39. Rhodia also state that the incident did not involve a 'significant phosphine release' because it was fully burnt, and that it was not thought that any 'breathing difficulties' would be likely to be experienced by anyone in the vicinity of the emission – but this contradicts information they provide elsewhere in terms of both possible on- and off-site effects.
40. When asked what is meant by the statement 'By allowing a two level response, unnecessary anxiety among local residents is avoided and in today's sensitive climate this is important.' Rhodia responded that it was to avoid unnecessary panic, as referred to by the WMFS chief when discussing offsite impact.
41. Rhodia state that they have never had a toxic gas release. This is not strictly true, i.e. on 26

## **THEY FAILED TO SOUND THE TOXIC GAS ALARM TO WARN THE LOCAL RESIDENTS THAT THERE WAS A LEAK.**

In addition, they

- invented release data to attempt to downgrade the incident
- obstructed the HSE investigation making it extend beyond a reasonable period of time
- Did not make contact with vulnerable premises
- Lied about past incidents on site of which there have been leaks and escapes of gas.

## **CONSULTATION ZONE**

Incredibly in their application, Tom Dutton states

- *“Note that if it is deemed that this application could result in a change to the consultation distance then we would be willing to impose further conditions to mitigate against this.”*

- (g) Give any further information which you consider to be relevant to the determination of this application.

Note we already have HSC for phosphine. This was granted under deemed consent in 1992 and the application for this deemed consent is enclosed. This covered the storage of phosphine gas in a 1.2te gasholder and the use of phosphine (at pressures up to 1.5 bar g) to manufacture tetrakis(hydroxymethyl)phosphonium chloride (or sulphate) solutions. This application includes phosphine as we propose to increase the phosphine pressure up to 7 bar a in the Semiworks reactor and the loop reactor and in the transfer pipework from the Phosphine plant to the Semiworks plant. There will be no change to the pressure of the phosphine in the storage tank V1.

Note that if it is deemed that this application could result in a change to the consultation distance then we would be willing to impose further conditions to mitigate against this.

Please also find enclosed safety data sheets for the relevant substances.

Well how very gracious of this Solvay director, but he is in no position to be “imposing conditions”- this is the job of the “competent authority”. The fact that this application appears to rest in the hands of one totally unqualified Sandwell planning officer means that we will only have one named person to blame if this is passed without real scrutiny and something happens Are people aware that their homes may suddenly be enveloped into a COMAH blast zone? If there is no change to the zone, (and who is going to make that call), if something goes wrong then are we going to go round in circles that everyone had a chance to do something but did nothing , just to accommodate this dirty industrial polluter and its sliding European centred chemical trade?

But what of [Sandwell council's "vision"](#) Does a factory like Solvay with its increasing hazards sound like [ambition 8 of the strategy?](#) *“families will be choosing to move into and stay in Sandwell and be proud of their town”*

Really? Does this include the managers and directors at Solvay? Does [ambition 2](#) fit in with hosting more hazardous substances in Oldbury? There is already the problem of air pollution from the motorway system, and what of uncontrolled emissions and the increased risk of them? **This application must go to the full planning committee for consideration and the council should seek independent advice, which could seriously thwart Sandwell council's own policies if it is passed by delegated decision. .**

**Yours sincerely**

**Ian Carroll.**

