

# GAS!

## INCORPORATING GAS ATTACKS INTO WWI RULES. By Phillip Watts

**I am currently writing a set of rules for the First World War, and in so doing want to make sure I cover the three defining images people have of the war: Trenches, Machine Guns and Gas.**

Of these three staples gas seemed to pose the main problem, perhaps because it is relatively exclusive to this war and not a common feature of other wargame rules. So I started to do some research on its use and impact and thought others might find it of interest.

It's probably fairly generally believed that gas was first used by the Germans at the Second Battle of Ypres in April 1915. In fact the Germans had attempted to use the same gas against the Russians at the Battle of Bolimov in February of that year, but because of the low temperature the gas failed to vaporise. Even before this the French tried to use gas grenades. The gas used was purely an irritant rather than lethal, and they proved ineffective and were abandoned. The Germans used a similar irritant gas in October 1914, its effect being to cause fits of sneezing!

The Germans however persisted with lethal gases and learnt from the lessons in Russia. They first successfully used gas on 22 April 1915 at the opening of the Second Battle of Ypres.

Here 4,000 cylinders of gas were used to release 168 tons of chlorine gas along a five mile front. This drifted across to the opposing French lines. The troops had no protection against this novel weapon, and an Algerian unit fled, leaving a half mile gap in the Allied line. The Germans, wearing gas masks, followed up and captured a large number of troops and guns, and a large section of the line. From here they had hoped to take the adjoining Canadian Divisions in flank, but the Canadians put up a stout defence and held the line. The Germans halted, consolidated their gains and awaited re-inforcements.

The gas assisted in gaining the Germans an advantage and significant ground (in WW1 terms) was taken. The Germans repeated the use of gas on the 24th, this time directly against the Canadians. The plan was much the same as on the 22nd, that the gas would make a gap and that this would expose the Canadian flank. However, even at this early stage the Canadians had been briefed on how best to deal with the gas. This advice was simply to use moist cloth over the nose and mouth, but it provided some protection. The Canadians suffered badly, but the main thrust of the attack was held off.

These episodes account for only a small portion of the Second Battle of Ypres which lasted from 22 April to 25 May 1915. They were however significant and could have yielded a significant German success if the element of surprise had been fully exploited. The fact was that the Germans had themselves been surprised at the success achieved by the gas.





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What is of special interest is that the Germans had been ready to use gas from the end of March, but had had to wait for suitable conditions. Even when these arrived on the 22nd, it was not until late in the afternoon that the gas could be released. The delay meant that the German high command was unable to see the extent of its success until the morning, a fact that may have saved Ypres from capture.

The use of the gas caused a moral outrage at home and at the front. The Dorsets'

reputedly introduced the unofficial motto of "No Prisoners" in response to the use of gas. The reality was that gas did not kill large numbers of troops, and of those disabled by it the vast majority recovered to return to the line. The nature of the deaths and injuries that it did cause however were horrific. Chlorine (the early type of gas used) caused severe irritation to the eyes and mouth. Longer exposure and the gas attacked the lining of the lungs, generating a liquid in which the sufferer drowned.

Phosgene gas had a similar effect but was more difficult to detect. Its effects were also less immediate and those affected were often unaware of it until up to forty-eight hours later, by which time the damage was fatal.

Mustard gas, developed first by the Germans and used by all sides later in the war (1917), caused severe blisters on any moist flesh it came into contact with, leading to horrible wounds. (In the USA a law was passed in 1919 requiring veterans with gas burns to cover them up if going





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out in public to prevent frightening the women and children.) The gas would also linger in low areas such as shell craters or trenches for many weeks, making them dangerous places to take over.

The uproar at the German's initial use of gas did not stop Britain and France developing their own gas weapons. (Although the British did not allow the special units formed to deliver the gas to refer to it as "gas". It was an "accessory"! ) Equally important was the development of effective defensive measures. As has been said, almost immediately some effective, if crude advice was given, namely the use of cloth soaked in water or urine placed over the face. A more substantial but effectively similar protection was issued to troops in August 1915, and from then until the end of the war continual improvements to both gas weapons and effective protection were made. The latter culminated in the full gas mask with a separate charcoal filter. This gave almost full protection provided it was used promptly and correctly.

Development of the weapon itself went along two lines. Firstly the nature of the gas itself was "improved" to make it less visible and more toxic. In all some seventeen types of gas were used during the war by the various participants. These fell into three main types.

**Tearing Agents** - Very much like today's tear gas and mace, these gases caused inflammation of the nose, throat and eyes, the latter causing temporary blindness.

**Asphyxiate** - These were lethal gases (including the chlorine and phosgene mentioned).

**Blistering Agents** - This includes the feared Mustard Gas.

At the same time delivery systems were developed. These were of two types. Firstly the improvements to the cylinders that held the gas to provide greater range and speed of distribution, but also to the introduction of gas shells that could be fired by artillery. These became more and more widely used and by 1918 one in every four artillery shells contained gas.

The British also developed the "Livens" system which was a type of gas mortar.

The British used gas for the first time in September 1915 at the Battle of Loos. One hundred and fifty tons of chlorine gas was released, causing significant disruption to the Germans and helping the British to advance more than 4,000 yards. It is interesting to note that on this occasion, at one point in the line, the gas failed to blow towards the enemy and in fact blew back into the British lines, affecting 2,000 troops of whom seven died. As a result the assaulting troops hesitated, unsure what to do. They were eventually led forward by a piper and succeeded in taking their objective, but it illustrates the problems that gas could cause.

In December 1915 the Germans used phosgene gas for the first time, again at Ypres. It was hoped that the success of the April attack could be repeated, but this time the British in the lines opposite

had effective respirators and were well drilled in their use. This and the strong winds which quickly blew the gas to the rear meant that little was achieved by it. Despite the fact that the phosgene gas was ten times more toxic than the earlier chlorine, only 1,000 men were affected, of which 120 were fatalities.

It was a similar story when the Germans launched three gas attacks in four days in April of 1916. In one of these 89 men were killed of the 500 that were affected.

Although gas was extensively and regularly used by all sides, it did not prove to be a decisive weapon. Where troops were prepared and had the right equipment, mortality rates from gas were relatively low. During the entire war British casualties from gas were 188,000 of which 8,100 were fatalities, from totals of 2,367,000 and 703,000 respectively. This of course does not account for deaths occurring after the war as a result of exposure. Numbers for this are not known.

The weapon perhaps had a greater moral effect, especially on inexperienced troops.

The weapon was also weather dependent. That meant that it could not be central to any strategy. It became in essence another weapon to be used, when possible, in combination with more traditional ones.

Going back to wargaming several questions need to be addressed if gas is to be incorporated into a rule set.

Firstly weather rules will be required, wind strength and direction being



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paramount. And this will need to be done in such a way that there is an element of uncertainty without being totally random. Winds don't blow for an hour from the north, then 10 minutes from the south then back to the north!

Then there is the significant difference between troops equipped to face the gas and those not. All this being relative to the combination of gas used and protection available. The different types of gas had different effects. Mustard gas was more feared than chlorine (morale differences?). Phosgene gas was more difficult to detect and more lethal (higher casualty rate?).

This mix would affect both the morale impact and the casualties.

The gas would also linger on the ground that it passed over; should that be taken into account? This would affect the troops following the gas as well as those being attacked.

The gas cloud also restricted visibility. This in particular hampered artillery observation and artillery support for the troops following up the gas was often not

possible, and the enemy could prove to be a lot closer than you thought!

All of this allows plenty of scope for complexity if that's what rocks your boat. There can be points differences for the various respirator types, specified time periods when options can be used, allowance for fumbling etc, etc....

Fortunately my rules are for divisional level and above, so some of the niceties that would be required at the tactical level can be ignored. Low level casualties are not significant, so lingering gas can be ignored. I will assume that the combination of gas used and protection available will be reflected in the combat outcome, and simulate the wide variety of possibilities by having a fairly high chance factor. This will not suit many players who like to specify the chance events such as "Officer is drunk" or "Gas masks stuck in the box!". Myself, I think the outcome is more important than the detail. You can interpret a given result any way you require. The only requirement is that the outcome is a possible one and that its frequency is sensible.

How for example, can a practical rule set replicate the instance the Italians retook a trench line aided by the residual gas launched against them by the Austrians the night before!

Well maybe many will not agree, but we shall judge that by the results... Once the rules are finished!

I cannot end this article without some comments on the general theme of wargaming the First World War. Researching any aspect of this war leaves one with a feeling of hopelessness and bewilderment. Why would anyone want to wargame this period? It is perhaps too deep a question to answer here. The reasons we wargame are many and complex, but for this war the main reason has to be to understand. Understand the scale of the horror and the difficulties that the participants faced. I hope that the simulation my rules will give will demonstrate, in small part these issues and perhaps highlight the courage of the men involved.

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