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**Lachrymator - tear gas**. This caused temporary blindness and serious irritation to the nose and throat of the victims. It was used more for harassment of troops engaged in close fighting or operating machine guns. A gas mask offered good protection.

**Sternutator** gasses - poisonous gas, chlorine, phosgene and diphosgene. Chlorine gas mixes with moisture so it will attack the eyes and lungs. Phosgene was used in lieu of chlorine. It caused much less coughing in the initial assault and more of it was inhaled causing a delayed effect. Often a soldier could be taken down up to 48 hours after the attack. It was later mixed with chlorine to cause the vapor to be spread more widely and more deadly. It was usually delivered in high explosive shells leaving the troops unable to immediately recognize its presence.

**Suffocating gasse**s - Caused severe edema of the lungs and death from asphyxiation could come within hours. No mask could protect a soldier from mustard gas. It penetrated all clothing and was remarkably persistent on the soil or on foliage over which it had been scattered. These factors tended to increase its effectiveness; in addition to the physical action of the gas on the men themselves, the morale of troops was impaired. It was almost odorless and caused serious blisters both internally and externally.

The French troops “saw none of this installation of premeditated murder. Looking across to the German trenches at about five in the afternoon, they saw a series of sharp puffs of white smoke and then trundling along with the wind came the queer greenish-yellow fog that seemed strangely out of place in the bright atmosphere of that clear April day. It reached the parapet, paused, gathered itself like a wave and ponderously lapped over into the trenches.

“Then passive curiosity turned to active torment – a burning sensation in the head, red-hot needles in the lungs, the throat seized as by a strangler. Many fell and died on the spot. The others, gasping, stumbling with faces contorted, hands wildly gesticulating, and uttering hoarse cries of pain, fled madly through the villages and farms and through Ypres itself, carrying panic to the remnants of the civilian population and filling the roads with fugitives of both sexes and all ages.”

* *A.T. Hunter, Canadian Soldier, who witnessed the first chlorine gas attack. Excerpt from “Canada in the Great World War” (1919), The Second Battle of Ypres.*

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| Gas travels quietly, so you  must not lose any time; you generally have about eighteen or twenty seconds in which to adjust your gas helmet.  A gas helmet is made of cloth, treated with chemicals. There are two windows, or glass eyes, in it, through which you can see. Inside there is a rubber-covered tube, which goes in the mouth. You breathe through your nose; the gas, passing through the cloth helmet, is neutralized by the action of the chemicals. The foul air is exhaled through the tube in the mouth, this tube being so constructed that it prevents the inhaling of the outside air or gas. One helmet is good for five hours of the strongest gas. Each Tommy carries two of them slung around his shoulder in a waterproof canvas bag. He must wear this bag at all times, even while sleeping. To change a defective helmet, you take out the new one, hold your breath, pull the old one off, placing the new one over your head, tucking in the loose ends under the collar of your tunic.  For a minute, pandemonium reigned in our trench, - Tommies adjusting their helmets, bombers running here and there, and men turning out of the dugouts with fixed bayonets, to man the fire step.  Reinforcements were pouring out of the communication trenches.  Our gun's crew was busy mounting the machine gun on the parapet and bringing up extra ammunition from the dugout.   |  | | --- | | **"Too slow getting on**  **his helmet"**  German gas is heavier than air and soon fills the trenches and dugouts, where it has been known to lurk for two or three days, until the air is purified by means of large chemical sprayers. We had to work quickly, as Fritz generally follows the gas with an infantry attack. A company man on our right was too slow in getting on his helmet; he sank to the ground, clutching at his throat, and after a few spasmodic twistings, went West (died). It was horrible to see him die, but we were powerless to help him. In the corner of a traverse, a little, muddy cur dog, one of the company's pets, was lying dead, with his two paws over his nose. | |  |   It's the animals that suffer the most, the horses, mules, cattle, dogs, cats, and rats, they having no helmets to save them. Tommy does not sympathize with rats in a gas attack.  At times, gas has been known to travel, with dire results, fifteen miles behind the lines.  A gas, or smoke helmet, as it is called, at the best is a vile-smelling thing, and it is not long before one gets a violent headache from wearing it.  Our eighteen-pounders were bursting in No Man's Land, in an effort, by the artillery, to disperse the gas clouds.  The fire step was lined with crouching men, bayonets fixed, and bombs near at hand to repel the expected attack.  Our artillery had put a barrage of curtain fire on the German lines, to try and break up their attack and keep back reinforcements.  I trained my machine gun on their trench and its bullets were raking the parapet. Then over they came, bayonets glistening. In their respirators, which have a large snout in front, they looked like some horrible nightmare.   |  | | --- | | All along our trench, rifles and machine guns spoke, our shrapnel was bursting over their heads. They went down in heaps, but new ones took the place of the fallen. Nothing could stop that mad rush. The Germans reached our barbed wire, which had previously been demolished by their shells, then it was bomb against bomb, and the devil for all. |   Suddenly, my head seemed to burst from a loud 'crack' in my ear. Then my head began to swim, throat got dry, and a heavy pressure on the lungs warned me that my helmet was leaking. Turning my gun over to No. 2, I changed helmets.  The trench started to wind like a snake, and sandbags appeared to be floating in the air. The noise was horrible; I sank onto the fire step, needles seemed to be pricking my flesh, then blackness. |





