

Safety of Chemical Mace Is Questioned by Many

More than 20,000 people have been doused with the incapacitating spray Chemical Mace, and as the number rises with each new riot and protest demonstration so do questions about the drug's safety and the ethics of its use by the police.

The makers of Chemical Mace report that sales are strong and that more than 250,000 cans of the spray have been sold to 4,000 police departments in the United States. While some police chiefs are buying Chemical Mace by the case, however, others are halting its use by their men.

The makers insist that Chemical Mace leaves no lasting aftereffects, but some physicians have reported isolated cases of eye and skin injuries due to exposure to the chemical. These doctors have demanded that the use of Chemical Mace be stopped.

But the doctors, like the police chiefs, also are divided on the safety of Chemical Mace. Even the United States Surgeon General, Dr. William H. Stewart announced that he was unsure of effects of Chemical Mace and has urged further tests of its safety.

Whatever the safety of Chemical Mace, there is no controversy about its effectiveness.

Even a small squirt of Chemical Mace in the face can incapacitate a man in several seconds and render him confused and powerless for half an hour or longer.

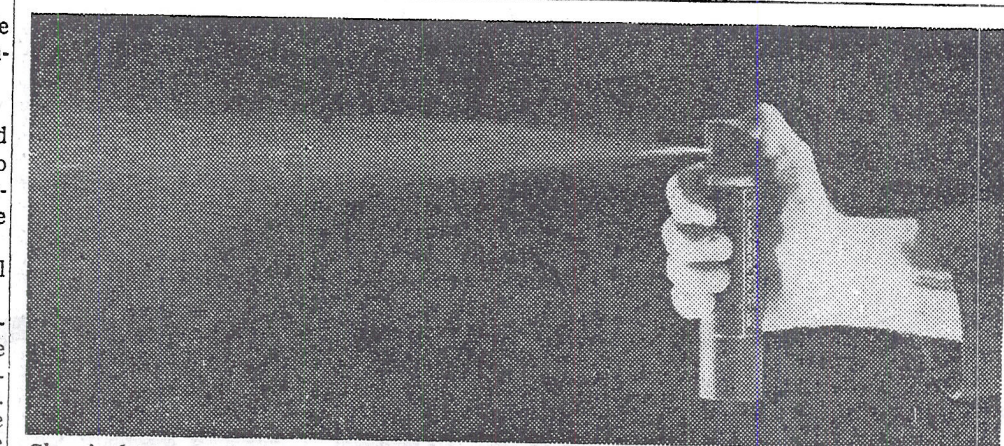
Reporter Sprayed

During a disturbance in Newburgh, N. Y., Thursday night, C. Gerald Fraser, a reporter for The New York Times, was sprayed with Chemical Mace by a policeman. Mr. Fraser had been told by the policeman to get off the street, and the reporter then informed the policeman that he was from The Times. Mr. Fraser showed his press card, then was sprayed with the chemical.

"It really burned," Mr. Fraser said.

He said the policeman had aimed for his face, but that the spray had landed on the back of his neck. Mr. Fraser said he was groggy and confused for more than 20 minutes. The stinging sensation on the neck continued for several hours, he added.

This same burning sensation has been felt by millions of people throughout the world during the last 40 years since tear gas became a standard



Chemical Mace, whose incapacitating spray's principal ingredient is tear gas, also contains ordinary solvents, according to maker, General Ordnance Equipment Corporation.

weapon in the arsenals of armies and police forces.

The reason is that the active ingredient in Chemical Mace is tear gas, although slightly less than 1 per cent, in addition to three chemical solvents.

"The active component in Chemical Mace is chloracetophenone, or CN as the Army calls it, which is the same as standard tear gas," said Alan Litman, a Pittsburgh physicist who started developing the drug in 1962.

Designed for Women

Mr. Litman said in an interview that he had deliberately set out to develop a product that could be used by women for their own protection.

According to Mr. Litman, who now is the research director of the General Ordnance Equipment Corporation of Pittsburgh, the other chemicals in the spray are standard solvents often found in products in use in the home, such as insect sprays, shoe dyes and spot removers.

These chemicals, he said, are trichloroethane and cosmetic grade kerosene. Mr. Litman said the 1,1,1, trichloroethane is the primary solvent for CN, which is crystalline at room temperature, and that the trichlorotrifluoroethane is a secondary solvent for the other two chemicals.

The kerosene, he added, is employed partially as a solvent and partially as "a semipermeable insulator to prevent intimate contact between CN and the skin."

Mr. Litman concedes that Chemical Mace will burn and sting, and supports the advice from the Surgeon General that the spray should be washed with water from the face and eyes as soon as possible.

But as to serious or lasting effects, Mr. Litman said that

"there has never been a documented case of a permanent injury due to Chemical Mace."

Laboratory Tests

"I have seen many, many tests run on laboratory animals, including rabbits, and I have not seen a single case of any anomaly," he added.

The safety of the chemical has been challenged by a small number of physicians, including Dr. Lawrence Rose, a San Francisco ophthalmologist.

The drug can cause permanent eye-damage, second-degree burns on the exposed skin and has pronounced effects on the central nervous system, Dr. Rose said last month at a news conference called by the San Francisco chapter of the Medical Committee for Human Rights.

Dr. Rose said he had conducted his own experiments using Chemical Mace on rabbits and that the corneas of the animals were scarred by the spray. He also said he has seen eight cases of human eye burns caused by Chemical Mace, three of which were serious.

Another California physician, who asked that his name not be revealed, said he had examined more than 125 persons who have been sprayed with Chemical Mace and had found "no long-term disability from the effects" of the drug.

The physician also urged that more research be performed with the tearing chemical and that the police not use the substance indiscriminately.

Favors Restriction

Mr. Litman agreed that the use of his invention should be restricted.

"This is a weapon," he said, "and it should be viewed as such. This is not a device that is used casually. It is a de-

vice that should be used in place of a more potential lethal form of force."

Police officials in at least three cities in the United States have agreed with the critics to the the point of banning the use of Chemical Mace pending further study. The cities are San Francisco, Ann Arbor, Mich., and Madison, Wis.

Police Chief Walter Krasny of Ann Arbor ordered his men to stop using Chemical Mace pending the results of toxicity tests at the University of Michigan. The tests were arranged because of protests of civil-rights groups whose members had been sprayed with the drug.

But other police forces are buying and using large quantities of Chemical Mace, which is packaged like hair spray. It is distributed in aerosol cans with push-button. The most popular models of the cans resemble billy clubs and cost \$4.50 and \$8.45.

Chemical Mace is believed to have been named after the club called the mace that was used in warfare in the Middle Ages. It's manufactured by General Ordnance Equipment Corp., which is a subsidiary of Smith & Wesson, which in turn is a subsidiary of the Bangor Punta Corporation of New York.

One management official, who asked not to be identified, said sales of Chemical Mace were strong. He added, however, that there was some concern among executives about the indiscriminate use of the drug by some policemen, especially on demonstrators.

He added that the controversy surrounding the drug was almost the same as the old question: "Should police carry guns, and if they do, when should they use them."