

EPA FACT SHEET REGARDING THE INCIDENT IN BHOPAL

DEC. 10, 1984

I want to thank everyone who cooperated so full in helping us to pull this backgrounder together on short notice. We hope it is helpful in achieving Jack McGraw's goal of having the Agency respond with "one voice" on inquiries about the Indian situation.

This Q&A will undoubtedly have to updated regularly over the coming weeks as new questions are asked. We will be sending out such updates on an as-needed basis.

Again, only answer those questions in your area of expertise, and don't hesitate to refer any inquiries to the press office, where we can find the appropriate person to handle given questions.

Thank you once more for your responsiveness.

Dave Cohen  
Acting Director  
Press Services Division

## FACT SHEET ON METHYL ISOCYANATE, EPA AND THE SITUATION IN INDIA

[Note to EPA employees: If you receive any press calls on this issue, please refer them to the EPA Press Office, Dave Cohen (382-5589) Dave Ryan(382-2981), Robin Woods(382-4377) or the general number 382-4355. Any calls the Press Office can't handle itself will be referred to the proper people in the programs. If you are asked to talk to a reporter, don't hesitate to make it clear that you will only talk on your areas of expertise, and on nothing else. If reporters try to steer you into areas you can't or don't want to talk about, just refer them back to the Press Office or the proper number to reach the press coordinator. We will notify any program contacts before referring a call. If a Task Force Team is set up to coordinate information, Dave Ryan will represent the press office.]

Q. Is anybody coordinating the Federal Government's response to this issue?

A. Jack McGraw, Deputy Assistant Administrator for Emergency Response has been designated by Al Alm, EPA's Deputy Administrator, to head a special task force for coordination of EPA's activity in this matter. He has designated Jim Makris as his Project Leader. The Task Force can be reached on 475-8600. The overall Federal coordination will be achieved through the National Response Team, which is chaired by EPA and includes representation from 12 Federal Agencies. Press calls should not be referred to the Task Force or Jim Makris unless they have first been handled by the Press Office. It is important to note that the Task Force is being set up merely to handle the abundance of calls, not as an emergency response measure.

Q. What is methyl isocyanate (MIC) and how is it used?

A. MIC is a chemical used mainly as an "intermediate" in the process of manufacturing certain pesticides such as Temik, Carbaryl and Sevin. It does not appear in the finished product, so it is not a pesticide problem.

Q. What are the health effects of MIC?

A. The human health effects data which EPA has available indicate that MIC causes an acid burn in the lungs. MIC attacks any part of the body which is particularly moist, such as the eyes, lungs, mucous membranes. The short-term effect is eye irritation and difficulty breathing. Eventually, the symptoms are similar to those of pneumonia. The long-term effect is possible permanent lung and eye damage with extensive scar tissue formation. Isocyanates cause pulmonary sensitization and may trigger asthmatic episodes.

Q. Does EPA regulate methyl isocyanate?

A. Yes, under both the Resource Conservation and Recovery Act (RCRA) and Superfund. Under RCRA, MIC is listed as a hazardous waste whenever it's discarded, and therefore is subject to the various requirements under that law (For example, one requirement is that it must be managed in RCRA-permitted storage, treatment and disposal facilities). Under the Superfund program, MIC released into the environment from an accident or a waste site must be controlled, neutralized, or cleaned up to the extent necessary to protect health or the environment. MIC entered the market place 15 years ago, before EPA was formed and before TSCA was passed. MIC is subject, however, to reporting under Section 8(e) of TSCA. 8(e) requires the manufacturer, processor, or distributor of a chemical to immediately notify EPA if he obtains information which reasonably supports the conclusion that the chemical presents a substantial risk of injury to health or the environment. EPA did receive an 8(e) notification on MIC from Union Carbide. That notification provided data from an inhalation study on rats showing that MIC was highly, acutely toxic. MIC is also subject to recordkeeping under Section 8(c) of TSCA. Under 8(c), manufacturers, processors or distributors must maintain records of significant adverse reactions to health or the environment. Health records must be maintained for 30 years and can be filed by employees or plant neighbors. EPA may inspect such records upon request.

Q. What is Union Carbide's position on MIC?

A. We cannot speak for the company. Their information number is (203) 794-6986 in Danbury, Connecticut. Any questions on what is happening in India should be referred to Union Carbide unless such questions deal with any personnel EPA may dispatch to that country.

Q. Is MIC made in the U.S.?

A. Union Carbide has a plant in Institute, West Virginia (near Charleston) which manufactures MIC and ships it to other manufacturers who use it as a chemical intermediate in the production of pesticides. Union Carbide has shut down the MIC part of the W. Va. plant until a safety investigation is completed on the India situation.

Q. Does EPA know where MIC is shipped to from the West Virginia plant?

A. Union Carbide does have this information but thus far refuses to officially divulge it from their Danbury, Connecticut headquarters. (Although there are recent indications that Union Carbide may change its mind. Callers should be encouraged to check customer lists with Union Carbide) It is not a part of EPA's record keeping. Such information is not normally required under TSCA, and even if it were required, this type of information is often claimed as confidential by the submitting company. Confidential business information cannot be released by EPA to the public without criminal penalties. Under Section 7 of FIFRA, registrants of pesticides are required to register their facilities, and annually must provide information to EPA on the types and amounts of pesticides produced. Based on our knowledge of pesticides which use MIC as a chemical intermediate, we might be able to deduce locations and volumes. However, that information would also be protected as confidential business information under the pesticide statutes and it would not be released to the general public. DPTS does have access to proprietary data collected by one of its contractors. That data is more up to date than the TSCA inventory on production volume and also contains customer information. We are checking now to determine if we can release this set of proprietary data.

On Dec. 11 George Hanks, the Federal Environmental Affairs Director of Union Carbide in Washington, D.C. "unofficially" confirmed at least part of a customer list for the Institute plant: FMC Corp. plant in Middleport, N.Y.; the Dupont plant in La Porte, Texas; the Morton-Thiokol plant in Weeks Island, Louisiana; the NOR-AM plant in Muskegon, Michigan; the Union Carbide plant in Woodbine, Georgia; the Velsicol plant in Pasadena, Texas; Shell Chemical, Institute, West Virginia. (Note to EPA employees: This list is given you for your information. Most of it has already appeared in the Wall Street Journal. Callers should confirm these sites with Union Carbide).

Q. What other Federal agencies have responsibilities for safety regarding MIC?

A. The Occupational Safety and Health Administration (OSHA) has a worker protection standard (.02 parts per million). The Dept. of Transportation (DOT) classifies MIC as a flammable liquid in the "hazardous" class, which means that certain protective shipping requirements must be met. OSHA contact: Susan Fleming(523-8151); DOT contact: Lee Metcalf(426-2075)

Q. What about protecting the tanks MIC is stored in?

A. When RCRA was reauthorized by the President early last November, a major new section of the law was enacted to ensure the safety of underground storage tanks. The new regulations (the deadline for development is 33 months from signing for new tanks and 45 months for existing tanks) would call for the assured integrity of the entire underground tank structure, including such considerations as valves and pressurization, so as to prevent releases to ground and surface water and to soil. EPA requires a response to above-ground chemical releases into the atmosphere under Superfund. Above-ground tanks with hazardous wastes are regulated under RCRA.

Q. What would happen if there were a leak?

A. Three federal agencies would have emergency response responsibilities, depending on the circumstances. Superfund legislation requires that release of any hazardous substances into the environment must be reported to the Coast Guard National Response Center in Washington D. C. MIC is listed as a hazardous substance under Superfund and a hazardous waste under RCRA and the agency would respond to any emergency involving MIC. The Federal Emergency Management Administration (FEMA) and DOT also have emergency response capabilities.

Q. Are there other mechanisms for assuring safety?

A. There are standards set up by the American Society for Testing Materials, an industry testing association. Their number is (202) 737-6815. Their standards are designed to prevent chemical leaks from equipment and pipes. The standards are not mandatory, although companies have generally accepted them. There are also national and local firecodes which could come into play in preventing a situation posed by a chemical accident.

Q. Will people from EPA go to India?

A. EPA has received a request from several West Virginia politicians to send a team to India. If the State Department approves, EPA will do so. We have done this in the past with other overseas disasters, such as the dioxin problem in Seveso, Italy in 1976.

Q. Could this happen here?

A. First off, no one knows yet exactly what happened in India. As of Dec. 10, Union Carbide believed that there wasn't even an equipment failure. Even if it was an equipment failure, it is extremely unlikely that a disaster on the scale of Bhopal could occur in the U.S. We have tighter regulatory controls that reduce the likelihood of an accident happening and better and more effective emergency response plans and capabilities. Bill Ruckelshaus recently said that the India situation underscores the need for environmental protection and agencies like EPA doing their job effectively. However, no set of laws or regulations, no matter how well designed or enforced, will ever be a fool-proof system. We must make sure that we take those actions which seem prudent and reasonable to prevent such an occurrence and that we be prepared to respond quickly and effectively should there be such an unlikely event.

Q. What about Sen. Byrd's proposal? What is EPA's response?

A. Sen. Byrd of West Virginia has made two requests of EPA. One is to send a investigative team to India. We will go to India if the State Dept. requests us to. He also requested EPA send a team to the Institute, West Va. Union Carbide plant for a special safety investigation, which EPA did Dec. 6.

Q. Have any Congressional hearings been called on this issue?

A. We understand that Congressman Gaydos of Pennsylvania has called a hearing on Capitol Hill for Dec. 12, and that Cong. Waxman of California has called a hearing in Institute, W. Va. on Dec. 14. So far EPA has been invited to testify only at the Waxman hearing.

Q. Are any air emission rules applicable to the Indian situation?

A. MIC is not regulated as a hazardous air pollutant. The Clean Air Act is normally concerned about stack emissions, and a faulty tank would not necessarily fall within the body of existing regulations. Also, at present, there volatile organic compounds are also within EPA requirements at the plant.

(End)

## Current TSCA Provisions which Affect MIC

### • Section 8(e)

• 8(e) requires the manufacturer, processor, or distributor of a chemical to immediately notify the EPA Administrator if he obtains information which reasonably supports the conclusion that the chemical presents a substantial risk of injury to health or the environment.

• Substantial risk can be based on include hazard information such as new animal <sup>or in vitro</sup> studies showing positive effects, or epidemiology studies showing effects. Substantial risk can also include significant exposure information in the case where a chemical's hazard is already known. Significant exposure could include groundwater contamination, air releases, leaking drums of chemicals, etc.

• EPA received an 8(e) on MIC from Union Carbide transmitting an inhalation study (LC-50 study) on rats. The study showed high acute toxicity.

### • Section 8(c)

• ~~8(c)~~ 8(c) regulations require manufacturers and processors of all chemicals in affected SIC codes to maintain records of significant adverse reactions to health or the environment. Health records must be maintained for 30 years and can be filed by plant employees or plant neighbors. The rule does exempt record keeping for well documented effects. However, known effects reported at lower levels must be recorded.

Multiple significant effects under 8(c) could require reporting under 8(e). Also, the Administrator may inspect plant records on request.

• OHS ~~has~~ plans to request an inspect of the Institute, Va. plant records under 8

## • Section 8(b)

- TSCA required the establishment of an inventory of chemicals in US commerce during the period 1975-1979. The inventory was generated by a two-phase reporting process. In the first phase, manufacturers and importers were required to report plant site and production information. In the second phase, processors and users were required to report on those substances which they processed/used but which weren't reported during the first phase.
- The current inventory is out of date. A proposed rule to update the inventory is currently in Agency review. That rule would require updated reporting if plant sites changed or if <sup>production</sup> volume changed significantly.
- OPIB does have proprietary data from SRI on production volume, customer lists, etc. We are checking now whether that information can be publically released.

## TSCA Provisions which could be used to Obtain Information on or Regulate MIC

### Information Gathering

- Section 4(c)

✦ If we can make a "may present an unreasonable risk" finding, we can require the manufacturer to develop additional TEST data on the health or environmental effects of the chemical. This finding requires a hazard concern (which we can make) and an exposure potential (which might be more difficult to make)

- Section 6(b)(1)

If we have a reasonable basis to conclude that a particular manufacturer is manufacturing or <sup>processing</sup> a chemical in a manner which unintentionally causes the chemical to present an unreasonable risk of injury to health or the environment, we can, by order, require such manufacturer or processor to submit a description of quality control procedures which are used during manufacture or processing.

- Section 8(a)

We can require record-keeping or reporting ~~for all~~ from manufacturers and processors of ~~to~~ non R+D substances. This recordkeeping/report can cover info on chemical structure, categories of use, production levels by use category, descriptions of byproducts, descriptions of number of individuals exposed and duration of exposure, method of disposal. We could require reporting to state or local officials rather than EPA.

- Section 8(d)

We can require manufacturers <sup>and</sup> processors to submit all health and safety studies in their possession.

## Controls

### • Section 6(a)

" Section 6(a) is a broad control provision. If we can show that we have a reasonable basis to conclude manufacturing, processing, distribution, use, or disposal presents or will present an unreasonable risk, we can restrict use, require labelling, require specific use practices, require specific types of warnings (specified by us), require record-keeping of processes used, regulate disposal, or ban it.

" Section 6(a) rules may be made immediately effective if widespread or serious injury would occur before a rule was finalized.

### • Section 6(b)(2)

If we determine that quality control procedures during manufacture or processing are not adequate to prevent a chemical from ~~presenting~~ presenting an unreasonable risk, we can order the manufacturer/processor to revise quality control procedures.

### • Section 7

This section is the imminent hazard provision which would allow us to commence a civil action in district court for seizure or relief, ~~in the case~~. It would be after the fact.

## NOTE -

ALL PROVISIONS LISTED COULD BE APPLIED TO MIC or to all chemicals structurally related to MIC or to all chemicals with certain acute toxicity characteristics.

# U.S. System Is in Place For Curbing Disasters

By PHILIP SHABECOFF

Special to The New York Times

WASHINGTON, Dec. 7 — A highly organized Federal emergency response network now in place across the country could contain, but not entirely prevent, disasters of the kind caused by the leak of lethal gas in India, Government officials said today.

"Any time you deal with chemicals there is a risk, but the chance of it happening here is much less than in India," said John J. Stanton, director of the Environmental Protection Agency's emergency response division. "We are better able to respond quickly, to evacuate people and come in with cleanup operations."

Under a national contingency plan prepared with the authority of the Federal toxic waste cleanup law, the E.P.A. and the United States Coast Guard operate a national response team, set up to deal with chemical spills and other environmental emergencies. The Coast Guard is responsible for emergencies in coastal areas and the E.P.A. for those in inland areas.

## Offices Ready to Respond

Each of the 10 regional offices of the E.P.A. has 6 to 12 people who are trained to respond to such emergencies as spills of poisonous chemicals and who are equipped with gear for protection, testing and containing the hazard. The response teams can call in experts from other agencies, like the Centers for Disease Control, the Defense Department and the Federal Emergency Management Authority.

Private operators have been retained across the country who are required by contract to be able to reach the scene of any accident in their region within one to two hours through the use of subcontractors able to deal with chemical emergencies.

The E.P.A. has also set up an "environmental response center" in Edison, N.J., staffed by scientists and engineers who have the training to provide information on chemicals and the means to deal with such emergencies in any part of the country.

Nationally, the Federal emergency system has dealt with about 500 chemical emergencies in the last three years, some of them potentially serious, according to E.P.A. officials.

When a cloud of the pesticide malathion escaped from an American Cynamid plant in New Jersey and drifted over Staten Island several weeks ago, "we responded very quickly," said Mr. Stanton of the E.P.A.

He said the Coast Guard "was out almost immediately, putting up a water curtain" to act as a barrier against the noxious cloud. The New Jersey state response team, which Mr. Stanton said was one of the best, also moved in.

Although more than 150 people exposed to the cloud had to be treated, the consequences could have been worse if not for the rapid response, he said.

## How It Would Respond

Asked to describe what action would be taken if a leak similar to the one in India occurred at the Union Carbide plant in Institute, W. Va., Thomas I. Massey, chief of emergency response for E.P.A. in the region, said he could give only a "generic" answer. The West Virginia plant makes methyl isocyanate, the same chemical that has killed more than 2,000 people in India after it leaked from a Union Carbide plant.

Mr. Massey said that under the emergency plan, after the accident had been noticed — by the company, the local Fire Department or "some Boy Scouts on a hike" — authorities would call the National Emergency Response Center operated by the Coast Guard in Washington. The center takes all such calls on chemical emergencies, wherever they might occur in the United States. The emergency center's telephone number is (800) 424-8302. The phone is staffed 24 hours a day.

The center would immediately notify the state Governor and the state's own emergency response team. After that, the E.P.A.'s regional emergency response team would be notified and begin an assessment.