CASE DEFINITION

# Methyl Isocyanate

## Clinical description

Exposure to methyl isocyanate typically occurs through inhalation or dermal absorption. Toxicity might develop over 1 to 4 hours after exposure. Signs and symptoms of methyl isocyanate typically include cough, dyspnea, chest pain, lacrimation, eyelid edema, and unconsciousness. These effects might progress over the next 24 to72 hours to include acute lung injury, cardiac arrest, and death (1-4).

## Laboratory criteria for diagnosis

- *Biologic*: No biologic marker for methyl isocyanate exposure is available.
- *Environmental*: Detection of methyl isocyanate in environmental samples, as determined by NIOSH.

## Case classification

- *Suspected*: A case in which a potentially exposed person is being evaluated by health-care workers or public health officials for poisoning by a particular chemical agent, but no specific credible threat exists.
- *Probable*: A clinically compatible case in which a high index of suspicion (credible threat or patient history regarding location and time) exists for methyl isocyanate exposure, or an epidemiologic link exists between this case and a laboratory-confirmed case.
- *Confirmed*: A clinically compatible case in which laboratory tests on environmental samples are confirmatory.

The case can be confirmed if laboratory testing was not performed because either a predominant amount of clinical and nonspecific laboratory evidence of a particular chemical was present or a 100% certainty of the etiology of the agent is known.

## Additional resources

1. Hathaway GJ, Proctor NH, Huges JP, eds. Methyl isocyanate. Proctor and Hughes' chemical hazards of the workplace. 4th ed. New York, NY: John Wiley; 1996: 432.
2. Mehta PS, Mehta AS, Mehta SJ, Makhijani AB. Bhopal tragedy's health effects: a review of methyl isocyanate toxicity. JAMA 1990;264:2781-7.



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3. Rye WA. Human responses to isocyanate exposure. J Occup Med 1973;15:306-7.
4. Misra NP, Pathak R, Gaur KJ, et al. Clinical profile of gas leak victims in acute phase after Bhopal episode. Indian J Med Res 1987;86(suppl):11-9.





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