



Questions and Answers (Q&A) about OSHA's National Emphasis Program (NEP) – Occupational Exposure to Isocyanates

The Occupational Safety and Health Administration (OSHA) recently announced a National Emphasis Program to focus on the potential adverse health effects from occupational exposure to isocyanates. Bayer MaterialScience LLC (BMS) has prepared this Q&A document using a number of resources to assist customers in understanding and preparing for this NEP.¹

What is an OSHA National Emphasis Program (NEP)?

OSHA develops NEPs to focus outreach efforts and enforcement on specific hazards in a particular industry for a three-year period. This Isocyanates NEP became effective on June 20, 2013, and was developed to focus OSHA resources on the reduction of worker dermal and respiratory exposure to isocyanates which are known to potentially cause work-related asthma, sensitization (respiratory, skin) and other occupational health effects. The Isocyanates NEP will combine enforcement and outreach efforts to raise employers', workers', and safety and health professionals' awareness of the health effects associated with occupational exposure to isocyanates. The NEP covers methylene diphenyl diisocyanate (MDI), toluene diisocyanate (TDI), hexamethylene diisocyanate (HDI), methylene bis-cyclohexylisocyanate (H12MDI) (hydrogenated MDI), isophorone diisocyanate (IPDI), naphthalene diisocyanate (NDI), and methyl isocyanate (MIC).

Which industries are subject to inspection under the Isocyanates NEP?

OSHA stated that inspections under this NEP will target all workplaces under the jurisdiction of Federal OSHA, including general industry, construction and maritime industries where exposures to isocyanates are known or are likely to occur, including establishments with fewer than 10 workers. A list of relevant industries (by Standard Industrial Classification (SIC)/North American Industry Classification System (NAICS) codes) where isocyanates are to be used is in Appendix A of the NEP. Among the relevant industries are automotive, casting, building and construction, electricity and electronics, mechanical engineering, paints, plastics, printing, timber and furniture, textile, medical care, mining, and food industry.

¹ This information should not be viewed as BMS' interpretation of federal statutory or regulatory requirements. If you need assistance with any interpretations, you should contact the agency involved or your own legal counsel.

How will OSHA schedule and conduct these inspections?

Each OSHA Area Office is to conduct at least three (3) inspections per year. Area Office locations can be found here: <http://www.osha.gov/html/RAmap.html> OSHA will inspect the employer's 1) injury and illness records to determine if injuries and illnesses related to isocyanate exposures have been recorded, including any work-related cases of asthma, 2) controls (engineering controls, administrative and work practice controls, and personal protective equipment (PPE)) where potential exposures to isocyanates are present, 3) hazard communication program, 4) methods for ensuring adequate housekeeping, and 5) compliance where chemical components of an isocyanate process or operation contain flammable or combustible materials. In addition, the NEP states that an OSHA compliance officer may expand the scope of the inspection beyond the isocyanate-related work operations or activities if other workplace hazards or violations are observed and/or brought to their attention.

How can I prepare for the NEP?

As previously discussed, during an inspection under this NEP, the OSHA compliance officer may review five areas. Listed below are actions that can be taken which may provide assistance in the event of an NEP-related inspection:

- 1) Injury and illness recordkeeping
 - Assure that you have recorded on the OSHA 300 and 301 forms any injury or illness records related to isocyanate exposures, including any work-related cases of asthma.
- 2) Controls (engineering controls, administrative and work practice controls, and personal protective equipment (PPE))
 - Conduct a workplace exposure assessment to identify potential airborne and/or dermal exposures to isocyanates. This might consist of air sampling, wipe testing (i.e., surface, dermal and PPE), and/or visual inspections.
 - If the exposure assessment indicates that there may be an isocyanate overexposure, ensure that engineering and administrative controls have been implemented. If feasible engineering and administrative controls cannot eliminate overexposure to isocyanates, ensure that appropriate personal protective equipment is available and used.
 - If personal protective equipment is used, ensure that the company PPE program is in compliance with the requirements of the applicable OSHA Standards:
 - 1910.132, Personal Protective Equipment
 - 1910.133, Eye and Face Protection
 - 1910.134, Respiratory Protection

These standards are available via the following link:

http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1910

In addition, PPE recommendations can be found in Section 8 of the BMS Safety Data Sheet (SDS).

3) Hazard Communication Program

- Assure that a written hazard communication program is in place.
- Assure that the hazardous chemical inventory includes any isocyanate products in use at your facility.
- Complete isocyanate hazard communication training for all applicable employees.
- Assure that BMS isocyanate SDSs are on site and readily available to employees. The most up-to-date safe use information, including SDSs, for BMS products can be found at <http://www.productsafetyfirst.bayer.com>.
- Properly label any containers of isocyanate products.

The OSHA Hazard Communication Standard (1910.1200) and OSHA Occupational Exposure to Hazardous Chemicals in Laboratories Standard (1910.1450) are available via the following links:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10099

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10106

4) Housekeeping

- Assure proper handling of isocyanate products, and properly maintain processing equipment to minimize the potential for contamination of surfaces, equipment, clothing, etc.
- Institute a periodic housekeeping inspection program to identify and correct sources of isocyanate contamination (e.g., handling practices, equipment leaks, etc.) in a timely manner.
- Consider using wipe testing as a means to confirm possible isocyanate contamination of surfaces, equipment, tools, etc. SWYPEs™ test kits have been used for this purpose; information can be found at <http://www.cililabs.com/products/surface-swypes.html>.
- When contamination is identified through visual inspection and/or wipe testing, promptly decontaminate surfaces, equipment, tools, etc. Refer to Section 6 of the BMS SDS for decontamination information.

This OSHA Sanitation Standard (1910.141) is available via the following link:
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9790

5) Isocyanate processes or operations containing flammable or combustible materials

- Determine whether or not the isocyanate-containing products being handled are flammable (flash point at or below 93 °C) by consulting the SDS (Flash point information is typically found in Section 9 of the BMS SDS).
- If materials are flammable, ensure compliance with OSHA Flammable Liquids and Spray Finishing Using Flammable and Combustible Materials Standards (1910.106 and 1910.107).

These standards are available via the following link:
http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9753

Where do I get additional information and assistance?

1. Bayer MaterialScience LLC

All inquiries regarding this NEP should be directed to the BMS Product Safety and Regulatory Affairs (PSRA) department. Please contact Tim Feeley (timothy.feeley@bayer.com) at 412-777-2376, Barbara Cummings (barbara.cummings@bayer.com) at 412-777-3454, Brian Karlovich (brian.karlovich@bayer.com) at 412-777-4808, or Lisa Marie Nespoli (lisamarie.nespoli@bayer.com) at 412-777-4766.

BMS has in place a progressive product stewardship program, Product Safety First. Through the Product Safety First website (<http://www.productsafetyfirst.bayer.com/>), BMS is able to provide isocyanate product-specific information and guidance—around the clock—that can assist in preparing for this NEP. (Please note that first time users will be required to register and create a password to log-in and to obtain full access to the isocyanate safe use and handling information that is available.)

Through its Product Safety First program, BMS can also offer assistance as it relates to BMS isocyanate products. For example, the PSRA Industrial Hygiene group can:

- Discuss hazard awareness, and safe handling and use, either at the customer facility or via phone consultation.
- Conduct industrial hygiene air sampling surveys at the customer facility.
- Conduct health and safety presentations at the customer facility or via webinar.

2. American Chemistry Council

The isocyanates and polyurethanes industries, including BMS, are strongly committed to supporting the continued safe and responsible use of their products through the following American Chemistry Council (ACC) organizations:

- ACC Diisocyanates Panel: www.americanchemistry.com/dii
- ACC Aliphatic Diisocyanates Panel: www.americanchemistry.com/adi
- ACC Center for the Polyurethanes Industry: www.polyurethane.org

These ACC organizations undertake extensive programs to educate and provide information about safety precautions that protect workers and consumer health and to provide information to help users of isocyanates comply with regulations. They also work with the value chain and provide resources such as training opportunities, guidance documents and videos, and professional development courses that can help facilities comply with OSHA requirements.

The ACC document library provides a multitude of guidance documents that can be accessed via the following link: <http://polyurethane.americanchemistry.com/Resources-and-Document-Library#EHS>.

ACC has prepared a Q&A document on the Isocyanate NEP, and it is available from BMS upon request.

3. Occupational Safety and Health Administration (OSHA)

OSHA's NEP on isocyanates is available at http://www.osha.gov/OshDoc/Directive_pdf/CPL_03-00-017.pdf. In addition, OSHA's Web page on Isocyanates <http://www.osha.gov/SLTC/isocyanates/index.html> provides information on recognizing potential hazards, as well as OSHA standards that address isocyanates in the general, construction, and maritime industries.

Small business owners who are concerned about the cost of professional help can contact the OSHA Consultation Project Office in their state for a free consultation service. The OSHA Consultation Program can help employers evaluate and prevent hazardous conditions in their workplace that can cause injuries and illnesses, including the hazards associated with exposures to isocyanates. For more compliance assistance information, please visit OSHA's Small Business web page at <http://www.osha.gov/dcsp/smallbusiness/index.html>.

4. Other Resources

The American Industrial Hygiene Association (AIHA) has a web tool that can help companies locate an industrial hygiene consultant in their area: <http://www.aiha.org/about-ih/Pages/Find-an-Industrial-Hygienist.aspx>.

Disclaimer

These guidelines are for informational purposes only. You remain solely responsible for complying with all necessary safety and other legal requirements. The manner in which you use and the purpose to which you put and utilize this information (whether verbal or written) or technical assistance, are beyond our control. Therefore, it is imperative that you test this information and any technical assistance provided to determine to your own satisfaction whether the technical assistance and information are suitable for your intended uses and applications. All information and technical assistance is given without warranty or guarantee and is subject to change without notice. It is expressly understood and agreed that you assume and hereby expressly release us from all liability, in tort, contract or otherwise, incurred in connection with the use of our products, technical assistance, and information. Any statement or recommendation not contained herein is unauthorized and shall not bind Bayer MaterialScience LLC.

For Further Information Contact



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This information is subject to change without notice.
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