MIOSHA

Michigan Occupational Safety and Health Administration (MIOSHA)
Department of Labor and Economic Opportunity (LEO)

AGENCY INSTRUCTION

DOCUMENT IDENTIFIER:	DATE:
MIOSHA-COM-16-7R3	August 24, 2026

SUBJECT: Combustible Dust National Emphasis Program

I. Purpose. This instruction contains policies and procedures for inspecting workplaces that have fire and explosion hazards due to combustible dust.

II. Scope. This instruction applies to the General Industry Safety and Health Division (GISHD), Construction Safety and Health Division (CSHD), Consultation Education and Training (CET) Division and Technical Services Division (TSD).

III. References.

A. Agency Instruction MIOSHA-SHMS-15-1, Submission of Bulk Samples to the Laboratory and Equipment Services Section (LESS), as amended.

B. General Industry Standard Part 77, Grain Handling Facilities (Part 77).

C. MIOSHA Field Operations Manual, as amended (MIOSHA FOM).

D. National Fire Protection Association (NFPA) NFPA 660, Standard for Combustible Dusts and Particulate Solids (2025).

E. Occupational Safety and Health Administration (OSHA) Field Operations Manual, as amended (OSHA FOM).

F. OSHA Instruction CPL 03-00-008, January 30, 2023, Revised Combustible Dust National Emphasis Program.

G. OSHA Instruction TED 01-00-015 [TED 1-0.15A], February 10, 2020, OSHA Technical Manual – Section IV, Chapter 6, Combustible Dusts (OSHA Technical Manual).

H. OSHA Memorandum, April 21, 2015, Evaluating Hazardous Levels of Accumulation Depth for Combustible Dusts.

IV. Distribution. MIOSHA Staff; Federal OSHA; S-drive Accessible; MIOSHA Messenger; and Internet Accessible.

V. Cancellations. All previous versions of this agency instruction.

VI. Next Review Date: This instruction will be reviewed three (3) years from date of issuance.

VII. History. History of previous versions includes:

MIOSHA-COM-16-7R2, June 21, 2023
MIOSHA-COM-16-7R1, July 8, 2021
MIOSHA-COM-16-7, November 15, 2016
GISHD-COM-08-1R2, January 19, 2011

GISHD-COM-08-1R1, December 17, 2009
GISHD-COM-08-1, March 12, 2008

VIII. Contact. Adrian Z. Rocskay, Director, GISHD; Dan W. Maki, Director CSHD; Augustine Syrovy, Acting Director, CET Division; and Samantha Birsen, Director, TSD.

IX. Originator. Barton G. Pickelman, Director

X. Background. In 2007, federal OSHA implemented a national emphasis program (NEP) to identify and reduce exposures to combustible dust in selected manufacturing facilities. The NEP was in response to a combustible dust hazard study conducted by the U.S. Chemical Safety and Hazard Investigation Board (CSB) which found that nearly 280 dust fires and explosions had occurred in U.S. industrial facilities over the previous 25 years, resulting in 119 fatalities and over 700 injuries. In 2008, the GISHD issued a division instruction on combustible dust and that instruction has been renewed several times.

Most recently, on January 23, 2023, OSHA revised its NEP in CPL 03-00-008, Revised Combustible Dust National Emphasis Program. The significant changes to CPL 03-00-008 were: technical information on combustible dust was moved from the directive to the OSHA Technical Manual; guidance was added for the safety officer/industrial hygienist (SO/IH) to pay particular attention to combustible dust hazards and to verify if these have been addressed by the employer; and the list of targeted industries in Appendix B was updated to reflect more recent inspection history for combustible dust hazards with an emphasis on those that have caused fatalities and catastrophes.

CPL 03-00-008 is not intended for inspections of grain handling facilities covered by Part 77. CPL 03-00-008 is also not intended for inspections of explosives and pyrotechnics manufacturing facilities covered by the process safety management (PSM) regulations. However, CPL 03-00-008 can be used for inspections of facilities that manufacture or handle other types of combustible dusts (such as ammonium perchlorate) that are covered under the PSM regulations.

XI. Significant Changes.

A. Updated reference from NFPA 654 to NFPA 660 and hazard assessment for dust accumulations. As part of NFPA's Combustible Dust Document Consolidation Plan, NFPA 654 is combined into the consolidated standard NFPA 660.

B. Deleted outreach plan in Appendix B.

C. Updated NAICS codes to meet current NAICS version. See Appendix A.

XII. Action. With this instruction, MIOSHA confirms adoption of CPL 03-00-008. The adoption is with the understanding that the federal programs and procedures referenced in the federal directive will be interpreted according to the corresponding MIOSHA programs and procedures.

XIII. Inspection Procedures.

A. The SO/IH will address the combustible dust hazard on the following types of inspections:

1. Programmed inspections when the North American Industry Classification System (NAICS) code is listed in Appendix A of this instruction, which is Appendix B of CPL 03-00-008.
2. A complaint or referral alleging combustible dust hazards.
3. A fatality due to combustible dust hazards.
4. An investigation of an explosion or fire due to combustible dust.
5. Any other inspection where combustible dust poses a serious hazard.

B. During the opening conference or the walk around of the facility, if the SO/IH determines that the employer's operation may have a serious combustible dust hazard, a separate inspection for combustible dust will be conducted. Paragraphs C, D, E, and F of this section can be used by the SO/IH to determine if there is a combustible dust hazard. The combustible dust inspection will adhere to the guidelines in CPL 03-00-008; Agency Instruction MIOSHA-SHMS-15-1, Submission of Bulk Samples to the Laboratory and Equipment Services Section (LESS); OSHA Technical Manual; and OSHA Memorandum, Evaluating Hazardous Levels of Accumulation Depth for Combustible Dusts.

C. SO/IHs should recognize that the following criteria must be met before a deflagration can occur:

1. The dust has to be combustible.
2. The dust has to be dispersed in the air or another oxidant, and the concentration of this dispersed dust has to be at or above the minimum exposable concentration (MEC).
3. There is an ignition source, such as an electrostatic discharge, spark, glowing ember, hot surface, friction heat, or a flame that can ignite the dispersed combustible mixture that is at or above the MEC.

D. SO/IHs should recognize that the following criteria must be met before an explosion can occur:

1. The above criteria for deflagration must be present.
2. The combustible mixture is dispersed within a confined enclosure, and the confined enclosure does not contain sufficient deflagration venting capacity to safely release the pressures. The confined enclosure can be a vessel, storage bin, ductwork, room, or building. It must be noted that a small deflagration can disturb and suspend settled combustible dust, which could then serve as the fuel for a secondary (and often more damaging) deflagration or explosion.

E. SO/IHs should be able to recognize that the following conditions indicate a fire or explosion hazard from combustible dust:

1. History of Fires: The facility has a history of fires involving combustible dusts.

2. Safety Data Sheets (SDS): The SDS may indicate that a particular dust is combustible and can cause explosions, deflagrations, or other fires. However, do not use SDS as a sole source of this information because it is often excluded from SDS.

3. Dust Accumulations: Annex S of NFPA 660 (2025) contains information about dust layer characterization for combustible dust. It indicates that a dust explosion hazard or dust flash-fire hazard exists in any building or room where a dust layer of 1/32-inch thickness accumulates over a surface area of at least 5% or 1,000 ft2 of the floor area, whichever is lesser, for dusts with a bulk density of 75 lb/ft3. Annex S of NFPA 660 also provides an example assessment when the bulk density of the dust is less than 75 lb/ft3.

   Accumulations on overhead beams, joists, ducts, the tops of equipment, and other surfaces should be included when determining the dust coverage area. Even vertical surfaces should be included if the dust is adhering to them.

   OSHA Memorandum, Evaluating Hazardous Levels of Accumulation Depth for Combustible Dusts, provides guidance similar to NFPA 660 in calculating the levels of dust accumulations that may be allowed at workplaces for combustible dusts. The guidance provided in the memorandum supplements the dust accumulation guidance provided in several sections of CPL 03-00-008.

F. SO/IHs should observe areas of the facility for dust accumulations of greater than 1/32 of an inch (approximately equal to the thickness of a typical paper clip). Likely areas of dust accumulations within a facility are:

1. Structural members.
2. Conduit and pipe racks.
3. Cable trays.
4. Floors.
5. Above ceiling.
6. On and around equipment (leaks around dust collectors and ductwork).

G. If the SO/IH finds that there is a combustible dust hazard, the SO/IH will safely collect dust samples. The SO/IH shall use means of access to upper levels of a facility only when this can be done safely. **Before any dust samples are collected, discuss with the division director and get approval from them for the collection and analysis. If permission has been granted, contact the TSD, Laboratory and Equipment Services Section (LESS) at 517-284-2900 for safety equipment and collection supplies. The SO/IH will contact their supervisor and the agency combustible dust specialist for special instructions related to sample[SN1.1] collection and transport to the lab, including safety**

protocols. The SO/IH will also review the NEP for information and resources on the topic of material collection. Include a copy of the SDS for the collected material. LESS will handle the analysis of the dust samples. LESS will submit the dust samples to OSHA's Salt Lake Technical Center (SLTC) for analysis when appropriate.

H. As combustible dust poses a fire and explosion hazard to the SO/IH also, the SO/IH will use the utmost caution during the walk around and especially during any dust sample collection to avoid dust disturbances or creating an ignition source (spark, heat). Metal dusts are known to be particularly combustible. The SO/IH must follow the personal safety guidance and protocols in CPL 03-00-008; Agency Instruction MIOSHA-SHMS-15-1, Submission of Bulk Samples to the Laboratory and Equipment Services Section (LESS); and OSHA Technical Manual.

I. If the SO/IH has questions about the conduct of the investigation, the SO/IH will contact their supervisor. GISHD PSM staff are also available for assistance.

J. Instructions in CPL 03-00-008 that would not apply to MIOSHA (e.g., coding of OSHA's site-specific targeting inspections, references to the OSHA FOM rather than the MIOSHA FOM, OSHA position titles, and references to contact OSHA personnel), can be ignored.

XIV. Outreach Activities. CET will use the same approach as the enforcement division for targeting workplaces that generate or handle combustible dusts.

XV. Coding in OSHA Information System (OIS).

A. GISHD and CSHD. Per CPL 03-00-008, the programmed inspection for combustible dust and the original inspection discovering the combustible dust hazard will both be coded DUSTEXPL under NEP on the OIS "Inspection" tab in the "Inspection Data" section.

B. CET. When an initial visit addresses combustible dust hazards, select "DUSTEXPL" as the NEP on the "Visit Emphasis" tab in OIS.

XVI. Staff Training. The division directors or designees will ensure that all SO/IHs are trained in combustible dust hazard recognition and that periodic refresher training is provided.

Appendix A
Industries with Heightened Potential for Combustible Dust Hazards

NAICS	Industry
115111	Cotton Ginning
115114	Postharvest Crop Activities (except Cotton Ginning)
221320	Sewage Treatment Facilities
311111	Dog and Cat Food Manufacturing
311119	Other Animal Food Manufacturing
311211	Flour Milling
311212	Rice Milling
311221	Wet Corn Milling
311230	Breakfast Cereal Manufacturing
311314	Cane Sugar Manufacturing
311313	Beet Sugar Manufacturing
311812	Commercial Bakeries
311930	Flavoring Syrup and Concentrate Manufacturing
311942	Spice and Extract Manufacturing
313310	Textile and Fabric Finishing Mills
316110	Leather and Hide Tanning and Finishing
321113	Sawmills
321212	Softwood Veneer and Plywood Manufacturing
321215	Truss Manufacturing
321219	Reconstituted Wood Product Manufacturing
321911	Wood Window and Door Manufacturing
321912	Cut Stock, Resawing Lumber, and Planing
321918	Other Millwork (including Flooring)
321920	Wood Container and Pallet Manufacturing
321992	Prefabricated Wood Building Manufacturing
321999	All Other Miscellaneous Wood Product Manufacturing
322110	Pulp Mills
322120	Paper Mills
322291	Sanitary Paper Product Manufacturing
322299	All Other Converted Paper Product Manufacturing
324199	All Other Petroleum and Coal Products Manufacturing
325130	Synthetic Dye Pigment Manufacturing
325194	Cyclic Crude Intermediate, Gum and Wood Chemical Manufacturing
325193	Ethyl Alcohol Manufacturing
325211	Plastics Material and Resin Manufacturing
325212	Synthetic Rubber Manufacturing
325220	Artificial and Synthetic Fibers and Filaments Manufacturing
325510	Paint and Coating Manufacturing
325611	Soap and Other Detergent Manufacturing

NAICS	Industry
325910	Printing Ink Manufacturing
325991	Custom Compounding of Purchased Resins
325998	All Other Miscellaneous Chemical Product and Preparation Manufacturing
326113	Unlaminated Plastics Film and Sheet (except Packaging) Manufacturing
326140	Polystyrene Foam Product Manufacturing
326150	Urethane and Other Foam Product (except Polystyrene) Manufacturing
326199	All Other Plastics Product Manufacturing
326211	Tire Manufacturing (except Retreading)
326291	Rubber Product Manufacturing for Mechanical Use
326299	All Other Rubber Product Manufacturing
327910	Abrasive Product Manufacturing
331221	Rolled Steel Shape Manufacturing
331313	Alumina Refining and Primary Aluminum Production
331314	Secondary Smelting and Alloying of Aluminum
331318	Other Aluminum Rolling, Drawing, Extruding
331420	Copper Rolling, Drawing, Extruding, and Alloying
331523	Nonferrous Metal Die-Casting Foundries
331524	Aluminum Foundries (except Die-Casting)
331529	Other Nonferrous Foundries (except Die-Casting)
332117	Powder Metallurgy Part Manufacturing
332312	Fabricated Structural Metal Manufacturing
332321	Metal Window and Door Manufacturing
332322	Sheet Metal Work Manufacturing
332618	Other Fabricated Wire Product Manufacturing
332710	Machine Shops
332812	Metal Coating, Engraving (except Jewelry and Silverware), and Allied Services to Manufacturers
332813	Electroplating, Plating, Polishing, Anodizing, and Coloring
332999	All Other Miscellaneous Fabricated Metal Product Manufacturing
333514	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing
333992	Welding and Soldering Equipment Manufacturing
336320	Motor Vehicle Electrical and Electronic Equipment Manufacturing
337110	Wood Kitchen Cabinet and Countertop Manufacturing
337121	Upholstered Household Furniture Manufacturing
337122	Nonupholstered Wood Household Furniture Manufacturing
337127	Institutional Furniture Manufacturing
337212	Custom Architectural Woodwork and Millwork Manufacturing
337215	Showcase, Partition, Shelving, and Locker Manufacturing
339950	Sign Manufacturing
339995	Burial Casket Manufacturing
339999	All Other Miscellaneous Manufacturing
423310	Lumber, Plywood, Millwork, and Wood Panel Merchant Wholesalers

NAICS	Industry
423930	Recyclable Material Merchant Wholesalers
424510	Grain and Field Bean Merchant Wholesalers
424910	Farm Supplies Merchant Wholesalers
493130	Farm Product Warehousing and Storage
562920	Materials Recovery Facilities
811420	Reupholstery and Furniture Repair