

From

Labour Commissioner- cum-
Chief Inspector of Factories
Haryana, Chandigarh.

To

1. Director General, Industries & Commerce Department, Haryana.
2. Chairman, Haryana State Pollution Control Board, Haryana.
3. President, Associated Chamber of Commerce & Industry of India, (ASSOCHAM), New Delhi.
4. President, Confederation of Indian Industry (CII), New Delhi.
5. Chief Executive Officer, PHD Chamber of Commerce & Industry, (PHDCCI), New Delhi

No. 4322-26

Dated:- 13/11/24

Subject:- Guidelines for the Safe Operation of the Industrial Dust Collector- reg.

Reference to the subject cited above.

In order to minimize the industrial accidents occurs due to dust collectors, the Labour Department has prepared the guidelines for safe operations of dust collectors in factories. These guidelines are prepared in consultation with the Industries & Commerce Department, Haryana State Pollution Control Board and other stakeholders, which are displayed at the Labour Department, Haryana website i.e. www.hrylabour.gov.in for reference of all the stakeholders.

All the factory owners/ stake holders are advised to follow these guidelines for safe operation of dust collectors being used in factories situated in the state of Haryana.

Enclosure:- Guidelines.

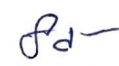

Labour Commissioner- cum-
Chief Inspector of Factories
Haryana, Chandigarh.

Endst. No.

Dated:-

A copy is forwarded to the following for information and necessary action:-

1. All the occupiers of the factories situated in the State of Haryana.
2. All the Industrial Association in Haryana State .
3. All Joint Directors Industrial Safety and Health in the state of Haryana.
4. All Deputy Directors, Industrial Safety and Health with a direction to deliver a copy of this letter to all the Industrial Associations of your area & Industrial Health.
5. All Assistant Directors, Industrial Safety and Health, Industrial Health and Industrial Health cum Certifying Surgeon.
6. IT Cell for publishing these guidelines on the departmental website.


Labour Commissioner- cum-
Chief Inspector of Factories
Haryana, Chandigarh.



उत्पादकता एवं सामाजिक न्याय
Productivity with Social Justice

LABOUR DEPARTMENT, HARYANA
श्रम विभाग, हरियाणा

शान्ति, सामंजस्य एवं सुरक्षा
Peace, Harmony and Safety

Guidelines for the safe operation of the Industrial Dust Collector

Labour Department, Haryana
30 Bays Building, Sector 17,
Chandigarh - 160 017

1. Deflagration Protection:

The dust collector should be equipped with deflagration protection. This enables the excess pressure and flame front to exit to a safe area. Explosion vents prevent dust collectors from blowing up in the event of a deflagration, thereby reducing the hazard.

2. Protect Ductwork with Dampers and Isolation Valves:

Ducting should be equipped with dampers and isolation valves to minimize the risk of deflagration such as flow-activated passive inlet isolation valve protects downstream work areas from the propagation of flame and pressure through the inlet duct when deflagration occurs in a dust collector. During deflagration in a dust collector, the pressure wave will close the valve preventing the passage of flame and smoke to areas upstream from the valve. Explosion isolation valves should be installed in the ductwork at a specific distance.

3. Cleaning of the Hoppers:

A dust collector's hopper should not be used to store dust. Dust that has accumulated in a hopper creates a potential fire or deflagration risk. Self-dumping or cleaning hoppers are essential for dust collector safety because they provide easy dust disposal while protecting against unwanted dust leakage between the collector and hopper.

4. Cleaning of dust collector system:

The dust collector's cleaning system should be so design that increase the dust collector safety and efficiency. Selective cleaning controls provide an easy, maintenance-friendly way to keep filters clean. Cleaning schedule has to be made on the basis of the contamination status of ducts, dust collector, fans and other regular cleaning is being done in planned manner.

5. Regularly Scheduled Filter Maintenance:

A simple but important safety requirement is to change filters when airflow through the system reaches a differential pressure limit as prescribed by the manufacturer. Filter change-out is also necessary when the pressure drop across the collector is negatively affecting the ability of the system to capture dust. However, for heavy dust-loading applications, filter replacement might be much more frequent. Periodic filter replacement schedule must be defined and replaced accordingly.

6. Prevent Fire and Explosion Protection:

Use non spark generating applications like flame retardant filter media, spark arrestors in the form of drop-out boxes, perforated screens or cyclone devices installed at collector inlets. Fire sprinkler systems may also be required with some installations. Dust collector should have a chemical explosion isolation and suppression system installed or explosion venting and passive explosion isolation. Provision of automatic fire suppression system (CO₂ suppression) for dust collector unit and training the operators about its function and operation during emergency shall be provided. Periodically conduct the ignition tests of the dust getting accumulated inside the dust collector and input amount is being adjusted on the basis if the test results in presence of safety experts. Calcium carbonate spraying device can also be provided for dust filter bags for fire prevention and clogging of the filter bags.

7. Add Safety Accessories:

Enhance dust collector safety with additional accessories. OSHA-compliant railed safety platforms and caged ladders can prevent slips and falls when workers access the collector for service. Lock-out/tag-out doors prevent injury caused by the inadvertent opening of doors during a pulsing cycle and or exposure to hazardous dust. Where highly toxic dust is being handled, a bag-in/bag-out (BIBO) containment system may be required to isolate workers from used filters during change-out.

8. Include Safety Monitoring Filters:

Equip the collector with a safety monitoring filter. This is a secondary bank of high-efficiency air filters that prevent collected dust from re-entering the workspace if there's a leak in the dust collector's primary filtering system. A safety monitoring filter is a required component in a recirculating dust collection system that recycles air downstream of the collector.

9. Identify and Eliminate Ignition Sources:

Identify and eliminate any potential ignition sources—a spark from a grinder or an ember from a welding station, by locating such essential manufacturing processes as metal cutting, grinding and welding that could lead to a fire or explosion away from the dust collector.

10. Inspection, maintenance, examination and training:

For pre-operations and regular maintenance detailed checklist to be prepared and signed off by the qualified responsible person. Conduct the regular inspection, maintenance and periodical examination of the dust collector as per regulations, guidelines and standards. Carry out the regular training of the workers regarding safe working, fire and safety. Conducting practical emergency response training base on the response plan and how to use emergency stop of the dust collector should be provided. Dust Hazard Analysis (DHA) to be conducted from time to time. Compliance reports regarding inspection, maintenance, examination etc. to be maintained. Emergency procedures for handling any incident to be prepared in detail and workers will be made aware about these emergency procedures.

11. Comply with Emissions Regulations:

Every management should comply with emission regulations and guidelines issued by Centre or State Govt. from time to time.

12. Pick up hoods should be provided with blast gate:

Blast gates should be provided near the pickup hoods / addas so that it can be use in case of emergency to cut off the air flow or explosion flow in the dust collector. Emergency stop button also be provided near by

13. Gear up dust collector with more safety devices as needed:

Dust collector is a fire/explosion prone device which should be provided with safety devices as much as required and these should not be bypassed at any cost.

14. Dust collector should comply with the National / International standard:

Ensure that dust collector must be comply with national or international standards.

15. Dust collector should be installed outside of the building at a reasonable distance from working areas.

Note: - Any other guideline/ Direction issued by the Central Government / State Government from time to time shall also be followed.