OFFICE OF THE DIRECTOR OF FACTORIES:: TELANGANA: :HYDERABAD.

Circular Memo No. MAH/Safety Circular/1/2026, Dt: 07.03.2026.

Sub: Occupational Safety, Health and Working Conditions Code 2020– Preventive and precautionary measures for Chemical and Pharma Industries handling combustible dusts and hazardous processes – Directions under the Occupational Safety, Health and Working Conditions Code, 2020 – guidelines – Issued.

Ref: Occupational Safety, Health and Working Conditions Code, 2020.

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Section 6 of Occupational Safety, Health and Working Conditions Code, 2020 requires the employer to ensure that the workplace is free from hazards which cause or are likely to cause occupational diseases to employees. In pursuance of above responsibilities, the following guidelines are issued to all Chemical and Pharma Industries (CPI), particularly those handling combustible dusts and hazardous processes as a part of responsibilities of employers.

I. APPLICABILITY

These guidelines shall apply to:

All factories classified as High Risk Factories handling:

- Combustible dusts (e.g., MCC, cellulose, starch, sugar, aluminium powder etc.)
- Hazardous Processes
- Dangerous Operations

II. MANDATORY TECHNICAL SAFETY MEASURES (Section 6 of OSH Code 2020)

1. Dust Hazard Identification & Control

All occupiers shall:

a) Conduct a **Dust Hazard Analysis (DHA)** for all operations involving combustible dusts and shall be updated once in every three years.

b) Identify all dust-generating locations and install engineered dust extraction systems.

c) Prevent formation of explosive dust clouds within confined areas.

d) Provide explosion venting/suppression systems in equipment such as:

- Driers

- Pulverisers
- Blenders
- Dust collectors etc

2. Explosion Protection, Ignition Source and Process Control

a) All electrical equipment in dust atmospheres shall be flameproof/explosion-proof. Hazardous Area Classification shall be followed

b) Static electricity bonding & grounding shall be tested periodically.

c) All ignition sources shall be identified and controlled. Spark detection and suppression systems shall be installed.

d) Sealing and heat-generating equipment in dust areas shall be intrinsically safe and provided with interlocks.

e) Dust and spark detectors shall be provided to monitor and measure dust concentration and sparks for early warning.

f) Preventive maintenance for proper functioning of process equipment shall be ensured

g) Functioning of process control equipment shall be checked periodically and interlocks shall be provided for safety.

h) Structural integrity of pipelines and proper colour coding shall be ensured.

i) Dust combustibility characteristics (MIE, MITL, MITC, LOC, MEC) should be assessed for all materials and products and precautions like isolation and suppression shall be taken based on MIE.

3. Vent Relief & Pressure Management

All critical equipment where pressure build-up is possible shall be provided with:

- Safety Relief Valves / Rupture Discs
- Explosion Vent Panels
- Interlocking shutdown systems
- Scrubber-connected vent lines
- Isolation devices to prevent propagation of fire and pressure between connected equipment

4. Housekeeping & Dust Accumulation

a) Documented housekeeping schedule shall be implemented.

b) Only approved industrial vacuum systems shall be used.

c) Compressed air blowing for dust removal is prohibited.

d) Horizontal surfaces (beams, ducts, ledges) shall be inspected weekly to prevent dust accumulation.
e) Heating, Ventilation, and air conditioning (HVAC) should not be used as means to collect dust from localised sources
f) Combustible dusts should not pass through Air Moving Devices like fans, blowers etc and the devices shall be suitably located
g) Dust collection systems should be designed to prevent accumulation of material by utilizing a tapered transformation piece, with the included angle of the taper not more than 30 degrees
h) Particle separation devices shall be designed to control dust emissions. Vacuum breakers shall be installed on the negative-pressure systems.

5. Structural & Layout Safety
a) Adequate spacing between process equipment shall be ensured
b) Process areas shall not be stacked vertically with administrative/QC areas above.
c) Civil structural integrity shall be ensured, and certification shall be taken from a competent person/agency

6. Training & Competency (Section 6 & 14 Compliance)
a) No worker shall operate critical machinery without adequate training.
b) Mandatory induction training before deployment.
c) Annual refresher training for hazardous process workers.
d) Records of Training shall be maintained.
e) Effective communication of safety instructions to workers shall be ensured.

7. Safety Audits & Risk Review: Ensure the following
a) Annual third-party safety audit shall be conducted as per MSIHC Rules.
b) HAZOP / HAZID studies for all critical operations.
c) Risk Assessment shall be reviewed every year.
d) Recommendations shall be implemented within defined timelines.
e) Standard Safe Operating Procedures shall be prepared.
f) Job Safety Analysis shall be done to identify hazards and risks
g) MSDS shall be prepared and available for all hazardous materials

8. Emergency Preparedness

a) On-site Emergency Plan shall be based on Quantitative Risk Assessment.

b) Mock drills shall be conducted at least once in six months.

c) Fire detection and alarm systems shall be installed throughout process areas along with auto sprinklers wherever permitted in the entire shop floors

d) Internal fire & rescue team shall be trained shift-wise.

e) Suitable firefighting equipment like fire hydrants, fire balls, and portable fire extinguishers shall be provided

f) Escape routes shall be provided at strategic locations and should be easily accessible

9) Other Instructions:

a) Near miss incidents shall be thoroughly analysed and investigated

b) Personal protective equipment like fire and flame proof garments and other accessories shall be provided. However, engineering controls shall be given priority

c) Relevant National and International Standards shall be followed for equipment selection and design of layout, buildings etc.

d) Ensure availability of skilled and qualified supervisors for all hazardous processes

e) Qualified safety officers/professionals shall be appointed

f) Management of Change shall be done through a proper HAZOP study and Job Safety Analysis

g) Standard processes following safety protocol shall be prepared for startup and shutdown operations

h) All hazardous operations having potential for fire, explosion etc shall be segregated, separated or detached from other areas.

i) Sight glasses shall be made of impact and erosion resistant.

All the managements are requested to ensure the compliance of safety provisions under OSH Code 2020 and relevant Telangana Factories Rules. 1950 (until final notification of Telangana State Rules under the Occupational Safety, Health and Working Conditions Code, 2020).

Digitally signed by
MOHAN BABU YARALAGADDA
Date: 09-03-2026 16:33:34

Director of Factories

To

1. All the Deputy Chief Inspectors of Factories and Inspectors of Factories for circulation to all the Managements in their circles / regions and ensure compliance.

2. The Project Manager, Centre for Good Governance, Telangana, Hyderabad for displaying it in the portal.