



भारत सरकार

Government of India

श्रम एवं रोजगार मंत्रालय

Ministry of Labour & Employment

खान सुरक्षा महानिदेशालय

Directorate General of Mines Safety



No. DGMS(Tech) Circular (OH)/ 03

Dhanbad, dated 25.04.2025

Subject: Heat Wave in Summer and Precautions Against Accidents/Incidents Due to Exposure to High Temperature

To

The Owner, Agent and Managers of all Mines

1. Introduction

During peak summer seasons, high atmospheric temperatures have led to numerous incidents affecting mine workers, including fatalities. Opencast mines are particularly vulnerable, while inadequate ventilation in underground mines can also lead to heat-related illnesses. DGMS has circulated guidelines from time to time on Heat Wave in Summer and Precautions Against Accidents/Incidents due to exposure to high temperature, which are as follows:

- (i) The physiological effects of exposure to high atmospheric temperatures during the summer months and the guidelines for dealing with the situation were outlined in Circular No. DGMS (Tech) Circular (OH)/01, Dhanbad dated 24th April 2023.
- (ii) Circular No. DGMS (Tech) Circular (OH)/01, Dhanbad, dated 19/04/2024, outlined recognizing the Symptoms of Heat Stress and taking preventive measures, Do's and Don'ts while treating the person with symptoms of Heat Stress.

These guidelines shall be strictly followed.

2. Physiological Effects of High Atmospheric Temperature

- (i) Heat Stroke: Major cause of fatalities, leading to rapid rise in body temperature and dysfunction of vital organs.
- (ii) Heat Rash: Red blisters formed due to the inability of sweating to evaporate, especially in areas of high sweat accumulation.
- (iii) Sunburn: Damage to skin resulting in redness, heat sensation, and possible blistering.
- (iv) Heat Fatigue: Impaired performance and judgment due to heat exposure.
- (v) Heat Cramps: Painful muscle spasms often due to electrolyte imbalance from excessive sweating.
- (vi) Heat Syncope: Fainting caused by inadequate blood flow to the brain due to heat exposure.
- (vii) Heat Exhaustion: Dehydration and electrolyte imbalance leading to weakness and various symptoms.

3. Dealing with High Temperature Exposure in Mines

A. Engineering Measures

- (i) Rest Shelters: Provision of shelters at reasonable distances, maintaining a temperature below 25°C.
- (ii) Cool Drinking Water: Supply water at 10 to 15°C.
- (iii) Proper Ventilation: Ensure airflow or air conditioning in workspaces.
- (iv) Drainage: Insulated piping for hot groundwater management.

B. Work Practices

- (i) Frequent Breaks: Allow short rest periods.
- (ii) Task Scheduling: Perform heavy labor in cooler conditions.
- (iii) Job Rotation: Mitigate prolonged exposure to heat.
- (iv) Hydration: Encourage regular water intake.
- (v) Salt Intake: Promote adequate salt consumption as per health conditions.

C. Personal Protective Equipment (PPE)

- (i) Clothing: Preferably cotton and loose-fitting, avoiding excessive reflective materials.
- (ii) Cooling Aids: Ensure use of cooling vests and sun protection gear.

4. Training and Awareness

- (i) Include the training on "the physiological effects of exposure to high atmospheric temperatures during the summer months and dealing with the situation" as a part of the regular vocational training (Basic/Refresher/Special/others) programmes.
- (ii) Train all employees on recognizing heat stress symptoms and first aid responses.
- (iii) Display dos and don'ts for heat stress management prominently in mines and conduct regular Awareness Programmes.

5. Standard Operating Procedure (SOP)

- (i) An SOP for Heat Wave in Summer and Precautions Against Accidents/Incidents Due to Exposure to High Temperature shall be prepared. This SOP will be site-specific, including the guidelines issued by the DGMS in the form of circulars. The existing SOPs shall be reviewed.
- (ii) Any incident due to exposure to high temperatures in summer should be reported to the DGMS promptly.

6. For Women Workers

- (i) Hydration:
 - o Ensure easy access to drinking water throughout the mining site and encourage regular hydration breaks.
 - o Provide electrolyte-rich beverages to help replenish lost minerals.
- (ii) Work Scheduling:
 - o Modify work hours to reduce exposure during peak heat (typically 11 AM to 3 PM).
 - o Offer shorter work shifts or more frequent breaks during high temperatures.
- (iii) Protective Clothing: Supply lightweight, breathable, and light-coloured uniforms that help reflect sunlight while providing adequate sun protection.
- (iv) Shade and Rest Areas: Create shaded rest areas for breaks away from direct sunlight, equipped with ventilation or cooling fans.



- (v) Awareness and Training: Conduct training on recognizing symptoms of heat stress, such as dizziness and fatigue, and the importance of early reporting.
- (vi) Weather Monitoring: Track daily temperature and humidity levels to adjust work activities accordingly, utilizing heat index measurements to assess risk.
- (vii) Regular Health Check-ups: Perform regular health assessments, focusing on those at risk for heat-related illnesses, and provide access to medical services.
- (viii) Nutrition: Encourage a balanced diet rich in fruits and vegetables to promote hydration and energy levels.
- (ix) Cooling Technologies: Offer personal cooling devices, like vests or fans, to help workers stay cool in extreme heat.
- (x) Peer Support: Foster a supportive environment where coworkers monitor each other's well-being and encourage reporting of heat stress symptoms.

7. For Children in Creches

- (i) Safe Environment: Ensure creches are located in shaded or air-conditioned areas and use thermal insulation to keep interiors cool.
- (ii) Regular Hydration: Provide easy access to clean drinking water and encourage caregivers to regularly monitor children's hydration levels.
- (iii) Outdoor Activity Management: Schedule outdoor activities in early morning or late afternoon, limiting them during peak heat hours.
- (iv) Protective Gear: Apply sunscreen before outdoor play and provide hats and lightweight clothing to safeguard against sun exposure.
- (v) Health Monitoring: Train caregivers to recognize symptoms of heat stress in children and ensure prompt action if any signs appear.
- (vi) Emergency Plans: Develop clear protocols for handling heat-related emergencies, including first aid responses and access to medical facilities.

8. For Creches and Families

- (i) Nutrition: Promote nutritious meals that provide energy without heavy fats, incorporating fruits and vegetables with high water content.
- (ii) Parent Education: Engage families with information on caring for children during extreme heat, emphasizing rest and hydration.
- (iii) Regular Training: Conduct workshops for caregivers on heat stress prevention, recognizing symptoms, and ensuring children's comfort and safety.

9. Conclusion

Therefore, prioritizing the well-being of mine workers, women workers, and children in creches through comprehensive heat safety measures is crucial. By implementing the guidelines provided, mining operations can significantly reduce the risk of heat-related illnesses and ensure a safer working environment during the summer months. Continuous education, diligent monitoring, and a commitment to proactive strategies are essential for maintaining a healthy and secure environment for all.


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