

HEAT STRESS PREVENTION PLAN

Uchiyama MFG America LLC



Heat Stress Prevention Plan

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INTRODUCTION / PURPOSE OF HEAT STRESS PREVENTION PROGRAM

- 1) The purpose of this Heat Stress Prevention Program is to provide workers with the training and equipment necessary to protect them from heat related exposures and illnesses.
- 2) Under the **General Duty Clause**, Section 5(a)(1) of the Occupational Safety and Health Act (OSHA) of 1970, employers are required to provide their employees with a place of employment that is free from recognizable hazards that are causing or likely to cause death or serious harm to employees.
 - a) "The courts have interpreted OSHA's general duty clause to mean that an employer has a legal obligation to provide a workplace free of conditions or activities that either the employer or industry recognizes as hazardous and that cause, or are likely to cause, death or serious physical harm to employees when there is a feasible method to abate the hazard.
 - b) This includes heat-related hazards that are likely to cause death or serious bodily harm.
 - c) This program applies to all work operations at Uchiyama MFG America when: Operations involving high air temperatures, radiant heat sources, high humidity, direct physical contact with hot objects, or strenuous physical activities have a high potential for inducing heat stress in employees engaged in such operations.
 1. Such places include: iron and steel foundries, nonferrous foundries, brick firing and ceramic plants, glass products, facilities, rubber products factories, electrical utilities (particularly boiler rooms), chemical plants, etc.
- 3) It is management's responsibility to provide a safe workplace for the employees of UMA with the realization that employees are ultimately responsible for their own personal safety.
- 4) Supervisors shall assess the workplace or contact the Safety Office to determine if heat stress hazards are present or likely to be present that would necessitate the use of engineering controls, administrative controls, or PPE.
- 5) Copies of this written program may be obtained from the, Environmental, Health & Safety Manager who keeps the program in the Safety Office and on the shared drive. Moreover, all employees, or their designated representatives, may obtain further information about this written program.
- 6) Finally, if after reading this program, you find that improvements can be made, please contact EHS Manager or member of the ERT.
 - a) We encourage all suggestions because we are committed to the success of our Heat Stress Prevention Program.
 - b) We strive for clear understanding, safe behavior, and involvement in the program from every level of the company.

TRAINING

- 1) All employees who are or may be exposed to potential heat related illnesses will receive training on the following:
 - a) The environmental and personal risk factors that account for heat related illnesses
 - b) The employer's procedures for identifying, evaluating and controlling exposures to the environmental and personal risk factors for heat illness
 - c) The importance of frequent consumption of small quantities of water, up to 4 cups per hour under extreme conditions for work and heat
 - d) The different types of heat illness and the common signs and symptoms of heat illness
 - e) The importance of immediately reporting to the employer, directly or through the employee's supervisor, symptoms or signs of heat illness in themselves, or in co-workers.
 - f) The employer's procedures for responding to symptoms of possible heat illness including how emergency medical services will be provided should they become necessary.

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- g) Procedures for contacting emergency medical services, and if necessary, for transporting employees to a point where they can be reached by an emergency medical service provider
- 2) ALL Employees are briefed on this subject during Orientation / Annual Training.

TRAINING CONTENT

- 1) The format of the training program used will be verbally expressed and explained in annual training.
- 2) Training records are signed by employees upon completion of their training and are retained and available on the floor computers per employee training folder.
- 3) Our goal is to ensure employees know that their health is a risk if they do not take precautionary measures to keep themselves healthy and hydrated. We urge our employees to ask the EHS Manager or a member of the ERT, if they have any questions or concerns.

PROVISION OF WATER

- 1) Employees shall have access to potable water (drinkable).
- 2) OSHA Requirements:
 - Water shall be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking the entire shift for a total of 2 gallons per employee per 8-hour shift.
 - Employees may begin the shift with smaller quantities of water if effective procedures for replenishment of water during the shift have been implemented to provide employees one quart or more per hour.
- 3) UMA meets OSHA requirements by providing strategically located Water Coolers throughout the plant for employees to obtain drinking water as needed.
 - a) Water is available chilled, room temperature or hot as necessary.

HEAT STRESS DISORDERS

- 1) **Heat Rash (Prickly Heat)**
 - a) Symptoms:
 - Red blotches and extreme itchiness in areas persistently damp with sweat.
 - Prickling sensation on the skin when sweating occurs.
 - b) Treatment:
 - Cool environment.
 - Cool shower.
 - Thorough drying.
 - c) Heat rashes typically disappear within a few days after exposure. If the skin is not cleaned frequently enough the rash may become infected.
- 2) **Heat Cramps**
 - a) Symptoms:
 - Loss of salt through excessive sweating.
 - Cramping in back, legs and arms.
 - b) Treatment:
 - Stretching and massaging muscles.
 - Replace salt by drinking commercially available carbohydrate/electrolyte replacement fluids.

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3) Heat Exhaustion

- a) Heat exhaustion occurs when the body can no longer keep blood flowing to supply vital organs and at the same time send blood to the skin to reduce body temperature.
- b) Symptoms:
 - Weakness.
 - Difficulty continuing work.
 - Headache.
 - Breathlessness.
 - Nausea or vomiting.
 - Feeling faint or actually fainting.
- c) Treatment:
 - Find a Supervisor or a member of ERT Team. If none can be found quickly Call 911.
- d) Help the victim to cool off by:
 - Resting in a cool place.
 - Drinking cool water.
 - Removing unnecessary clothing.
 - Loosening clothing.
 - Showering or sponging with cool water.
- e) It takes 30 minutes to cool the body down once a worker becomes overheated and suffers heat exhaustion.

4) Heat Stroke

- a) Heat stroke occurs when the body can no longer cool itself and body temperature rises to critical levels.
- b) Symptoms:
 - Confusion.
 - Irrational behavior.
 - Loss of consciousness.
 - Convulsions.
 - Lack of sweating.
 - Hot, dry skin.
 - Abnormally high body temperature.
- c) Provide immediate, aggressive, general cooling.
 - Immerse victim in tub of cool water or;
 - Place in cool shower; or
 - Spray with cool water from a hose; or
 - Wrap victim in cool, wet sheets and fan rapidly.
 - Transport victim to hospital.
- d) Do not give anything by mouth to an unconscious victim

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LABELS AND OTHER FORMS OF WARNING

- 1) The Heat Index Chart and the Heat Index level for the day will be posted in the front entrance and left up all day during the summer months.
 - a) This will be changed as the Heat Index level changes throughout the day.
 - b) Also, the Heat Index level will be announced over the intercom in the morning as necessary and throughout the day as the index changes when deemed necessary.
- 2) The Heat Index chart is available in Appendix A.
- 3) We urge our employees to ask the EHS Manager if have any questions for greater comprehension.
- 4) As part of the assessment of training, the EHS Manager can ask for input from employees regarding the training they have received and their suggestions for improving it.

SAFE WORK PROCEDURES

- 1) **Supervisors Responsibilities**
 - a) Supervisors are responsible for performing the following:
 - Give workers frequent breaks in a cool area away from heat.
 - Adjust work practices as necessary when workers complain of heat stress.
 - Oversee heat stress training and acclimatization for new workers and for workers who have been off the job for a period of time.
 - Monitor the workplace to determine when hot conditions arise.
 - Increase air movement by using fans where possible.
 - Provide potable water in required quantities.
 - Determine whether workers are drinking enough water.
 - Make allowances for workers who must wear personal protective clothing (welders, etc.) and equipment that retains heat and restricts the evaporation of sweat.
- 2) **Workers**
 - a) Workers are responsible for performing the following:
 - Follow instructions and training for controlling heat stress.
 - Be alert to symptoms in yourself and others.
 - Determine if any prescription medications you're required to take can increase heat stress.
 - Drink small amounts of water – approximately 1 cup every 15 minutes.
 - Avoid beverages such as tea or coffee.
 - Avoid hot, heavy meals.
- 3) **Multi-Employer Facility**
 - a) When contractors or any other employers' workers will be working at UMA, the EHS Manager will:
 - Provide the other employer(s) with information related to heat stress to which their employees may be exposed: we will provide information prior to start of work or during the Contractor's Orientation for the heat stress concerns.

ADDITIONAL INFORMATION

- 1) As stated earlier, all employees, or their designated representatives, may obtain further information on this written program from the EHS Manager.
- 2) Heat Index Charts that will posted by the front entrance by the timeclocks.
- 3) Updates will be provided to all employees.

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APPENDIX A - HEAT INDEX CHART

A heat index phone app can be found at this location

<https://www.cdc.gov/niosh/topics/heatstress/heatapp.html>

Heat Index	Light Work Work/Rest (In minutes)	Moderate Work Work/Rest (In minutes)	Heavy Work Work/Rest (In minutes)
90° F	Normal	Normal	Normal
91°F	Normal	Normal	Normal
92°F	Normal	Normal	Normal
93°F	Normal	Normal	Normal
94°F	Normal	Normal	Normal
95°F	Normal	Normal	45 /15
96°F	Normal	Normal	40/20
97°F	Normal	Normal	35/25
98°F	Normal	Normal	30/30
99°F	Normal	Normal	25/35
100°F	Normal	45/15	20/40
101°F	Normal	40/20	15/45
102°F	Normal	30/30	Non- Emergency Work Stops
103°F	Normal	25/35	Non- Emergency Work Stops
104°F	Normal	20/40	Non- Emergency Work Stops
105°F	Normal	15/45	Non- Emergency Work Stops
106°F	45/15	Non- Emergency Work Stops	Non- Emergency Work Stops
107°F	40/20	Non- Emergency Work Stops	Non- Emergency Work Stops
108°F	35/25	Non- Emergency Work Stops	Non- Emergency Work Stops
109°F	30/30	Non- Emergency Work Stops	Non- Emergency Work Stops
110°F	15/45	Non- Emergency Work Stops	Non- Emergency Work Stops
111°F	Non- Emergency Work Stops	Non- Emergency Work Stops	Non- Emergency Work Stops

Table based on NIOSH recommendations.

Protective Measures

- Provide plenty of water
 - Encourage workers to wear sunscreen and sun hats
 - Monitor workers closely
- Remind workers to drink water often (4 cups per hour)
 - Schedule frequent breaks in cool shaded areas
 - Acclimatize workers
 - Set up a buddy system and instruct workers and supervisors to watch for signs of heat related illnesses
 - If workers must wear heavy protective clothing, perform strenuous activity or work in the direct sun, additional precautions are recommended to protect workers from heat related illness.
 - Limit physical activity when possible
 - Monitor workers closely
- Alert workers to high-risk conditions
 - Actively encourage workers to drink plenty of water (4 cups per hour)
 - Limit physical activity when possible
 - Use cooling techniques
 - Monitor workers at all times

Reference only