

Garyville Refinery

Heat Stress Minimization Plan

The Garyville Refinery Heat Stress Minimization Plan is focused on awareness and risk minimization of heat stress to employees and contractors. Individuals should understand the basic principles and recognition of heat-related illnesses and utilizing this planning tool to determine the best mitigations possible. **Heat related illnesses are Preventable!**

Heat Related Illnesses

The following are the different types of heat related illnesses the Garyville Refinery is trying to minimize and prevent:

- **Heat Cramps** – Mildest form of heat illness. These are painful muscle cramps and spasms.
- **Heat Exhaustion** – More severe than heat cramps. It's caused by a loss of water and salt in the body. Heat exhaustion happens when the body can't cool itself correctly. If left untreated, it can progress to heat stroke.
- **Heat Stroke** – Most severe form of heat illness. It occurs when the body's heat-regulating system is overwhelmed by excessive heat. The skin may be dry if the ability to sweat has been lost. *It is a life-threatening emergency and requires immediate medical care!*

Individuals experiencing signs or symptoms of heat-related illness should immediately notify their supervisor and take immediate steps to cool down before resuming work. **Site emergency procedures will be initiated in the event of a heat related illness requiring emergency medical treatment, such as heat exhaustion or heat stroke.**

Weather Alerts

The Safety Department will convey to employees and contractors any potential elevated heat index weather forecasts as predicted by the National Weather Service (NWS). Additionally, Refinery Security Department will convey across facility radio systems weather alerts for “*Extreme Heat Index ≥115°F*”.

Heat Index & Required Mitigations

The following table identifies the required mitigations for Heat Stress per varying levels of Heat Index. **Document Heat Stress “Hazard” mitigations in the Job Safety Analysis (JSA) and review with all affected individuals. Additionally, incorporate these elements into the job planning phase to account for the additional time and material needs.**

Caution - Heat Index	Danger - Heat Index	Extreme - Heat Index
Heat Index 90°F - 100°F	Heat Index 100°F – 115°F	Heat Index ≥115°F Or Radiant Heat Causing Ambient Temp >120°F
Requirements: 1.) Heat Stress Program 2.) Heat Stress Awareness Training 3.) Acclimated Worker(s) 4.) Cold Drinking Fluids Additionally, Select <u>2</u> of the following: a.) Shade b.) Work / Rest Rotation – Self Paced c.) Plan Work During Cooler Periods of Day d.) Portable Fan e.) Cooling bandana f.) Other – Consult with Safety Dept.	Requirements: 1.) Heat Stress Program 2.) Heat Stress Awareness Training 3.) Acclimated Worker(s) 4.) Cold Drinking Fluids Additionally, Select <u>3</u> of the following: a.) Shade b.) Work / Rest Rotation – Self Paced c.) Plan Work During Cooler Periods of Day d.) Cool Down Station e.) Radiant Barrier (<i>If applicable</i>) f.) Personal Cool Vests g.) Portable Fan h.) Buddy System i.) Portable Airline Respirator Cooling System j.) Other – Consult with Safety Dept.	Requirements: 1.) Heat Stress Program 2.) Heat Stress Awareness Training 3.) Acclimated Worker(s) 4.) Cold Drinking Fluids Additionally, Select <u>4</u> of the following: a.) Shade b.) Work / Rest Rotation – Every 20 min c.) Plan Work During Cooler Periods of Day d.) Cool Down Station e.) Radiant Barrier (<i>If applicable</i>) f.) Personal Cool Vests g.) Buddy System h.) Personal Air Conditioner(Vortex Cooler) i.) Portable Fan j.) Portable A/C Blower k.) Portable Airline Respirator Cooling System l.) Other – Consult with Safety Dept.
IMPORTANT Notes: 1.) The use of impermeable clothing (<i>e.g., Tyvek®; slicker suits; & bunker gear</i>) requires addition of 10°F to Heat Index. 2.) Temperature limit for Confined Space Entries is limited to 110°F (Ambient).		

Procurement of Heat Stress Supplies

Cool Vest & Ice Pack



Squincher Concentrate



Squincher Freezer Pops



Personal Air Conditioners



Portable A/C Trailer



Airline Cooler Respirator



Contact MPC Safety Representative for additional tools available for heat stress and core body temperature evaluation.