Lesson Learned Statement:

Breathing air systems for respirators may experience a frost buildup during cold weather and need thawing. Precautions should be taken to ensure individuals wearing respirators continue to receive sufficient clean breathing air.

Discussion:

Painters were assigned to recoat a floor. All the personnel involved met at the job site to discuss what materials would be used. Industrial Hygiene personnel reviewed Material Safety Data Sheets (MSDSs) and the proper Personal Protective Equipment (PPE) was discussed and agreed upon by all. The coating that would be used would be an aliphatic urethane, which would require protective clothing, chemical gloves, hood, and supplied air full-face masks. The protective clothing would require to be taped at all openings, and taped to the chemical gloves. These instructions were added to the Job Hazard Analysis (JHA) that would be reviewed at the time of the application of the floor coating. On the morning of the application of the floor coating, the team was assembled and a tailgate meeting was given covering the plan of operation, which included the review of the task instructions, MSDSs, Pre-Task Hazard Review (PTHR), and the JHA. Almost one hour into the application of the coating, the two painters applying the coating gave the foreman on the crew a signal that the air was not flowing correctly. The foreman motioned for the crew to exit the work area.

Analysis:

The regulator on the supplied air cart was inspected and determined that the regulator was freezing up because of the Venturi Effect and the 38-degree temperature outside. The foreman assigned a crewmember to attend the regulator and make adjustments to keep the proper airflow. About one hour later, the crew had to exit again because the regulator froze up completely. At about the same time, the foreman returned with a heat gun and extension cord. The heat gun was used to warm up the regulator so that the crew could complete the work safely before the coating reached its usable time limit.

Recommended Actions:

When using supplied air in colder environments, have someone monitor the airflow at all times and have a device available that is capable of warming the valves and supply lines to prevent freezing in the event that they experience a frost buildup and need thawing.

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**Name Of Authorized Derivative Classifier:**  
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**Priority Descriptor:**  
Yellow / Caution  

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**References:**  
None provided.  

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**DOE Function / Work Categories:**  
Maintenance - Safety Systems  
Occupational Safety & Health - Personnel Protective Equipment  

**ISM Category:**  
Analyze Hazards  

**Hazard:**  
Personal Injury / Exposure - Other
End of Lesson!