

<b>Hawk Energy, LLC</b>	Activity: <b>ALL WORK</b> <b>Methanol Injection</b>		Doc No:	HAZ-ID
			Initial Issue Date	12/12/2024
			Revision Date:	12/12/2024
<b>HAZARD IDENTIFICATION AND ASSESSMENT</b>			Revision No.	1
			Next Revision Date:	12/11/2024
Preparation: Kirk Duncan	Authority: David Slim	Issuing Dept: Safety	Page:	1 of 3

## Purpose

- **Methanol Injection**

## Key Responsibilities

- Hawk Energy, LLC Management will provide task appropriate training to all employees for Methanol Injection
- Supervisors / Leads are required to ensure all employees have adequate training
- Hawk Energy, LLC Employees should make sure they feel comfortable before left on their own while in training

## Hazard and Risk Identification

Employees MAY be exposed to dangers While injection Methanol during (but is not limited) to the following activities:

- Filling methanol continuous injection tanks
- Injecting methanol into ongoing processes (such as gas plant equipment)
- Injecting methanol into active gas lines

## Risk Assessment

Hazards are classified and ranked based on severity. The program identifies hazards are classified/prioritized and addressed based on the risk associated with the task. (See the risk analysis matrix outlining severity and probability).

Methanol is the simplest alcohol, and is a light, volatile, colorless, flammable liquid with a distinctive odor very similar to that of ethanol (drinking alcohol). However, unlike ethanol, methanol is highly toxic and unfit for consumption. At room temperature, it is a polar liquid, and is used as an antifreeze, solvent and fuel. Its flame is not visible in the daylight.

Methanol has a high toxicity in humans. If as little as 10 mL of pure methanol is ingested, for example, it can break down into formic acid, which can cause permanent blindness by destruction of the optic nerve, and 30 mL is potentially fatal. Methanol can be observed through the skin and as dangerous as ingestion.

Methanol injection also involves high pressure.

Methanol vapors may be heavier than air. They will spread along the ground and collect and stay in poorly-ventilated, low-lying, or confined areas (e.g., sewers, basements, and tanks). Hazardous concentrations may develop quickly in enclosed, poorly-ventilated, or low-lying areas. Liquid agent is lighter than water.

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**Hawk Services, LLC RISK ASSESSMENT MATRIX – METHANOL INJECTION**

CONSEQUENCE					PROBABILITY				
Severity	People	Assets	Environment	Reputation	A	B	C	D	E
					Not Done	Rarely	Once a week	Several Times in a Week	Multiple Times in a Day
0	No health effect	No damage	No effect	No impact					X
1	Slight health effect	Slight damage	Slight effect	Slight impact				X	
2	Minor health effect	Minor damage	Minor effect	Limited impact			X		
3	Major health effect	Localized damage	Localized effect	Considerable impact		X			
4	Single fatality	Major damage	Major effect	National impact	X				
5	Multiple fatalities	Extensive damage	Massive effect	Global impact	X				

<b>Key</b>	Manage for continuous improvement (Low)	Incorporate risk reduction measures (Medium)	Intolerable (High)
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Methanol contamination of the eyes.

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### **Risk Controls/Methods to Ensure Identified Hazards Are Addressed and Mitigated**

The following describes how identified hazards are addressed and mitigated:

- Proper PPE must be worn at all times.
- If splashing is possible, a face shield or chemical goggles are required.
- When used in conjunction with pressure, a face shield or chemical goggles are required.
- Contaminated clothing should be promptly removed.
- Exposed shin should be washed with water.
- Grounding procedures must be followed when pumping Methanol.
- When there is a possibility that Methanol is present, wet clothing should be considered as contaminated with Methanol. Ignition sources (including smoking) must be avoided.

### **JSA Sample**

The following describes how identified hazards are addressed and mitigated:

Basic Job Step	Potential Injury or Hazards	Mitigation / Tools
Injecting Methanol into a gas line	Fire	Avoid accidental release. Avoid ignition sources.

### **Other Info**