

<i>E&B Oilfield Services Inc.</i>	Activity: Pipeline Technition / Gas Plant Chemicals in Gas Stream		Doc No:	HAZ-ID
			Initial Issue Date	4/1/2015
			Revision Date:	4/1/2016
HAZARD IDENTIFICATION AND ASSESSMENT			Revision No.	1
			Next Revision Date:	4/1/2017
Preparation: David Abegglen	Authority: Danny Abegglen	Issuing Dept: Safety	Page:	1 of 4

Purpose

- **Chemicals in Gas Stream**

Key Responsibilities

- E&B Management will provide task appropriate training to all employees for Chemicals in Gas Stream
- Supervisors / Leads are required to ensure all employees have adequate training
- E&B Employees should make sure they feel comfortable before left on their own while in training

Hazard and Risk Identification

Employees MAY be exposed to dangerous Chemicals in Gas Stream during (but is not limited) to the following activities:

- Pigging gas lines
- Repairing gas lines
- Demolition of oilfield equipment

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).

Many different chemicals are injected at various points for the oil and gas production process. Starting with the drilling process, chemicals are injected down hole to help solve a wide verity of problems such as scaling and bacteria growth. Once injected these chemicals can exist in the formation for years. They can also return to the surface with the production fluids (crude oil, gas and water). These chemicals can then be dispersed by and be present throughout the production process.

These chemicals can be dangerous down to the parts per billion level. Exposure to some chemicals may be accumulative, meaning that the chemical levels may build up in your body over time.

Below is a list of chemicals that are commonly used in oil exploration. The "S" signifies that the chemicals are "suspect" in causing the listed hazard.

The danger in dealing with these chemicals is that it is impossible to correctly identify if they are present every time.

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E&B OILFIELD SERVICES INC. RISK ASSESSMENT MATRIX – CHEMICALS IN GAS STREAM

Severity	CONSEQUENCE				PROBABILITY				
	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			

Key	Manage for continuous improvement (Low)	Incorporate risk reduction measures (Medium)	Intolerable (High)
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Unidentified chemical injury.

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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:

- Assume that dangerous chemicals are present every time.
- Avoid contact with liquids and vapors whenever possible.
- Standard Personal Protective Equipment (PPE) must be worn at all times.
- Additional PPE is required is chemicals are identifiable (label tank present) and SDS sheets are available.
- Remove contaminated clothing and wash with water.
- If irritation occurs contact your supervisor immediately.

JSA Sample

The following describes how identified hazards are addressed and mitigated:

Basic Job Step	Potential Injury or Hazards	Mitigation / Tools
Pigging gas line	Chemical contamination	Assume presence of dangerous chemicals. Avoid contact with proper PPE.

Other Info
