



Worker Awareness of Environmental/Occupational Chemical Exposures and Communicating with Your Healthcare Provider

Oil spill response workers and volunteers may be exposed to many different chemical and environmental hazards. The specific chemicals and concentrations will vary depending on the location of the oil, length of time since the oil was released into the environment, type and stage of response, materials used during spill remediation, climate conditions, use of personal protective equipment (PPE), and the workers' specific tasks.

CRUDE OIL is a complex mixture of chemicals. Some of the chemicals that make up crude oil can be hazardous. Many of the chemicals are made up of hydrocarbons. These hydrocarbons can make up Volatile Organic Compounds (VOCs) which evaporate or vaporize at room temperature. Many of these compounds such as benzene, xylene, toluene, and hydrogen sulfide can be harmful.

HYDROCARBON EXPOSURE from crude oil constituents will vary based on its exposure to the atmosphere, time in the marine aquatic and coastal environment, treatments with dispersants and interaction of the chemicals, wave action and heat. Generally, the more "aged" or "weathered" crude oil is (by mixing with seawater and traveling long distances from the source), the lower are the concentrations of VOCs. Although it generates less VOCs, weathered crude oil still contains harmful chemicals which can cause skin irritation and other irritant reactions.
(<http://www.cdc.gov/niosh/topics/oilspillresponse/protecting/#effects>)

DISPERSANTS are usually applied directly to the spilled oil by spraying from an airplane, helicopter, vessel, or underwater. Although dispersants are manufactured by many companies and their ingredients may differ, most contain a detergent and a solvent. The solvent allows the detergent to be applied. The detergent helps to break up the oil on the water surface into very small drops. These tiny oil drops are then able to easily mix with the water and be diluted.

Based on the information provided to NIOSH, two dispersants have been used for the Deepwater Horizon response. Both COREXIT® EC9527A and COREXIT 9500 were utilized. Both products are made by the Nalco Company in Naperville, Illinois. Both products contain 10-30% sulfonic acid salt (detergent) and 1-5% propylene glycol, which are regarded as non-hazardous substances. In addition, COREXIT 9500 contains between 10-30% of petroleum distillates (solvent) and COREXIT EC9527A contains between 30-60% of 2-butoxyethanol (solvent).
(<http://www.cdc.gov/niosh/topics/oilspillresponse/dispersants.html>)

What oil spill response workers/volunteers should know



1. Know your rights under the Occupational Safety and Health (OSH) Act.

- You have a right to a safe workplace.
- You are entitled to working conditions that do not pose a risk of serious harm.
- You have a right to receive information and training about hazards, and methods to prevent harm.
- Training must be in a language you can understand.



2. Some complaints you may have if you were exposed to chemicals.

- Breathing congestion, difficulty breathing, short of breath, burning, sore/irritated.
- Migraines, dizziness, lightheaded feeling, problems with attention span/concentration, difficulty with memory, impaired balance/coordination, seizures.
- Burning eyes, irritated versus itchy (allergy).
- Skin rashes with burning, redness with itching, hives (may be chemical or allergy).
- Chronic Fatigue, aching.
- Acid reflux like symptoms (irritation/burning feeling in the stomach or esophagus area, gas).



3. Information to communicate to your healthcare provider.

- Where, when, and circumstances when you think the exposure occurred.
- Are you exposed to chemicals, fumes, dusts, noise, and/or high heat at your work or away from work? Do you think these are harming you?
- Describe the work you do?
- Are there any physical activities that you do – at work or away from work – that you feel are harmful to you?
- Others (co-workers, family, friends) who may have similar.
- Initial symptoms when exposed. Symptoms that subsided and symptoms that remain.



4. Preventing exposure or what to do if exposed guidance.

- If Personal Protective Equipment is required to be used then use proper PPE.
- If exposed follow recommended guidelines for decontamination.
- Report any ill effects to your supervisor/medical office if at work, otherwise seek medical attention .

