

June 1, 2022

To: Douglas County Health Care Providers  
From: Lindsay Huse, DNP, MPH, Health Director  
Kari Neemann MD, Medical Advisor

Re: Nox-Crete Fire and Inhalational Chemical Exposure

Around 7 PM on Monday, May 30<sup>th</sup>, a chemical fire occurred at Nox-Crete Manufacturing Inc, located near 20<sup>th</sup> Street and Woolworth Avenue. The Omaha Fire Department responded and extinguished the fire by Tuesday morning. Overnight, it was recommended that residents living between 13th and 20th Streets and Leavenworth to Martha Streets be evacuated secondary to the smoke exposure. Nox-Crete has since filed a Notification of Environmental Concern report with the Nebraska Department of Environment and Energy for the hazardous material spill related to the fire. Large quantities of acids, bases, and solvents were housed in the building. A complete list of chemicals involved in the fire is not yet available, but the following products have been named to date: mineral spirits, naphtha, and Acid, NOS. (Table 1)

For the communities that surround the location of the fire, the potential for inhalational injury exists. Inhalational injury is damage to the respiratory tract or lung tissue from heat, smoke, or chemical irritants carried into the airway during inspiration. The severity of injury depends on several factors, including the ignition source, the size and diameter of the particles in the smoke, the duration of the exposure, and the solubility of the gases. Inhalational injury can affect the airways as well as result in systemic toxicity, often secondary to inhalation of carbon monoxide. Once exposure stops, symptoms from inhaling carbon monoxide or fine particles generally diminish but may last for a couple of days. Anyone with persisting or frequent symptoms that they believe are associated with the smoke exposure are being encouraged to see their health care provider, with supportive symptomatic treatment generally recommended (Table 1). The Douglas County Health Department is currently not aware of any specific air quality concerns following the fire.

**Table 1. Known Chemical Exposures**

<b>Chemical</b>	<b>Description</b>	<b>Toxicological Information- Acute Inhalational Exposure</b>	<b>First Aid Measures</b>
Mineral Spirits	A refined petroleum solvent containing high concentrations of <u>hydrocarbons</u> . A colorless liquid with a kerosene-like odor.  Elevated temperatures can lead to the formation of irritating fumes and vapors.	Respiratory Irritation- If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.  Eye Irritation- Vapors formed from heating may cause eye irritation.  Skin Irritation- May cause skin irritation.	Move exposed person to fresh air.  No specific treatment, treat symptomatically

	Decomposition products may include the following materials: Carbon dioxide (CO <sub>2</sub> ) and Carbon monoxide (CO)	CNS- May cause mental confusion and/or headache	
Naphtha	<p>A highly flammable liquid <u>hydrocarbon</u> mixtures used chiefly as solvents and diluents.</p> <p>Elevated temperatures can lead to the formation of irritating fumes and vapors. Decomposition products may include the following materials: Carbon dioxide (CO<sub>2</sub>) and Carbon monoxide (CO)</p>	<p>Respiratory Irritation- If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and the upper respiratory tract.</p> <p>Eye Irritation- Vapors formed from heating may cause eye irritation.</p> <p>Skin Irritation- May cause skin irritation.</p> <p>CNS- May cause mental confusion and/or headache</p>	<p>Move exposed person to fresh air.</p> <p>No specific treatment, treat symptomatically</p>
Acid NOS (Glycolic Acid 70%)	<p>A non-flammable clear, colorless liquid.</p> <p>Thermal decomposition can lead to release of irritating gases and vapors: Carbon dioxide (CO<sub>2</sub>) and Carbon monoxide (CO). The product causes burns of eyes, skin, and mucous membranes.</p>	Respiratory Irritation- inhalation of vapor may result in cough, shortness of breath, pain, and respiratory irritation.	<p>Move exposed person to fresh air.</p> <p>No specific treatment, treat symptomatically</p>

References:

NIOSH Pocket Guide to Chemical Hazards: Naphtha. <https://www.cdc.gov/niosh/npg/npgd0438.html> Accessed 6/1/22.

NIOSH Pocket Guide to Chemical Hazards: Stoddard Solvent/Mineral Spirits. <https://www.cdc.gov/niosh/npg/npgd0569.html> Accessed 6/1/22.

Toxicological Profile for Stoddard Solvent, US Department of Health and Human Services (June, 1995). <https://www.atsdr.cdc.gov/ToxProfiles/tp79.pdf> Accessed 6/1/22.

Safety Data Sheet. Glycolic Acid 70%. Chemours. [file:///C:/Users/kneemann/Downloads/SafetyDataSheetSDS\\_TechnicalGrade70Solution\\_EnglishUnitedStates\\_04092019%20\(2\).pdf](file:///C:/Users/kneemann/Downloads/SafetyDataSheetSDS_TechnicalGrade70Solution_EnglishUnitedStates_04092019%20(2).pdf) Accessed 6/1/22.