

POST EXPLOSION MANAGEMENT RECOMMENDATIONS FROM KHADDIT BEIRUT* AND WORLD HEALTH ORGANIZATION

**Khaddit Beirut is a National platform of health, environmental health, and education experts from local and international universities, organizations and private businesses working together to set the framework for relief at the immediate and long term levels.*

After local authorities give permission to people to enter damaged buildings including homes and businesses, residents, store owners, relief workers, volunteers, and others must take into consideration the following precautions which are based on a review of public documents prepared by CDC (Center for Disease Control and Prevention), EPA (Environmental Protection Agency), NIEHS (National Institute of Environmental Health Sciences), IndoorChem, and WHO (World Health Organization):

WORK PLAN AND GENERAL RECOMMENDATIONS



Before any intervention, trained personnel must acquire information or carefully assess the site conditions as a basis to develop a work plan with detailed objectives including personnel and equipment requirements



Assign personnel that are responsible for site safety who will assess and document the risk and potential hazards associated with each operation and sub-operation, and recommend protective measures including required PPE (Personal protective equipment)



Set up a safe and clean site for food, water, shelter, and sanitation/hygienic needs



Ensure that vulnerable population like children, pregnant women, elderly, and those having lung conditions stay indoors in clean environment



Don't work alone. Always work in well-coordinated teams



Appoint a key person to manage volunteers by:

- Estimating the need for volunteers and skills needed
- Getting volunteers' information such as name, address, and phone number
- Preparing and adjusting work schedules
- Rotating personnel when needed to minimize potential exposures or work load



In case vulnerable population needs to be outdoor, strictly recommend that they wear a face mask to protect them from inhaling particulate matter or dust from the blast or building debris which may contain fibers, various metals, powdered glass, and chemical toxins



In case of an accident or an emergency, call the Lebanese Red Cross (at #140), Fire Department (at #175), or Internal Security (at #112) for help.



CLEANING AND SITE SAFETY RECOMMENDATIONS



When cleaning indoors and outdoors, always wear proper PPE:



- Goggles (for eye protection)

- Helmet (hard hat)



- Gloves (cut resistant or thick gloves) as a protection from shattered glass

- Overalls and boots (preferably construction boots)

- Proper respirators when dealing with demolition materials to avoid exposure to asbestos containing material, lead dust, silica, cement dust, debris and broken glass dust

- Respirators (having N-98 filters) are recommended

- Surgical masks should not be worn since they don't provide proper protection from toxic chemicals and dust



Avoid disturbing, breaking, or cutting debris since you might release any hazardous fibers it may contain



Keep the debris wet before moving and cover it with watered down paint or glue or plastic sheet



Store suspected asbestos-containing waste in sealable containers such as metal or plastic drums or strong polyethylene bags and label the container with a hazard warning before disposal



To clean dust safely and avoid inhalation and exposure, spray or flush with water, or use wet towels or wet vacuum cleaners. Do not use brooms or regular dry vacuum cleaners



Do not use detergents to avoid the possible occurrence of chemical reactions, especially in facilities which were impacted by the explosion and may have been storing hazardous substances. Such reactions may cause minor chemical threats (paints, solvents, etc...) and the release of toxic chemicals



Frequently spray water outdoors (in gardens or balconies) to help particles deposit faster



Avoid using bleach to prevent its mix with ammonia in the air or deposited ammonium (such mixes produce toxic chemicals)



Stay away from broken electrical equipment (TV, Computers, refrigerators...) and PCB-containing equipment (such as distribution transformers and capacitors). PCBs are known to cause adverse health problems



If the surface is suspected to be contaminated with blood and body fluids, personnel should wear proper PPEs:



leather, latex, and nitrile gloves; eye protection like goggles or face shields; and



mask covering the mouth and nose to prevent inhalation of blood-borne infectious pathogens (e.g., Hepatitis B, Hepatitis C, and HIV)



Avoid open burning of collected damaged material as it might release dangerous fibers into the air



Avoid loose overhead lines, circuits, and cables that can be a source of electric shock or electrocution



Drink safe and clean water. Do not drink from water sources at the damaged site to avoid exposure to contaminated water from the explosion



POST CLEANING RECOMMENDATIONS



Wash hands with soap and water and bathe after working in the damaged sites



Change work clothes before entering your home to avoid contamination inside the house



Wash work clothes separately to avoid contamination of other clothes



Drink safe and clean water. Do not drink from water sources at the damaged site to avoid exposure to contaminated water from the explosion

MEDICAL RECOMMENDATIONS



Remember that some of the chemicals you are exposed to are toxic and might cause illness



In case of discomfort, any irritation (eyes, skin, or nose), or any unusual symptom such as chest pain, seek professional help



For your safety, proceed to the hospital or a nearby primary health care units for proper assessment and treatment



DO NOT FORGET CORONA (COVID-19). Since we are still in a pandemic:

- Keep your surgical/cloth mask on (if a proper mask/respirator is not required)
- Avoid touching your face especially when cleaning surfaces

REFERENCES

https://tools.niehs.nih.gov/wetp/public/hasl_get_blob.cfm?ID=9295

<https://www.cdc.gov/niosh/topics/emres/sitemgt.html>

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https://postconflict.unep.ch/humanitarianaction/documents/02_05-08.pdf

https://www.humanitarianresponse.info/sites/www.humanitarianresponse.info/files/documents/files/flyer_-_air_pollution_resulting_from_explosion_-_aub_who1.pdf

