

FLAMMABLE AND COMBUSTIBLE LIQUIDS



Fig 32-16. Before cleaning a tank, workman should be properly equipped and instructed, and have clear means of escape.

Sandblasting equipment should be bonded to prevent static sparks. Use of power chipping tools and rivet busters should be suspended while flammable vapors from tanks may be present in the area. Nozzles on steam lines used to free tanks of vapor should be bonded to the tank shells to prevent static accumulation. Motor trucks, gas engines, open flames, and portable electric equipment should be kept a safe distance from the tank being cleaned.

Protective equipment

Although full details on personal protective equipment can be found in Chapter 36, it is well to discuss specifics concerning tank cleaning here.

It is considered good practice to wear watertight rubber boots, thoroughly cleaned and in good condition, for tank cleaning. It is advisable to wear rubber or impermeable gloves, but if work does not permit their use, a protective cream recommended for the exposure should be used. In an atmosphere which is dangerously irritant or corrosive to the skin, a complete outfit of

impervious clothing must be worn.

Supplied air hose masks with blowers and safety harnesses with life lines, or self-contained or self-generating breathing apparatus should be worn by men entering tanks unless the person in charge has determined that the vapor concentration is at or below the threshold limit value (see Chapter 40, "Industrial Toxicology") and that no oxygen deficiency exists.

Some companies will permit a canister type gas mask with an approved canister to be used in the presence of petroleum vapors when the vapor concentration is over 0.1 per cent but less than 0.5 per cent and the exposure is short. Canisters approved by the Bureau of Mines give protection against up to 2 per cent of gas. It is important that there always be sufficient oxygen present when a canister type mask is used.

If a test of the tank shows it to be deficient in oxygen, whether or not it is otherwise immediately hazardous to life, a compressed-air type of self-contained breathing apparatus, or self-generating or air supplied mask should be used. Fit of the facepiece should be carefully checked before the workman enters the tank. If the environment contains a substance that is dangerously irritant or corrosive to the skin (lead tetraethyl, for example), the breathing apparatus may be supplemented by complete attire of impervious clothing.

Some medical authorities advise that individuals with broken eardrums not work in vapor-laden atmospheres, because no mask will protect these abnormal openings.

The supplied fresh-air hose mask with blower is generally the best type of respiratory equipment for continuous use in tank interior operations.

Proper procedures

Wherever possible, best practice is to do the washing from outside the manhole until the vapor concentration has been reduced to or below the threshold limit value for the vapor.

An individual making tests with a combustible gas indicator should be thoroughly familiar with the instrument and be satisfied that it is in proper working order. Tests should not be made in the presence of steam.

A worker should not be allowed to enter