

APPENDIX D

LIME SAFETY PRECAUTIONS

Hydrated lime (calcium hydroxide), like most materials or chemicals in common use, is not dangerous to work with providing a few simple precautions are exercised. Quicklime (calcium oxide), also called “hot” lime, is considerably more dangerous to use than hydrated lime. While both types of lime are strongly alkaline, quicklime is much more caustic and can produce severe burns quickly when in contact with moist skin. It is also desirable to prevent as much hydrate as possible from coming into contact with workers’ skin. Usually danger from severe burns is remote, but prolonged contact of hydrated lime with a perspiring workers’ skin where the skin is also chafed by tight clothing has produced bad burns. Other persons with particularly sensitive skin have developed forms of skin irritation (dermatitis) through prolonged contact. There is no urgency in removing hydrated lime from skin, but it should be flushed off with water as soon as convenient. However, quicklime should be washed off or at least brushed off immediately after contact with skin, since it is caustic. Hot, humid weather conditions tend to heighten the caustic effect of hydrated lime on a worker’s skin.

If the following recommendations are carried out, there is no possibility of burns or skin irritation to workers:

Clothing

1. Wear at least one long sleeved shirt or “sweat” shirt. Rolled up sleeves or short sleeved shirts should not be permitted. In cool weather, a second long sleeved shirt is added protection.
2. Wear high top shoes or laced boots.
3. Wear trouser legs tied over shoe tops. (Shorts should not be permitted).
4. Wear hat or cap to protect scalp from accumulated lime dust.
5. Wear gauntlet-type gloves.
6. Do not wear clothes that bind too tightly around neck or wrists since the resulting chafing may cause lime to be more irritating to skin.

Protective Cream

A protective cream, like West’s #311 Cream, should be applied to exposed parts of the body, like neck, face, wrists, or ankles when a worker will be exposed to prolonged lime dust. Properly applied, it makes a thin, protective film which is easily removed by soap and water.

Eye Protection

Wear safety glasses with side shields, or goggles, at all times while working with lime.

Mouth and Nose Protection

When construction conditions are quite dusty, a light-weight filter mask should be worn, although inhalation of some lime dust is not injurious.

After Work

Bathe or shower after a workday to cleanse the body entirely of lime and protective cream.

First Aid

1. Skin burns--Wash thoroughly with soap and warm water to remove all lime. Apply a standard burn ointment used for heat or caustic burns, and cover with sterile bandages. Keep bandaged during healing to prevent infection.
2. Lime in the Eyes--Hold worker's eye open and flush out with water immediately. Too much water cannot be used.
3. Report all burns from lime or cases of lime in eyes immediately so that medical attention can be provided without delay.

Generally the workers most vulnerable to lime burns who should practice the above precautions rigorously are those handling bagged lime on the roadway and those operating bulk spreader trucks. In general, greater care should be exercised in bag applications than bulk. Since the greatest danger is to the eyes, all workers emptying bags of lime must be equipped with close-fitting goggles. If a worker in a bent-over position should drop an open bag of lime on the ground, the impact can cause a dense cloud of lime dust to arise directly on the worker's face. If his eyes are unprotected by goggles, loss of sight may result from lime burns.

The least hazard from lime burns is encountered in slurry applications. Only workers with unusually sensitive skins could be adversely affected by slurry (or the thick "whitewash") splashing on their bare skin. But the same rigid care should be exercised to prevent any form of lime from getting into the eyes.

The above precautions are largely intended for those contractors who are using lime for the first time. Most contractors experienced with lime have never had trouble from burns. However, "an ounce of prevention" is important so that all contractors should carefully brief each worker on lime precautions, and most important, check and see that the worker abides by these few simple safety rules. Practically speaking, hydrated lime or slurry is no more dangerous to the skin than cement or grout. Lime is simply lighter and finer than cement and more prone to blow.