

SAFE HANDLING OF ARSENIC TRIOXIDE

1. Toxicity

Arsenic trioxide is a poisonous substance and, if taken by mouth, may cause severe illness and death. Suitable precautions must always be taken to avoid accidental contamination of foods or beverages.

The dust of arsenic trioxide is irritating to the skin and mucous membranes. If dust gets on the skin, especially on skin moist with perspiration and in areas where clothing rubs on the skin, irritation will develop. The skin will become reddened and sore.

If some dust is inhaled repeatedly, a sore spot may develop inside the nose on the septum - the partition between the nostrils. Or, if dust is inhaled by mouth, there may be irritation of the throat.

Probably because arsenic trioxide dust is irritating, it is unlikely that anyone would ever inhale enough dust to cause poisoning of the whole body like the poisoning caused when arsenic is taken by mouth. At least such poisoning by inhaling dust has not been reported in all the years arsenic trioxide has been used in industry.

2. Dust Control

Mechanical conveying and mixing equipment used for arsenic trioxide should preferably have hoods with powered exhaust

ventilation at points of dust dispersion. The decision as to dust control equipment will depend upon many local factors and conditions of use and no detailed rules can be stated. In cases where the arsenic trioxide will be used in wet processes, addition of water to it as early as possible in the production procedures will prevent dust problems. Admixture of a small percentage of a high flash point oil with the dry trioxide, if traces of oil are permissible in the final product, will greatly reduce dusting.

3. Personal Protective Equipment

To keep dust off the skin, long cotton underwear, denim coveralls with attached hood, cotton gloves and high shoes or boots should be worn. The sleeves and legs of the coveralls should be tied around wrists and ankles respectively.

Calamine lotion (without phenol) or zinc oxide powder or suitable commercial protective creams afford some protection to the face and other exposed areas of the skin.

Workmen should have showers after removing their work clothes and before donning their street clothes.

To prevent dust inhalation, masks of sheet wadding in conjunction with the Dr. Wood respirator (American Optical Company) have been successfully used. Used sheet wadding should be replaced with new wadding when the mask is removed at lunch-time. Respirators with rubber face pieces rub on the skin and encourage perspiration and skin irritation.

The extent of personal protective measures will depend on the amounts of dust to which workmen are exposed and on the length

of time of such exposures. Sk
minor ones, are a signal that
good enough and that greater c

nose irritations, even
tive measures are not
ould be taken.

4. First Aid and Medical Attention

In case of accidental swallowi
should be induced if possible
at once.

Irritations of the skin, nose c
cases which disappear in a day
attention. Again, such irritai
ventive measures are not adequa

arsenic trioxide, vomiting
hysician should be called

at, except for the mildest
, should have medical
are a warning that pre-

5. Storage

Arsenic trioxide must be kept c
animals might get at it. Warni
always be prominently displayed
tainers. Odd unlabeled contain
which might later be employed f
should not be used.

Arsenic trioxide together with
and iron or zinc (a galvanized
produce arsine, a highly poison
substances must be avoided.

places where children or
els and/or signs should
orage areas and on con-
ch as tin cans or buckets,
istuffs or drinking water,

1, such as battery acid,
is zinc-coated) may
s. This combination of