POISINDEX(R) Toxicologic Management

Topic: METHYL METHACRYLATE

0.0 OVERVIEW

0.1 LIFE SUPPORT

This overview assumes that basic life support measures have been instituted.

0.2 CLINICAL EFFECTS

0.2.1 SUMMARY OF EXPOSURE

A. Liquid (monomeric) methyl methacrylate is a moderate irritant and sensitizer, and less toxic than acrylates with lower molecular weight. Once polymerized, methyl methacrylate is inert and nontoxic.

B. Methyl methacrylate is moderately toxic by inhalation and intraperitoneal routes, and mildly toxic by ingestion. Human systemic effects by inhalation include: narcosis, excitement, anorexia and blood pressure decrease. It is a skin and eye irritant and a common air contaminant.

0.2.4 HEENT

A. This substance is moderately irritating to the eyes and nose. Ocular exposure in rabbits resulted in corneal irritation, lens opacity, and iris atrophy.

B. Decrement in olfactory ability, though not clinically significant, has been identified with exposure to methyl methacrylates.

0.2.5 CARDIOVASCULAR

A. Vasodilation and transient hypotension has been reported following use as a bone cement. Hypertension may also occur.

B. Direct cardiotoxicity has been noted.

0.2.6 RESPIRATORY

A. Respiratory depression, pulmonary edema, emphysema, and atelectasis have been seen following large doses in animals.

B. Occupational asthma has been associated with methyl methacrylate.

0.2.7 NEUROLOGIC

A. Headache and irritability may be seen.

B. Paresthesia and narcosis have been reported.

0.2.8 GASTROINTESTINAL

A. Anorexia, contact stomatitis, or throat irritation may occur.

0.2.9 HEPATIC

A. Disturbances in hepatic metabolism and enzymes have been noted in human and animals.

0.2.10 GENITOURINARY

A. Kidney lesions occur in humans and animals with oral ingestion of methylmethacrylate.

0.2.14 DERMATOLOGIC

A. Allergic contact dermatitis has been reported. Eczematous reactions of onychial and paronychial tissues

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have been reported in patients using acrylic plastic nails. Dystrophic nail changes may persist for months.

0.2.20 REPRODUCTIVE

A. There is no evidence of methyl methacrylate-induced teratogenicity in humans but there are conflicting reports in animals.

0.2.21 CARCINOGENICITY

A. Long-term follow-up of workers does not support the carcinogenicity of methylmethacrylate but chronic exposure in animals has been associated with fibrosarcomas.

0.3 LABORATORY/MONITORING

A. Laboratory measures are not of use.