

VII. RESEARCH NEEDS

The most serious research needs in connection with occupational exposure to antimony are resolution of the questions of reproductive hazard and carcinogenic potential. The available literature does not supply conclusive evidence for an evaluation of these issues. The only epidemiologic survey [14] that suggested an increased risk of lung cancer was merely a statement issued to workers engaged in antimony oxide manufacture; it cannot be considered scientific or complete. Research is in progress under a NIOSH contract to determine the carcinogenicity of antimony trioxide. Research is also needed to determine if antimony acts synergistically to promote carcinogenic properties of other substances.

Belyaeva [13] reported increased incidences of late spontaneous abortions, premature births, and gynecologic problems in women antimony workers, as well as less-than-normal weight gain in their infants. With animal experiments, the same author [13] substantiated the findings of reproductive disorders. More animal research should be undertaken to confirm Belyaeva's results. Possible behavioral consequences of exposure to antimony in utero should also be investigated.

Epidemiologic studies of worker populations exposed to antimony at or near the recommended environmental limit would serve to evaluate the adequacy of the limit. These studies should attempt to distinguish exposures to antimony from mixed exposures to antimony and arsenic. As a minimum, these studies should include environmental air measurements, identification of jobs, description of work practices and overall plant conditions, work, medical, and exposure histories, and carefully derived control rates for morbidity and mortality comparisons.

VIII. REFERENCES

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