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Dr. Ruth Lunn
Director, Office of the RoC
DNTP, NIEHS
P.O. Box 12233, MD K2-14
Research Triangle Park, NC 27709
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RE: Comments on the nomination of indium compounds for listing in the Report on Carcinogens

Dear Dr. Lunn:

The Indium Corporation is one of the world's largest suppliers of materials required for the production of electronics, semiconductors, solar panels, and thin films. We appreciate this opportunity to comment on the nomination of indium for listing in the Report on Carcinogens (RoC).

It has been demonstrated through case reports and rodent studies that inhaled particulates composed of indium compounds can be toxic[1-11]. These data demonstrate that care must be taken by workers in facilities involved in refining indium compounds to avoid inhalation of dust due to these activities. At the same time, however, these toxicity data do not demonstrate that indium compounds are carcinogenic.

We are requesting that indium not be included in the next RoC. While there are data to suggest that indium phosphide is a likely carcinogen in rodent models[12], there is only one study we know of which inconclusively indicates that another indium compound may be carcinogenic - in one rodent species through one route of administration[4]. There are very limited robust data to support the hypothesis that other indium-containing compounds are also carcinogenic, and we are aware of no data demonstrating the mechanisms by

which indium compounds may be carcinogenic or demonstrating structural similarities between indium compounds and other known carcinogens. We are also aware of no reports of carcinogenesis in humans caused by indium compounds. Thus, the inclusion of indium compounds other than indium phosphide in the RoC would be considered overly broad and not scientifically supportable by the RoC's own listing criteria[13]. Indeed, a draft report by the NTP from July 2009[14] stated that more carcinogenicity studies involving indium compounds must be completed to determine whether or not indium compounds, as a whole, are carcinogenic. "Results from a two-year inhalation study will determine the carcinogenic potential of ITO and indium chloride in the rodent model system.... A two-year study on ITO and indium chloride will also provide insight into indium compounds in general. Coupled with the carcinogenicity data on InP, the ITO and indium chloride data may lead to regulation of all indium compounds in a similar manner."[14] We agree that these proposed studies must be completed to determine if it is appropriate to designate indium compounds as carcinogenic.

While we at the Indium Corporation are in favor of additional studies to assess the carcinogenicity of other indium-containing compounds, we propose that the inclusion of indium metal, indium alloys, and indium compounds in the RoC is premature. We believe that, at this time, they should be left out of the RoC.

Thank you for your consideration of these comments. If you have any questions please contact me.

Sincerely,

[Redacted]

Nancy Swarts
Environmental, Health and Safety / Regulatory Compliance Manager

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