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PEOPLE FOR THE ETHICAL TREATMENT OF ANIMALS

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Subject: Public Comments on the HPV Challenge Program Test Plan for the C3-5 Butene-Isobutylene-Rich (C3-5 BIR) stream by ExxonMobil Chemical Company.

The following comments on the HPV Challenge Program test plan for the C3-5 BIR stream by ExxonMobil Chemical Company are submitted on behalf of People for the Ethical Treatment of Animals, the Physicians Committee for Responsible Medicine, the Humane Society of the United States, the Doris Day Animal League, and Earth Island Institute. These health, animal protection, and environmental organizations have a combined membership of more than ten million Americans.

We commend ExxonMobil Chemical Company for its thoughtful use of existing data on major constituents of the C3-5 BIR stream, the composition of which is well-defined, to fill all SIDS endpoints. The resulting reduction in proposed testing saves animals' lives and is consistent with the HPV Challenge Program's goal of obtaining screening level hazard information.

As noted in the test plan, the predominant chemical group of the C3-5 BIR stream is the methoxypentanes comprising as much as 97% of the stream. This group will be responsible for the biological effects exhibited by the stream as a whole. The few remaining chemical groups or individual chemical constituents, present at levels between 0.4% and 3%, will not contribute to greater adverse biological effects than those resulting from the major group. The sponsor proposes to use data from the three constituent methoxypentanes to characterize the overall toxicity of the stream. The predominant methoxypentane is methyl-tertiary-butyl ether (MTBE) which can comprise more than 65% of the stream. A second constituent is 2-methoxy-2-methylbutane (TAME) which comprises approximately 28% of the stream. A third constituent is methyl-sec-butyl ether (MSBE), which can comprise as much as 4% of the stream.

Measured MTBE acute toxicity data are available for a freshwater fish species. A 96-hour fathead minnow (Pimephales promelas) LC50 toxicity value of 672 mg/L is reported. Notably, the measured MTBE data compare favorably with data calculated by the ECOSAR model (LC50 = 224 mg/ml). Measured TAME acute toxicity data are also available for a freshwater fish with a 96-hour trout (Oncorhynchus mykiss) LC50 value of 580 mg/L reported. Again, the measured TAME data compare favorably with data calculated by the ECOSAR model (LC50 = 201 mg/L). Measured acute aquatic toxicity data were not available for MSBE. Calculated acute toxicity values were generated by the ECOSAR model. The calculated data compare favorably with the measured and

calculated data for MTBE and TAME. The calculated freshwater fish acute LC50 for MSBE is 206 mg/ml. ECOSAR applies an equation for neutral organics to estimate aquatic toxicity and is therefore considered appropriate to estimate aquatic toxicity for this class of chemicals. ExxonMobil Chemical Company's use of structure activity relationships to minimize further testing is in accordance with the EPA's October 1999 letter to chemical sponsors addressing animal welfare concerns (http://www.epa.gov/oppt/chemrtk/pubs/general/ceoltr2.htm). It should also be noted that MSBE is volatile and information on its environmental fate suggests that once in the atmosphere, it will be largely degraded through physical processes at a relatively rapid rate. The 48- or 96-hour data for each of the freshwater fish, daphnid, and green alga endpoints show that the three ethers are expected to cause similar effects.

Data are available for each of the above three constituents to characterize the potential acute mammalian toxicity of the C3-5 BIR stream and demonstrate a low order of oral and inhalation toxicity. Data are also available for MTBE and TAME to characterize the potential genetic, repeated dose, reproductive and developmental toxicity of the C3-5 BIR stream. The weight of evidence suggests that neither is genotoxic. Repeated exposure to these constituents demonstrates a low order of toxicity and is not expected to cause harm to reproduction or the developing fetus. ExxonMobil Chemical Company has conducted a thoughtful, qualitative analysis of existing data and concluded that there is sufficient data, considering that the three major constituents of the C3-5 BIR stream are all methoxypentanes, that no further repeated dose, reproductive or developmental toxicity testing is needed. This is in accordance with the EPA's October 1999 letter to chemical sponsors (http://www.epa.gov/oppt/chemrtk/pubs/general/ceoltr2.htm).

Thank you for your attention to these comments. I may be reached at (757) 622-7382, ext. 8001, or via e-mail at josephm@peta.org.

Sincerely,

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