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American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005
202-682-8300



William F. O'Keefe
Vice President

Complaints File

February 21, 1984

Mr. Martin Greif
Executive Secretary
TSCA Interagency Testing Committee
Environmental Protection Agency (TS-792)
East Tower Room 539C
401 M Street, S.W.
Washington, D.C. 20460

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Dear Mr. Greif:

In response to the listing by the TSCA Interagency Testing Committee (ITC) of 2-Methyl-1, 3-butadiene as a chemical for Section 4 testing consideration (48 Fed. Reg. 51519; November 9, 1983), the American Petroleum Institute (API) is submitting the attached information on this compound. As this profile reflects, the petroleum industry does not intentionally manufacture 2-Methyl-1, 3-butadiene. Small amounts of the compound, however, are inadvertently produced during the refining process. Consequently, the concentration of 2-Methyl-1, 3-butadiene in our finished fuel products is quite low, with an average of 0.018 volume percent for gasoline.

API continues to maintain that the testing of minor components of complex mixtures, prior to evaluating the mixture itself, is inefficient and will generate data of minimal relevance to the assessment of risk from exposure to the complex mixture itself. Rather than support component-by-component testing, API endorses and is currently pursuing the evaluation of the mixture, such as gasoline, to which people are actually exposed. It is only upon the completion of the mixture's evaluation that logical decisions can be made regarding the follow-up testing of components or fractions suspected to be biologically active. As API has presented to the ITC before, we believe this approach is the most rational, scientifically appropriate and cost effective solution to addressing the question of the health effects of complex mixtures since it allows the identification and reduction of risk to be accomplished more quickly than by a component-by-component analysis.

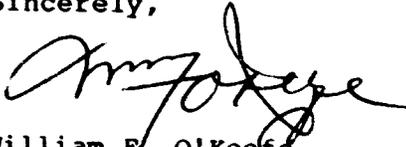
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Mr. Martin Greif
Page Two
February 21, 1984

As I stated to you in my February 8, 1984 letter, API is planning to submit exposure data for 2-Methyl-1, 3-butadiene by mid-July. These data should confirm our assumption that human exposure to this minor gasoline component through exposure to motor gasoline takes place at extremely low levels.

If you should have any questions regarding the enclosed information, please feel free to contact Amy Shepard of my staff at 682-8475.

Sincerely,

A handwritten signature in cursive script, appearing to read "W. O'Keefe".

William F. O'Keefe
Vice President

Attachments

API Profile of 2-Methyl-1, 3-butadiene

2-Methyl-1, 3-butadiene (CAS No. 78-79-5), also known as isoprene, is a C_5H_8 diolefin with a molecular weight of 68.12. In its pure form it is a colorless, volatile liquid with a boiling point of 93.3°F. Diolefins probably do not occur naturally in crude oils.

The petroleum industry does not intentionally manufacture 2-Methyl-1, 3-butadiene. Depending upon the crude slate and the refinery process configuration,, small amounts of 2-Methyl-1, 3-butadiene are incidentally produced, primarily from catalytic cracking units and to a lesser extent from crude distillation and coking units. Most olefins boil both in the gasoline to diesel fuel range. Thus, 2-Methyl-1, 3-butadiene will be found in naphthas and light distillates from these units at concentrations ranging from 0.003 percent to 0.110 percent by volume (Table 1).

2-Methyl-1, 3-butadiene occurs at varying low concentrations in gasoline, diesel fuel and furnace oil, but at not more than one percent concentrations. As shown in Table 1, the average concentration reported for 84 gasoline samples (only 66 of which contained any 2-Methyl-1, 3-butadiene) was 0.018 percent by volume.

API is unaware of any health and safety studies conducted by the petroleum industry on 2-Methyl-1, 3-butadiene. API believes that this is probably due to the fact that 2-Methyl-1, 3-butadiene is a minor, inadvertent component of complex petroleum mixtures.

Table 1
 Concentration of 2-Methyl-1, 3-butadiene
 in Process Streams and
 Finished Petroleum Products*

<u>Process Streams</u>	<u>Volume %</u>
Debutanizer Feed (Catalytic Cracking)	0.09
Debutanizer Overhead (Catalytic Cracking)	0.05
Butane-Butylene (Catalytic Cracking B-3 Product)	0.05
Propane-Propylene (Catalytic Cracking P-P Product)	<0.01
Fluid catalytic cracked gasoline (light)	0.041-0.110
Fluid catalytic cracked gasoline (heavy)	0.003
<u>Finished Product</u>	
Gasoline**	
Average concentration	0.018
Maximum	0.38
Minimum	0
Std. Deviation	<u>+0.042</u>

*These data were compiled from reports by three major oil companies.

**Data presented is based on results of 84 gasoline samples tested. 2-Methyl-1, 3-butadiene was present in 66 of the 84 samples.