

Study Number: MOG002B

Test Type: MOG

Route: Dosing in Feed

Species/Strain: Rat/Sprague-Dawley

C Number:

Study Gender:

PWG Approval Date

R10: Fetal Defects

Test Compound: 2-Hydroxy-4-methoxybenzophenone

CAS Number: 131-57-7

MOG002B

Both

See web page for date of PWG Approval

Date Report Requested: 02/12/2020

Time Report Requested: 06:11:24

Lab: RTI

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F1 Female: Prenatal Female

Classification	Treatment Groups (ppm)					
	0	3000	10000	30000	0.05 ppm EE	
Total number of fetuses examined	269	234	228	225	174	
	External					
No. Fetuses examined	269	234	228	225	174	
No. Litters examined	18	16	18	17	15	
body						
Anus, Atresia	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
general						
Torso, Hematoma	Variation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
limbs						
Limb, bilateral hind, Clubbed limb	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
placenta						
Placenta, Fused	Gross Finding	2 (0.74) **	0 (0.00)	2 (0.88)	10 (4.44) **	0 (0.00)
		1 (5.56)	0 (0.00)	1 (5.56)	2 (11.76)	0 (0.00)
tail						
Tail, Agenesis	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)

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Classification	Treatment Groups (ppm)					
	0	3000	10000	30000	0.05 ppm EE	
Visceral						
No. Fetuses examined	269	234	228	225	174	
No. Litters examined	18	16	18	17	15	
abdomen						
Adrenal gland, right, Agenesis	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
Intestine, Discolored, red	Variation	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.57)
		0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1 (6.67)
Kidney, Hydronephrosis	Malformation	3 (1.12)	1 (0.43)	0 (0.00)	5 (2.22)	2 (1.15)
		3 (16.67)	1 (6.25)	0 (0.00)	5 (29.41)	2 (13.33)
Kidney, bilateral, Hydronephrosis	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	2 (1.15)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	2 (13.33)
Kidney, bilateral, Malpositioned	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
Kidney, bilateral, Round	Malformation	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)	0 (0.00)
		0 (0.00)	0 (0.00)	1 (5.56)	0 (0.00)	0 (0.00)
Kidney, bilateral, Small	Malformation	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)	0 (0.00)
		0 (0.00)	0 (0.00)	1 (5.56)	0 (0.00)	0 (0.00)
Kidney, left, Hydronephrosis	Malformation	1 (0.37)	0 (0.00)	0 (0.00)	2 (0.89)	0 (0.00)
		1 (5.56)	0 (0.00)	0 (0.00)	2 (11.76)	0 (0.00)
Kidney, right, Hydronephrosis	Malformation	2 (0.74)	1 (0.43)	0 (0.00)	2 (0.89)	0 (0.00)
		2 (11.11)	1 (6.25)	0 (0.00)	2 (11.76)	0 (0.00)
Liver, all lobes, Enlarged	Malformation	0 (0.00) **	1 (0.43)	2 (0.88)	7 (3.11) **	0 (0.00)
		0 (0.00)	1 (6.25)	1 (5.56)	2 (11.76)	0 (0.00)
Stomach, Distended	Variation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
heart						
Ventricular septum, Septum defect	Malformation	0 (0.00)	0 (0.00)	2 (0.88)	1 (0.44)	0 (0.00)

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F1 Female: Prenatal Female

Classification	Treatment Groups (ppm)					
	0	3000	10000	30000	0.05 ppm EE	
Skeletal - Body						
No. Fetuses examined	269	233	228	225	174	
No. Litters examined	18	16	18	17	15	
general						
General, Multiple rib abnormalities	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
General, Multiple vertebral abnormalities	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
ribs						
Rib, Lumbar I full	Malformation	0 (0.00)	2 (0.86)	1 (0.44)	0 (0.00)	0 (0.00)
		0 (0.00)	1 (6.25)	1 (5.56)	0 (0.00)	0 (0.00)
Rib, Lumbar I rudimentary	Variation	9 (3.35)	24 (10.30) ** #	13 (5.70)	12 (5.33)	6 (3.45)
		8 (44.44)	9 (56.25)	6 (33.33)	7 (41.18)	4 (26.67)
Rib, bilateral, Lumbar I full	Malformation	0 (0.00)	1 (0.43)	0 (0.00)	0 (0.00)	0 (0.00)
		0 (0.00)	1 (6.25)	0 (0.00)	0 (0.00)	0 (0.00)
Rib, bilateral, Lumbar I rudimentary	Variation	2 (0.74)	8 (3.43) *	3 (1.32)	2 (0.89)	0 (0.00)
		2 (11.11)	4 (25.00)	2 (11.11)	2 (11.76)	0 (0.00)
Rib, left, Lumbar I rudimentary	Variation	5 (1.86)	7 (3.00)	7 (3.07)	4 (1.78)	4 (2.30)
		4 (22.22)	5 (31.25)	5 (27.78)	4 (23.53)	3 (20.00)
Rib, right, Lumbar I full	Malformation	0 (0.00)	1 (0.43)	1 (0.44)	0 (0.00)	0 (0.00)
		0 (0.00)	1 (6.25)	1 (5.56)	0 (0.00)	0 (0.00)
Rib, right, Lumbar I rudimentary	Variation	2 (0.74)	9 (3.86) *	3 (1.32)	6 (2.67)	2 (1.15)
		2 (11.11)	4 (25.00)	2 (11.11)	4 (23.53)	2 (13.33)
Rib, right, Misaligned	Malformation	1 (0.37)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
		1 (5.56)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
sternebrae						
Sternebra II, Incomplete ossification	Variation	1 (0.37)	0 (0.00)	0 (0.00)	2 (0.89)	0 (0.00)
		1 (5.56)	0 (0.00)	0 (0.00)	2 (11.76)	0 (0.00)

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F1 Female: Prenatal Female

	Classification	Treatment Groups (ppm)				
		0	3000	10000	30000	0.05 ppm EE
Sternebra II, Misaligned (>2, not V)	Variation	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.57)
		0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)	1 (6.67)
Sternebra III, Incomplete ossification	Variation	1 (0.37)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
		1 (5.56)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Sternebra IV, Incomplete ossification	Variation	1 (0.37)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
		1 (5.56)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
Sternebra V, Incomplete ossification	Variation	2 (0.74)	0 (0.00)	1 (0.44)	3 (1.33)	2 (1.15)
		2 (11.11)	0 (0.00)	1 (5.56)	2 (11.76)	2 (13.33)
Sternebra V, Unossified	Variation	0 (0.00)	1 (0.43)	0 (0.00)	0 (0.00)	1 (0.57)
		0 (0.00)	1 (6.25)	0 (0.00)	0 (0.00)	1 (6.67)
Sternebra VI, Incomplete ossification	Variation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	1 (0.57)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	1 (6.67)
Sternebra(e), Extra ossification site between sternebrae	Variation	1 (0.37)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		1 (5.56)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
Sternebra(e), Fused	Malformation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
Sternebra(e), Misaligned (>2, not V)	Variation	0 (0.00)	0 (0.00)	0 (0.00)	1 (0.44)	0 (0.00)
		0 (0.00)	0 (0.00)	0 (0.00)	1 (5.88)	0 (0.00)
Sternebra(e), Unossified or Incomplete ossification	Variation	2 (0.74) *	1 (0.43)	1 (0.44)	5 (2.22)	3 (1.72)
		2 (11.11)	1 (6.25)	1 (5.56)	4 (23.53)	3 (20.00)
thoracic vertebrae						
Thoracic centrum, Bipartite ossification, Dumbbell cartilage	Variation	4 (1.49)	0 (0.00)	0 (0.00)	2 (0.89)	0 (0.00)
		3 (16.67)	0 (0.00)	0 (0.00)	2 (11.76)	0 (0.00)
Thoracic centrum, Dumbbell or Bipartite ossification	Variation	8 (2.97)	2 (0.86)	5 (2.19)	6 (2.67)	4 (2.30)
		4 (22.22)	2 (12.50)	4 (22.22)	5 (29.41)	4 (26.67)
Thoracic centrum, Dumbbell ossification	Variation	1 (0.37)	1 (0.43)	4 (1.75)	1 (0.44)	2 (1.15)
		1 (5.56)	1 (6.25)	3 (16.67)	1 (5.88)	2 (13.33)
Thoracic centrum, Dumbbell ossification, Dumbbell cartilage	Variation	5 (1.86)	1 (0.43)	1 (0.44)	3 (1.33)	2 (1.15)
		3 (16.67)	1 (6.25)	1 (5.56)	3 (17.65)	2 (13.33)

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F1 Female: Prenatal Female

Classification	Treatment Groups (ppm)					
	0	3000	10000	30000	0.05 ppm EE	
Skeletal - Skull						
No. Fetuses examined	136	122	116	113	85	
No. Litters examined	18	16	17	17	15	
skull						
Parietal, Incomplete ossification	Variation	0 (0.00) *	0 (0.00)	0 (0.00)	2 (1.77)	0 (0.00)
		0 (0.00) *	0 (0.00)	0 (0.00)	2 (11.76)	0 (0.00)

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LEGEND

Upper row denotes number of affected fetuses (%) and lower row the number of affected litters (%)

Trend and pairwise significance levels are determined using one-sided tests.

Statistical analysis for litter data and for fetal data ignoring the litter effects were performed by Cochran-Armitage (trend) and Fisher Exact (pairwise) tests.

* Statistically significant at $P \leq 0.05$

** Statistically significant at $P \leq 0.01$

Statistical analysis for fetal data including litter effects were performed by using a Rao-Scott modification to the Cochran-Armitage test where the Dam ID was the random effect for both trend and pairwise analysis.

Statistically significant at $P \leq 0.05$ (litter based analysis)

Statistically significant at $P \leq 0.01$ (litter based analysis)

Statistical significance for the control group indicates a significant trend test

Statistical significance for a treatment group indicates a significant pairwise test compared to the vehicle control group

The EE group was not included in any trend analysis, it was included in the pairwise analysis to the control group.

EE = Ethinyl estradiol

**** END OF REPORT ****