

**G045**  
**2-Ethylhexanoic Acid [149-57-5]**

**Results of Testing**

Chemical Name	CAS No.	Study Code/Type	Protocol/Guideline	Species	Exposure	Dose/Concentration	No. per Group	Results	Reference
2-Ethylhexanoic Acid	149-57-5	HEADME Pharmacokinetic study	40 CFR 795.223 (modified)	rats	dermal, single	100, 1000 mg/kg	4-8 females	Peak blood levels of 8.1 µg equivalents/g blood were detected at 5.7 hours. Absorption half-life was 3.2 hours. Elimination was biphasic with half-lives of 4.2 and 251 hours. 42% and 46% were of the low and high doses were excreted in the urine, and 8% and 7% in the feces within 96 hours. The primary urinary metabolites were glucuronic acid conjugate of EHA, 2-ethyl hexanedioic acid, isomers of hydroxy-2-ethylhexanoic acid, and 2-lactones.	53 FR 951; 1/14/88 OTS05255471
2-Ethylhexanoic Acid	149-57-5	HEADME Pharmacokinetic study	40 CFR 795.223 (modified)	rats	oral (gavage), single dose	100, 1000 mg/kg	4-8 females	Peak blood levels of 85.1 µg equivalents/g blood were reached within 15-30 minutes; terminal half-life was 98 hours. Urinary excretion accounted for 79.3% and 82.3% for low and high doses, respectively, and in the feces, 12.4% and 6.7% within 96 hours. The primary urinary metabolites were glucuronic acid conjugate of EHA, 2-ethyl hexanedioic acid, isomers of hydroxy-2-ethylhexanoic acid, and 2-lactones.	53 FR 951; 1/14/88 OTS05255471
2-Ethylhexanoic Acid	149-57-5	HEATOX Acute oral toxicity	Non-TSCA Protocol/ Guideline	rats	oral (gavage)	0, 90, 722, 1445, 2890 mg/kg bw/day	4/group	All rats treated with 2890 mg/kg died on day 1. The remaining rats survived the 14-day observation period. Rats given 722 mg/kg or higher exhibited weakness on the day of dosing. Weight loss was observed in 14/16 during the first 24-hours, but by day 7 all had regained and exceeded their original weight. Absolute and relative liver weight of surviving rats did not differ from controls. An LD <sub>50</sub> of 2043 mg/kg was calculated.	52 FR 27452; 7/21/87 OTS0525538
2-Ethylhexanoic Acid	149-57-5	HERTOXTERA Developmental toxicity	40 CFR 798.4900 (modified)	rats	oral (gavage), gestation days 6-15	0, 100, 250, 500 mg/kg/d	25 bred females	High-dose dams had decreased body weight gain and food consumption, and clinical signs including ataxia, hypoactivity, and coughing. Mid- and high-dose fetuses had increased incidences of skeletal and visceral variations. Noels for maternal and developmental toxicity were 250 and 100 mg/kg/day, respectively.	53 FR 25662; 7/8/88 OTS0525548
2-Ethylhexanoic Acid	149-57-5	HERTOXTERA Developmental toxicity	40 CFR 798.4900 (modified)	rabbits	oral (gavage), gestation days 6-18	0, 25, 125, 250 mg/kg/d	15 bred females	Maternal toxicity (abortion) occurred at 125 mg/kg/day, and mortality, decreased weight gain and clinical signs were noted in the high-dose group. No evidence of embryotoxicity, fetotoxicity, or teratogenicity was noted at any treatment level.	53 FR 25662; 7/8/88 OTS0525548

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Chemical Name	CAS No.	Study Code/Type	Protocol/Guideline	Species	Exposure	Dose/Concentration	No. per Group	Results	Reference
2-Ethylhexanoic Acid	149-57-5	HESTOX Subchronic toxicity	40 CFR 795.260 (modified)	rats	oral (dietary), 90 day	0, 61, 303, 917 mg/kg/d (males); 0, 71, 360, 1068 mg/kg/d (females)	10/sex	Growth was retarded at the high dose level. Increased liver weight and histologic changes were noted at mid and high doses, along with slight hematologic differences. The no-adverse-effect-level was 303 mg/kg/day (males) and 360 mg/kg/day (females).	53 FR 25662; 7/8/88 OTS0525548
2-Ethylhexanoic Acid	149-57-5	HESTOX Subchronic toxicity	40 CFR 795.260 (modified)	mice	oral (dietary), 90 day	0, 180, 885, 2728 mg/kg/d (males); 0, 205, 1038, 3139 mg/kg/d (females)	10/sex	No mortalities occurred. High-dose animals had reduced body weights and feed intake, increased absolute and relative liver and kidney weights, decreased absolute and relative adrenal gland and absolute brain weight, and increased relative brain weight. Dose-related altered urea nitrogen and cholesterol levels were seen. Treatment-related histologic changes were seen in the liver, kidney and stomach.	53 FR 25662; 7/8/88 OTS0525548