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ENVIRONMENTAL SCIENCES
CHEMISTRY
PLANT SCIENCES
MEDICAL SCIENCES

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REPORT TO

C. E. REFRACTORIES

ACUTE HEATED VAPOR INHALATION TOXICITY STUDY WITH
WATER GLYCOL SOLUTION OF SAME CONCENTRATION USED
IN #5032 WINTERIZED
IN ALBINO RATS

August 10, 1978

IBT NO. 8562-11292

PLAINTIFF'S
EXHIBIT

tabbies
70053.02

PLAINTIFF'S
EXHIBIT

tabbies
WV-012510

CE0312005

CE/HI (Q) 44320

REPORT TO C. E. REFRACTORIES

ACUTE HEATED VAPOR INHALATION TOXICITY STUDY IN RATS

Test Material: Water Glycol Solution of
same concentration used in #5032 Winterized
Form Administered: Vapor
Acute LC₅₀: > 16.9 mg/l air

Strain: Charles River Rats*
Exposure Data: Whole body
exposure - 5 hours in duration
Observation Period: 14 days
IBT No. 8562-11292

Generation of Test Material: Two 80 liter stainless steel and glass chambers connected in a closed system with 2 inch glass tubing were employed for the test. One chamber was used for the inhalation exposure, the other to heat the test material. The test material was heated to approximately 600°F for 1 hour and the resulting emission products circulated into the exposure chamber for 4 hours.

A stream of filtered air (-40°C dewpoint) was introduced into the heating chamber, passed over the test material, circulated into the exposure chamber and exhausted at the bottom of the exposure chamber.

Chamber Conditions Group No.	Test Material Temp. (°F)	Atmospheric Pressure (inches Hg)	Chamber Temp. Range (°C)	CO Range (%)	CO ₂ Range (%)	Air Flow (l/min)
Test	599	29.25	25-29	0.000-0.010	0.00	9.2

Results Group No.	Total Number of Animals Male/Female	Nominal Concentration mg/l air	Mortality Male/Female	Mean Weight Change Male/Female (grams)
Test	5/5	16.9	0/5-0/5	79-37

* COBS® CD® (SD) BR, Charles River Breeding Laboratories, Wilmington, Mass.

There were no deaths or untoward reactions noted during the exposure or the 14-day observation period which followed.

Mean body weight gains were within the normal limits. Individual body weight data are presented in Table I.

The pathologist's statement is presented on page 4. Gross necropsy findings are presented in Tables II and III.

TABLE I

TEST MATERIAL: #5032 Ethylene Glycol (Winterized)

Acute Heated Vapor Inhalation Toxicity Study with Albino Rats

Body Weight Data

Animal Number & Sex	Individual Body Weights (grams)		Weight Change (grams)
	Initial	Final	
1-M	224	331	107
2-M	209	297	88
3-M	220	303	83
4-M	223	305	82
5-M	204	292	88
Mean	216	306	90
6-F	179	222	43
7-F	178	206	28
8-F	180	206	26
9-F	187	220	33
10-F	181	230	49
Mean	181	217	36

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C. E. Refractories

IBT No. 8562-11292

Test Material: #5032 Ethylene glycol (winterized)

Pathologist's Statement

Complete necropsies were done on all male and female rats used in this experiment when the study was terminated at the end of the 14-day post-exposure observation period. The results of gross postmortem examination (necropsy) of these animals are presented in Tables II and III.

No gross tissue changes attributable to the effects of the test material were observed in any of the rats examined.

Table II

TEST MATERIAL: #5032 Ethylene Glycol (Winterized)

Acute 5-Hour Heated Vapor Inhalation Toxicity Study - Rats

Gross Necropsy Findings - Males

Group	Animal Number	Day of Necropsy	Organ	Observations
2.51 mg/l	1	Day 14 of Experiment	-	N.G.A.
2.51 mg/l	2	Day 14 of Experiment	-	N.G.A.
2.51 mg/l	3	Day 14 of Experiment	-	N.G.A.
2.51 mg/l	4	Day 14 of Experiment	Kidney	Pelvis dilated, unilateral
2.51 mg/l	5	Day 14 of Experiment	-	N.G.A.

NGA = No gross alterations

PMA = Valid evaluations precluded by postmortem autolysis.

TEST MATERIAL: #5032 Ethylene Glycol (Winterized)

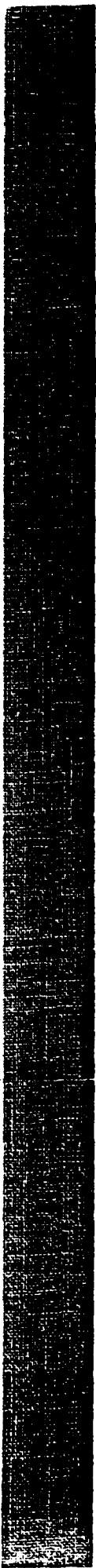
Acute 5-Hour Heated Vapor Inhalation Toxicity Study - Rats

Gross Necropsy Findings - Females

Group	Animal Number	Day of Necropsy	Organ	Observations
2.51 mg/l	6	Day 14 of Experiment	-	N.G.A.
2.51 mg/l	7	Day 14 of Experiment	-	N.G.A.
2.51 mg/l	8	Day 14 of Experiment	-	N.G.A.
2.51 mg/l	9	Day 14 of Experiment	-	N.G.A.
2.51	10	Day 14 of Experiment	-	N.G.A.

NGA = No gross alterations

PMA = Valid evaluations precluded by postmortem autolysis.



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