REACH

1,1,1,2,2,3,4,5,5,5-decafluoro-3-methoxy-4-(trifluoromethyl)pentane

EC number: 459-520-5 | CAS number: 132182-92-4

Toxicological information

Acute Toxicity: inhalation

Administrative data

Endpoint:	acute toxicity: inhalation
Type of information:	experimental study
Adequacy of study:	key study
Study period:	2003
Reliability:	2 (reliable with restrictions)
Rationale for reliability incl. deficiencies:	study well documented, meets generally accepted scientific principles, acceptable for assessment

Data source

Reference

Reference Type:	study report
Title:	Unnamed
Year:	2003
Report date:	2004

Materials and methods

Test guideline

Qualifier:	no guideline followed

Principles of method if other than guideline:	- Principle of test: A group of 4 male rats were exposed, whole body, to an atmosphere of 30,000 ppm T-7869 (430 mg/L, vapor) for 4 hours. A second group of 4 rats served as a control group and were exposed to an atmosphere containing no test material. - Parameters analysed / observed: Observations were made continually during the study. Urine samples were collected every 24 hours for 2 consecutive days post-exposure and analyzed for metabolites via NMR. Body weights were recorded at pre-test, daily, and at termination. After the 14 day observation period, all animals were euthanized and gross necropsy was performed. The organ weights of the liver, kidneys, and testes were recorded.
GLP compliance:	yes
Test type:	fixed concentration procedure

Limit test:	yes

Test material

Test material information

Constituent 1

Reference substance name:	Novec 7300
IUPAC Name:	Novec 7300
Details on test material:	- Name of test material (as cited in study report): Novec 7300 - Physical state: Colorless, clear liquid - Analytical purity: 99.85%

Specific details on test material used for the study:	SOURCE OF TEST MATERIAL - Source and lot/batch No.of test material: 3M Company, Lot 1 - Expiration date of the lot/batch: No data - Purity test date: 28 December, 2003

Test animals

Species:	rat
Strain:	Sprague-Dawley
Sex:	male
Details on test animals or test system and environmental conditions:	TEST ANIMALS - Source: Harlan - Age at study initiation: 6-8 weeks - Weight at study initiation: 209.8-223.2 g - Fasting period before study: None - Housing: Standard solid bottom cages before exposure. Post-exposure the rats were in metabolism cages for 4 days. - Diet (e.g. ad libitum): Harlan Teklad LM-485 Mouse/Rat Sterilizable Diet ad libitum - Water (e.g. ad libitum): Tap water ad libitum - Acclimation period: No data ENVIRONMENTAL CONDITIONS - Temperature (°C): 20.6-23.9 - Humidity (%): 30-70 - Air changes (per hr): 10 - Photoperiod (hrs dark / hrs light): 12/12 IN-LIFE DATES: From: 24 November, 2003 To: 8 December, 2003

Administration / exposure

Route of administration:	inhalation: vapour
Type of inhalation exposure:	whole body
Vehicle:	air
Details on inhalation exposure:	GENERATION OF TEST ATMOSPHERE / CHAMBER DESCRIPTION - Exposure apparatus: 40 liter plexiglass chamber - Exposure chamber volume: 40 liters - Method of holding animals in test chamber: None, whole body - Source and rate of air: Static exposure flushed every 1 hour, 20 minutes. The atmosphere was regenerated each time. TEST ATMOSPHERE - Brief description of analytical method used: None, nominal concentrations were calculated with test material weight and chamber volume. - Samples taken from breathing zone: No
Analytical verification of test atmosphere concentrations:	no
Duration of exposure:	4 h
Concentrations:	0 or 30,000 ppm
	4 males per dose

No. of animals per sex per dose:	
Control animals:	yes
Details on study design:	- Duration of observation period following administration: 14 days - Frequency of observations and weighing: Day 0, 1, 2, 7, 14 - Necropsy of survivors performed: yes - Other examinations performed: clinical signs, body weight, liver weight, urine collection and analysis for test article and metabolites

Results and discussion

Effect levels

	Key result
Sex:	male
Dose descriptor:	LC50
Effect level:	> 428 mg/L air
Based on:	test mat.
Exp. duration:	4 h

Mortality:	Male: 428 mg/L; Number of animals: 4; Number of deaths: 0 Male: 0 mg/L; Number of animals: 4; Number of deaths: 0
Clinical signs:	other: Signs of toxicity related to dose levels: None.
Body weight:	All treated animals gained weight through the study comparably to controls.
Gross pathology:	No abnormal findings were observed upon necropsy.
Other findings:	- Organ weights: No abnormal findings

Applicant's summary and conclusion

Interpretation of results:	not classified
Remarks:	Migrated information Criteria used for interpretation of results: EU
Conclusions:	Based on the results of the study, the 4 hour acute inhalation LC50 in male rats was greater than 428 mg/L (vapor) (30,000 ppm) and the test article is not classified for acute inhalation lethality according to GHS.
Executive summary:	The acute inhalation toxicity of T-7869 was evaluated in male Sprague Dawley rats. The study method was based on a custom protocol. A group of 4 male rats rats were exposed, whole body, to an atmosphere of 30,000 ppm T-7869 (430 mg/L, vapor) for 4 hours. A second group of 4 rats served as a control group and were exposed to an atmosphere containing no test material. Observations were made continually during the study. Urine samples were collected every 24 hours for 2 consecutive days post-exposure and analyzed for metabolites via NMR. Body weights were recorded at pre-test, daily, and at termination.After the 14 day observation period, all animals were euthanized and gross necropsy was performed. The organ weights of the liver, kidneys, and testes were recorded. All animals survived. There were no abnormal clinical observations, changes in body weight, necropsy findings, or changes in organ weights. There was 20.49 ug (less than 0.0001% of theoretical maximum) of the test material detected in the urine after 24 hours, and none was detected after 48 hours (below the limit of detection), indicating that T-7869 undergoes very limited metabolism. Based on the results of the study, the 4 hour acute inhalation LC50 in male rats was greater

than 428 mg/L (vapor) (30,000 ppm) and the test article is not classified for acute inhalation lethality according to GHS.