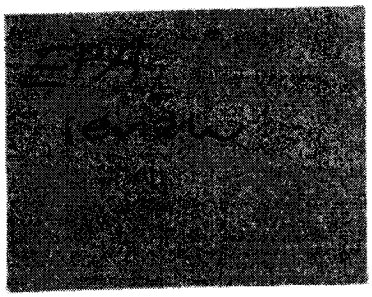
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

20/SEPT/2004

MEMORANDUM

Subject: Name of Pesticide Product: Aminopyralid Technical (XDE-750)
EPA File Symbol: 62719-LRI
DP Barcode: 307716
Decision #: 341121
PC Code: 005100 Aminopyralid



From: Tracy Keigwin
Technical Review Branch
Registration Division (7505C)

To: Eugene Wilson, PM 23
Herbicide Branch
Registration Division (7505C)

Applicant: Dow AgroSciences LLC .
9330 Zionsville Road
Indianapolis, IN 46268

FORMULATION from the Label:

Active Ingredient(s):	% by wt.
Aminopyralid	95.3
Inert Ingredient(s):	4.7
Total:	100.0%

ACTION REQUESTED: PM requests review of acute toxicity in support of Aminopyralid Technical (XDE-750), EPA File Symbol: 62719-LRI.

BACKGROUND: Dow AgroSciences LLC has submitted 6 acute toxicity studies (MRIDs 46235603, 46235605, 46235607, 46235609, 46235611, and 46235613) in support of the registration of Aminopyralid Technical (XDE-750), EPA File Symbol: 62719-LRI. The studies were conducted at the Toxicology and Environmental Research and consulting, Dow chemical company, WIL Research Laboratories, Inc., and Springborn Laboratories, Inc.

RECOMMENDATIONS: The studies submitted by Dow AgroSciences LLC are acceptable. The acute toxicity for EPA File Symbol 62719-LRI:

acute oral toxicity (rat)	IV	Acceptable	MRID 46235603 [a]
acute dermal toxicity	IV	Acceptable	MRID 46235605
acute inhalation toxicity	IV	Acceptable	MRID 46235607
primary eye irritation	I	Acceptable	MRID 46235609
primary skin irritation	IV	Acceptable	MRID 46235611
dermal sensitization	Neg	Acceptable	MRID 46235613

[a] The incorrect protocol (OECD 401: Acute Oral LD50) was used for this test. Although, we accepted the study in this case, our guidance is that OECD 401 is an unacceptable protocol. Please inform the Registrant that the preferred protocol is OECD 425: Acute Oral Toxicity-Up-and-Down Procedure.

PRECAUTIONARY LANGUAGE:

Hazards to Humans and Domestic Animals

DANGER

Causes irreversible eye damage. Do not get in eyes or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse.

Personal Protective Equipment (PPE)
Applicators and Handlers of this product must wear:
Protective Eyewear
Long-sleeve shirt and long pants
Socks and Shoes

FIRST AID

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center for treatment advice.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-xxx-xxxx for emergency medical treatment information.

Note To Physician

Probable mucosal damage may contraindicate the use of gastric lavage.

Reviewer: Tracy Keigwin September 2, 2004

Product Manager (EPA): 23

STUDY TYPE: Acute Oral Toxicity - rat; OPPTS 870.1100; OECD 401

TEST MATERIAL (% a.i.):XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid 94.5%, Lot number F0031-143, tan powder

CITATION: Brooks, K.J., Yano, B.L. XDE-750: Acute Oral Toxicity Study in Fischer 344 Rats. Toxicology and Environmental Research and Consulting, Midland, Michigan. Laboratory Project Study ID: 011115. August 30, 2001. MRID 46235603. Unpublished.

SPONSOR: Dow AgroSciences LLC, 9330 Zionsville Road Indianapolis, IN 46268

EXECUTIVE SUMMARY: In an acute oral toxicity study (MRID 46235603), 5 male and 5 female Fischer 344 rats [(Source: Charles River Laboratories, Inc.; Age: 11 weeks (both sexes); Weight: males 197.7g - 290.7g, females 130.3g - 151.8g) were given an oral dose of XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid 94.5%, tan powder at a dose level of 5000 mg/kg as a 50% mixture in 0.5% aqueous methylcellulose "in 2 fractional doses approximately one hour apart. Animals were observed for signs of toxicity or clinical abnormalities minimally twice a day. Bodyweights were taken prestudy, on the day of test substance administration, and on study days 2, 8 and 15. A necropsy examination was performed on all test animals.

Oral LD_{50} males is greater than 5000 mg/kg (1/5 died)
Oral LD_{50} females is greater than 5000 mg/kg (0/5 died)

Toxicity based on mortality in the male rat. Toxicity Category IV.

This acute oral study is classified as Acceptable. It does satisfy the guideline requirement for an acute oral study (OPPTS 870.1100; OECD 401) in the rat.

COMPLIANCE: Signed and dated GLP, Quality Assurance, and Data Confidentiality statements were provided.

RESULTS and DISCUSSION:

Dose (mg/kg)	Mortality/Number Tested		
	Males	Females	Combined
5000	1/5	0/5	1/10

A. **Mortality** - as noted in table.

B. **Clinical observations** - One male (1/5) died on day 3. "Clinical observations for the male that died were consistent with the rats moribund condition". The 9 surviving rats exhibited a high incidence of perineal soiling, watery feces, perioral soiling, and perinasal soiling. A lower incidence of periocular soiling, decreased muscle tone, decreased resistance to removal, decreased extensor thrust and decreased reactivity to handling was also observed. A transient loss in bodyweight was observed in 4 rats during the first week of the study, however all animals regained weight during the study.

C. **Gross Necropsy** - The decedent exhibited hemolyzed blood, gas in the gastrointestinal tract and perineal soiling at necropsy. No gross abnormalities were observed at necropsy in animals which survived to study termination.

D. **Reviewer's Conclusions**: Agree with the study author

E. **Deficiencies** - The range in bodyweight among test animals was greater than that recommended by OPPTS 870.1100. This should not have affected study results.

Reviewer: Tracy Keigwin August 31, 2004

Product Manager (EPA): 23

TEST MATERIAL (% a.i.): XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid 94.5%, Lot number F0031-143, tan powder

CITATION: Brooks, K.J., Yano, B.L. XDE-750: Acute Dermal Toxicity Study in Fischer 344 Rats. Toxicology and Environmental Research and Consulting, Midland, Michigan. Laboratory Project Study ID: 011116. August 30, 2001. MRID 46235605. Unpublished.

SPONSOR: Dow AgroSciences LLC, 9330 Zionsville Road Indianapolis, IN 46268

EXECUTIVE SUMMARY: In an acute dermal toxicity study (MRID 46235605), 5 male and 5 female Fischer 344 rats (Source: Charles River Laboratories, Inc.; Age: 8 weeks (both sexes); Weight: males 157.0g - 174.6g , females 122.0 - 133.4g) were dermally exposed to XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid 94.5%, tan powder, to the clipped dorsal trunk region of test animals at a dose level of 5000 mg/kg. The test substance was moistened with 0.3 ml of 0.5% aqueous methylcellulose and applied to an approximate 10% surface area on the backs of the rats. The test substance was covered with a 6 x 6 cm gauze which was held in place with elastic tape and wrap. After 24 hours all binding materials were removed and the test areas were wiped with a disposable towel moistened with water. Animals were observed for clinical abnormalities at least twice a day. Bodyweights were taken pre-study, the day of treatment and again on days 2, 8 and 15.

Dermal LD_{50} > 5000 mg/kg bw (both sexes)

Toxicity based on the lack of mortality observed at the 5000 mg/kg dose level. EPA Toxicity Category IV.

This acute dermal study is classified acceptable. It does satisfy the guideline requirement for an acute dermal study (OPPTS 870.1200; OECD 402) in the rat.

COMPLIANCE: Signed and dated GLP, Quality Assurance and Data Confidentiality statements were provided.

RESULTS and DISCUSSION:

Dose (mg/kg bw)	Mortality/Number Tested		
	Males	Females	Combined
5000	0/5	0/5	0/10

A. Mortality - as noted in table.

B. Clinical observations - No mortality was observed during the study. "Clinical observations included perioral soiling in one male and 2 females on test day 1 or 2 and periocular soiling in one male on test day 1. Abrasion or scratches were observed on the dermal site of 1 male and 1 female from days 2-5 or test day 4, respectively". Both sexes lost weight by study day 2, but regained weight during the study.

C. Gross Necropsy - No gross abnormalities were observed at necropsy.

D. Reviewer's Conclusions: Agree with the study author

E. Deficiencies: None.

DATA EVALUATION RECORD

STUDY TYPE: ACUTE INHALATION TOXICITY TESTING (870.1300 formerly §81-3)

Product Manager: 23 **Reviewer:** Tracy Keigwin

TEST MATERIAL (% a.i.): XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid Purity 94.5 ± 0.5% wt, light brown powder

CITATION: Kiplinger, G.R. XDE-750: Acute Inhalation Toxicity Study in Fischer 344 Rats. WIL Research Laboratories, Inc., Ashland, Ohio. Laboratory Project Study ID: 011097. August 16, 2001. MRID 46235607. Unpublished.

SPONSOR: Dow AgroSciences LLC, 9330 Zionsville Road Indianapolis, IN 46268

EXECUTIVE SUMMARY: In an acute inhalation toxicity study (MRID 46235607), 5 male and 5 female Fischer - 344 rats (Source: Charles River Laboratories; Age: males 7 weeks, females 9 weeks; Weight: 142g - 162g on the day of exposure) were exposed via the "nose only" inhalation route to XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid Purity 94.5 ± 0.5% wt, light brown powder for 4 hours at 5.5 mg/L. Animals were observed for mortality hourly during the exposure, immediately following exposure and twice daily thereafter until study termination (day 14). Clinical observations were made immediately following exposure and daily thereafter for 14 days. Bodyweights were taken prior to exposure and at 1, 3, 7, 10 and 14 days. A necropsy examination was performed on all test animals.

Inhalation LC_{50} Males = > 5.5 mg/L
Inhalation LC_{50} Females = > 5.5 mg/L
Inhalation LC_{50} Combined = > 5.5 mg/L

Toxicity based on the lack of mortality at an exposure of 5.5 mg/L. EPA Toxicity Category IV.

COMPLIANCE: Signed and dated GLP, Quality Assurance and Data Confidentiality statements were provided.

RESULTS and DISCUSSION:

Dose (mg/L)	Mortality/Number Tested		
	Males	Females	Combined
5.5	0/5	0/5	0/10

Chamber atmosphere

Gravimetric Concentration (mg/L)*	MMAD (µm)	GSD
5.5	2.5	2.45

*Nominal concentration for exposure 8.6 mg/L

Chamber Environment

Chamber volume (L)	8.6
Air supply (Lpm)	112-117
Temperature (C)	21
Relative Humidity(%)	30

OBSERVATIONS

A. Mortality - as noted in table.

B. Clinical observations - No mortality was observed during the study. One male (1/5) exhibited gasping and 4 males (4/5) and all females (5/5) exhibited bilateral ptosis immediately following exposure. Wet tan material was noted on the entire body or various body surfaces on all animals immediately following exposure, however this was due to test article deposition and not a sign of toxicity. One female (1/5) exhibited dried red material around the nose, ptosis and/or yellow material on the urogenital area during the first week of the study. "All animals were considered normal by study day 7". A slight bodyweight loss was observed in 4/5 males and 3/5 females from day 0 to 1. By day 3 all animals had

surpassed their initial bodyweight.

C. Gross Necropsy - No abnormalities were observed at necropsy.

D. Reviewer's Conclusions: Agree with the study author

E. Deficiencies: None

Reviewer: Tracy Keigwin **Date:** August 31, 2004

Product Manager (EPA): 23

TEST MATERIAL (% a.i.): XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid 94.5%, Lot number F0031-143, tan powder

CITATION: Brooks, K.J. XDE-750: Acute Eye Irritation Study in New Zealand White Rabbits. Toxicology and Environmental Research and Consulting, Midland, Michigan. Laboratory Project Study ID: 0111158. August 30, 2001. MRID 46235609. Unpublished.

SPONSOR: Dow AgroSciences LLC, 9330 Zionsville Road Indianapolis, IN 46268

EXECUTIVE SUMMARY: In a primary eye irritation study (MRID 46235609), 0.1 g of XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid 94.5%, tan powder was instilled into the conjunctival sac of the right eye of 2 male and 1 female New Zealand White rabbits (source: Covance Research products, Inc.; Age: approximately 5 months; Weight: 2.7 - 2.8 g). The left eye was untreated to serve as a control. Animals were observed at 1, 24, 48 and 72 hours and 7, 14, 21, 28 and 35 days following instillation. Bodyweights were taken prior to test substance instillation and at study termination.

In this study, XDE-750 is considered a severe eye irritant. EPA Toxicity Category I.

This study is classified as Acceptable. It does satisfy the guideline requirement for a primary eye irritation study (OPPTS 870.2400; OECD 405) in the rabbit.

COMPLIANCE: Signed and dated GLP, Quality Assurance, and Data Confidentiality statements were provided.

OF NOTE: Positive effects remained on study day 21 that classify this product as toxicity category I, although the study was continued an additional 2 weeks. Guidelines state: "The period of observation should be at least 72 hours, but need not exceed 21 days."

RESULTS AND DISCUSSION:

Observations	Number "positive"/number tested								
	Hours				Days				
	1	24	48	72	7	14	21	28	35
Corneal Opacity	0/3	3/3	3/3	3/3	3/3	3/3*	1/3*	1/3*	1/3*
Iritis	0/3	2/3	2/3	2/3	1/3	0/3	0/3	0/3	0/3
Conjunctivae:									
Redness [a]	0/3	3/3	3/3	3/3	3/3	3/3	1/3	0/3	0/3
Chemosis [a]	3/3	3/3	2/3	2/3	1/3	1/3	1/3	0/3	0/3
Discharge [a]	3/3	3/3	2/3	2/3	1/3	1/3	0/3	0/3	0/3

[a] Score of 2 or more required to be considered "positive."
*Corneal vascularization present in 2/3 on study days 14 and 21, and in 1/3 on days 28 and 35.

A. **Observations** - No corneal opacity (0/3) was observed at one hour. All animals (3/3) exhibited corneal opacity at 24 hours, resolving in 2 animals by study day 21 and remained unresolved in the final animal on study day 35. Corneal vascularization was observed in 2/3 test animals at the study day 14 and 21 interval resolving by day 28 in 1 animal and remaining unresolved by study termination (day 35) in the other animal. No animals (3/3) exhibited iritis at the 1 hour observation. Two animals (2/3) exhibited positive signs of iritis at the 24 hour interval, resolving by day 7 in one animal and by day 14 in the other test animal. Conjunctivitis was observed in all animals (3/3) at the 1 hour interval through the 14 day interval, resolving in 2 animals by study day 21 and by the day 28 in the remaining animal. Please note that the study does record additional signs of conjunctivitis in test animals, however the scores (grade 1) are not considered positive per 870.2400.

B. **Reviewer's Conclusions:** Agree with study author.

C. **Deficiencies** - None

[PC Codes 005100]
EPA Tolerance Number 62719-LRI

Reviewer: Tracy Keigwin August 31, 2004

Product Manager (EPA): 23

TEST MATERIAL (% a.i.): XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid 94.5%, Lot number F0031-143, tan powder

CITATION: Brooks, K.J. XDE-750: Acute Dermal Irritation/Corrosion Study in Fischer 344 Rats. Toxicology and Environmental Research and Consulting, Midland, Michigan. Laboratory Project Study ID: 011117. August 30, 2001. MRID 46235611. Unpublished.

SPONSOR: Dow AgroSciences LLC, 9330 Zionsville Road Indianapolis, IN 46268

EXECUTIVE SUMMARY: In a primary skin irritation study (MRID 46235611), 1 male and 2 female New Zealand White Rabbits (source: Covance Research Products; Age: approximately 4 months; Weight: 2.50-2.57 g) were dermally exposed to XDE-750, 3,6-dichloro-4-amino-2-pyridinecarboxylic acid 94.5%, Lot number F0031-143, tan powder. On the day prior to study initiation, a 10 cm x 10 cm area on the back of each animal with animal clippers. On day 1 "a 0.5 g aliquot of the test material moistened with 0.3 ml of 0.5% aqueous methylcellulose was applied to the back of each rabbit". The test substance was covered with a 6 cm x 6 cm gauze patch with cotton backing. An elastic jacket held the patch in place. After 4 hours all binding materials were removed and the back was wiped with a "damp disposable towel to remove any remaining test substance". Test sites were observed for erythema and edema at 30 minutes, and 24 , 48 and 72 hours after test material removal.

In this study, XDE-750 is considered to be non-irritating to the skin. EPA Toxicity Category IV. PDI = 0.0.

This study is classified as acceptable. It does satisfy the guideline requirement for a primary dermal irritation study (OPPTS 870.2500; OECD 404) in the rabbit.

COMPLIANCE: Signed and dated GLP, Quality Assurance, and Data Confidentiality statements were provided.

RESULTS and DISCUSSION:

Rabbit	Observations	Minutes	Hours		
		30	24	48	72
01A3931	Erythema	0	0	0	0
	Edema	0	0	0	0
01A3932	Erythema	0	0	0	0
	Edema	0	0	0	0
01A3933	Erythema	0	0	0	0
	Edema	0	0	0	0

A. **Observations** - No positive signs of dermal irritation (erythema or edema) occurred at any time during the study. "The dermal test site was stained slightly yellow from the test material through the 72 hour interval. The staining did not affect the ability to accurately grade the test site".

B. **Results** - PDII - 0.0

C. **Reviewer's Conclusions** - Agree with study author.

D. **Deficiencies** - None

Reviewer: Tracy Keigwin August 31, 2004

Product Manager (EPA): 23

STUDY TYPE: Dermal Sensitization - Guinea Pig; OPPTS 870.2600; OECD 406, 429

TEST MATERIAL (% a.i.): XDE-750, Purity: 94.5% +/- 0.5 wt% 3,6-dichloro-4-amino-2-pyridinecarboxylic acid; Lot Number F0031-143, cream colored powder.

CITATION: Wilson, C. W. XDE-750: A Dermal Sensitization Study in Hartley Albino Guinea Pigs - Maximization Design. Springborn Laboratories, Inc. Spencerville, Ohio. SLI Study Number 3504.155. July 20, 2001. MRID 46235613. Unpublished.

SPONSOR: Dow AgroSciences LLC, 9330 Zionsville Road Indianapolis, IN 46268

EXECUTIVE SUMMARY: In a dermal sensitization study using the maximization method (MRID 46235613) the sensitization potential of XDE-750, Purity: 94.5% +/- 0.5 wt% 3,6-dichloro-4-amino-2-pyridinecarboxylic acid; Lot Number F0031-143, cream colored powder was determined (Source: Hilltop Lab Animals; Range finding males 8 weeks, 417-492g, Range finding females 10 weeks, 409-442g; Sensitization study males 7 weeks, 380-430g, sensitization females 8 weeks, 330-371g) in 34 Hartley derived albino guinea pigs (4 range finding animals, 20 test animals, 10 challenge control animals). The intradermal inductions (0.1 mL/site) were Freunds Complete Adjuvant emulsion; 0.1 mL of 5.0 % w/v XDE-750/deionized water; and 0.1 mL of 5.0% w/v XDE-750/FCA emulsion The topical induction was 0.20 g of XDE-750 (100% concentration) moistened with 8 drops of deionized water. The bodyweights of the range finding animals were taken prior to the intradermal induction. The bodyweights of the main study animals were taken prior to the intradermal induction, prior to challenge and prior to scheduled euthanasia. The procedures were validated within 6 months of this study with 2 separate maximization tests utilizing HCA and DNCB as the test substances. The HCA test utilized 5% w/v HCA in propylene glycol for both the intradermal and topical induction and 0.5% and 1% w/v HCA w/v HCA in propylene glycol at challenge. The DNCB test utilized 0.1% w/v DNCB in acetone/propylene glycol for both the intradermal and topical induction and 0.05% and 0.1% w/v DNCB in acetone/propylene glycol for challenge. Following challenge (0.25 g 100% test material moistened with 4 drops distilled water) all scores were zero in both previously exposed guinea pigs and their negative controls.

In this study, the XDE-750 is not a dermal sensitizer.

This study is classified as acceptable. It does satisfy the guideline requirement for a dermal sensitization study (OPPTS 870.2600; OECD 406, 429) in the Guinea pig .

COMPLIANCE: Signed and dated GLP, Quality Assurance, and Data Confidentiality statements were provided.

I. PROCEDURE

A. Induction - Hair was removed from the scapular area of test animals with animal clippers on the day prior to the intradermal induction (study day -1). The following day 3 pairs of intradermal injections were made in an approximate 2 x 4 cm area of the test site with one row of 3 injections on each side of the back. The injections for the test animals were as follows: Injection pair A: 0.1 mL of FCA emulsion; Injection pair B: 0.1 mL of 5.0% w/v XDE-750/deionized water; Injection pair C: 0.1 mL of 5.0% w/v XDE-750/FCA emulsion. On study day 5 hair was removed from the scapular area with animal clippers. "A 0.5 mL of 10% w/w sodium lauryl sulfate in petrolatum was spread over the intradermal injection sites of test animals". The following day, the topical induction was performed. An application of 0.20 g of XDE-750 (moistened with 8 drops of deionized water) was applied to a 2 x 4 cm modified Webril patch and placed over the injections sites (occlusive patch) . "The trunk of each animal was wrapped with elastic wrap which was secured with adhesive tape to prevent removal of the patch. After 48 hours all binding materials were removed and the test sites were wiped with gauze moistened with deionized water to remove any residual test substance".

B. Challenge - On the day prior to challenge application (study day 22) hair was removed from the right side of test and challenge control animals with animal clippers. On the day of challenge application both test and challenge control animals a 0.25g application of 100% XDE-750 (moistened with 4 drops of water) was applied to a 25 mm Hilltop chamber with the cotton pad removed (occlusive patch) and applied to the test area. "The trunk of each animal was wrapped with elastic wrap which was secured with adhesive tape to prevent removal of the chamber". Challenge sites were scored for dermal irritation at approximately 24 and 48 hours after chamber removal.

C. Naive Controls - Ten control guinea pigs were treated in the same manner as the test

animals as detailed, above with the exception that the intradermal injection pairs were 0.1 ML of FCA emulsion, 0.1 mL of deionized water and 0.1 mL of 5.0% w/v deionized water/FCA emulsion. For the topical induction only 0.8 mL of deionized water was applied to the Webril patches.

II. RESULTS and DISCUSSION:

A. Reactions and duration - No irritation or positive responses (grade 0) were observed in the test or naive control animals at challenge. The test substance did not affect bodyweight gain.

B. Positive control - Test animals treated with HCA exhibited grade 0 to grade 2 erythema at challenge. Test animals treated with DNCB exhibited grade 1 to grade M-3 erythema at challenge.

C. Reviewer's Conclusions: Agree with study author

D. Deficiencies - None

ACUTE TOX ONE-LINERS

1. **DP BARCODE:** 307716
2. **PC CODES:** 005100
3. **CURRENT DATE:** 03/SEPT/2004
4. **TEST MATERIAL(s):** XDE-750, Purity: 94.5% +/- 0.5 wt% 3,6-dichloro-4-amino-2-pyridinecarboxylic acid; Lot Number F0031-143, cream colored powder.

Study/Species/Lab Study # /Date	MRID	Results	Tox. Cat.	Core Grade
Acute oral toxicity/rat Toxicology and Environmental Research and Consulting 011115/8-30-2001	46235603	Oral LD_{50} > 5000 mg/kg (both sexes)	IV	A
Acute dermal toxicity/rabbit Toxicology and Environmental Research and Consulting 011116/8-30-2001	46235605	LD_{50} > 5000 mg/kg (both sexes)	IV	A
Acute inhalation toxicity/rat WIL Research Laboratories, Inc. WIL-406012/8-16-2001	46235607	LC_{50} > 5.5 mg/L (both sexes)	IV	A
Primary eye irritation/rabbit Toxicology and Environmental Research and Consulting 011118/8-30-2001	46235609	Corneal opacity in 1/3 unresolved through day 35	I	A
Primary dermal irritation/rabbit Toxicology and Environmental Research and Consulting 011117/8-30-2001	46235611	PDI = 0.0	IV	A
Dermal sensitization/Guinea Pig Springborn Laboratories, Inc. 3504.155/7-20-2001	46235613	Not a sensitizer	No	A

Core Grade Key: **A =Acceptable, S = Supplementary, U = Unacceptable, W = Waived**