

**PETITION FOR VARIANCE
BEFORE THE HEARING BOARD OF THE
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

SV
8/7/24

SOUTH COAST AQMD
CLERK OF THE BOARDS
2024 JUL 18 PM 4:25

PETITIONER: Universal City Studios LLC CASE NO: 4935-21
 FACILITY ID: 800202
 FACILITY ADDRESS: 100 Universal City Plaza
 City, State, Zip: Universal City, CA 91608

1. TYPE OF VARIANCE REQUESTED (more than one box may be checked; see Attachment A, Item 1, before selecting)

INTERIM SHORT REGULAR EMERGENCY EX PARTE EMERGENCY

2. CONTACT: Name, title, company (if different than Petitioner), address, and phone number of persons authorized to receive notices regarding this Petition (no more than two authorized persons).

<u>Maya Lopez Grasse</u>	<u>Joseph C. Bellas</u>
<u>Alston & Bird LLP</u>	<u>NBC Universal – Environmental Affairs</u>
<u>350 S. Grand Street</u>	<u>100 Universal City Plaza</u>
<u>51st Floor</u>	<u>Building 4250/3rd Floor</u>
<u>Los Angeles, CA</u> <u>Zip</u> <u>90071</u>	<u>Universal City, CA</u> <u>Zip</u> <u>91608</u>
<u>Tel 213-576-2526</u> <u>Ext.</u>	<u>Tel 818-777-2791</u> <u>Ext.</u>
<u>Fax 213-576-1100</u>	<u>Fax 818-866-0242</u>
<u>E-mail maya.grasse@alston.com</u>	<u>E-mail joe.bellas@nbcuni.com</u>

3. RECLAIM Permit Yes No Title V Permit Yes No

4. **GOOD CAUSE:** Explain why your petition was not filed in sufficient time to issue the required public notice.

Not applicable.

5. Briefly describe the type of business and processes at your facility.

The Petitioner produces television programs, motion pictures, and theme entertainment at 100 Universal City Plaza, Universal City, CA.

6. List the equipment and/or activity(s) that are the subject of this petition (see Attachment A, Item 6, Example #1). **Attach copies of the Permit(s) to Construct and/or Permit(s) to Operate for the subject equipment. For RECLAIM or Title V facilities, attach *only* the relevant sections of the Facility Permit showing the equipment or process and conditions that are subject to this petition. You must bring the entire Facility Permit to the hearing.**

[ALL DOCUMENTS FILED WITH CLERK'S OFFICE BECOME PUBLIC RECORD]

Equipment/Activity	Application/Permit No.	RECLAIM Device No.	Date Application/Plan Denied (if relevant)*
Machines to create fog special effects for Universal Studios' Halloween Horror Nights event.	N/A	N/A	N/A

*Attach copy of denial letter

7. Briefly describe the activity or equipment, and why it is necessary to the operation of your business. A schematic or diagram may be attached, in addition to the descriptive text.

As part of a Halloween-themed event called "Halloween Horror Nights," Universal Studios will use up to 82 fog-generating machines to create special effects for a limited number of nights at the Universal Studios Hollywood theme park. The fog machines produce an opaque fog that remains close to the ground to create a fog effect.

The fog machines heat a theatrical fog fluid consisting of propanediol and triethylene glycols and water, releasing a vapor that creates artificial "fog." **The fog fluid is not toxic** as shown on the Safety Data Sheet (see **Attachment 3**). There is no alternative method to achieve the desired special effect for this event. The machines will be located within the theme park at the general locations designated on the attached map (See **Attachment 1**), although actual locations may need to be adjusted during the event to enhance the effect. This is the same number of fog-generating machines that Universal Studios used successfully at its Halloween Horror Nights event in 2023. The total amount of fog fluid used per event will not exceed that used in the most recent years' events (a maximum of 180 gallons total per event).

The fog-generating machines are an essential element of the special effects that Universal Studios needs to create a "scary" and "foreboding" Halloween atmosphere of the caliber the public expects from a major movie studio. Universal Studios has obtained a variance for this special event several times over the past 20 years. Most recently, Universal Studios obtained a variance for this event in 2023, after the Hearing Board considered the variance petition on consent at its hearing on August 15, 2023. No member of the public testified during that hearing. A copy of the Minute Order and Findings and Decision for the 2023 variance is attached as **Attachment 2**. While the HHN event has been a very important event for the Universal Studios theme park for the last 20 years, Universal Studios did not hold this special event in 2020 and therefore did not bring a petition for a short variance in 2020 due to the park's closures during the coronavirus pandemic. Universal Studios were pleased to have the opportunity to hold the HHN event open to the public again in 2021 after a long year of closures, held successful 2022 and 2023 events, and now looks forward to the 2024 event.

8. Is there a regular maintenance and/or inspection schedule for this equipment? Yes No

If yes, how often: N/A Date of last maintenance and/or inspection: N/A

Describe the maintenance and/or inspection that was performed.

Not applicable.

9. List all District rules, and/or permit conditions [indicating the specific section(s) and subsection(s)] from which you are seeking variance relief (if requesting variance from Rule 401 or permit condition, see Attachment A). Briefly explain how you are or will be in violation of each rule or condition (see Attachment A, Item 9, Example #2).

Rule	Explanation
401(b)(1) and Health and Safety Code section 41701	Opacity will exceed the limits in the Rule and Health and Safety Code and may reach up to 100% during event hours.

10. Are the equipment or activities subject to this request currently under variance coverage? Yes No

Case No.	Date of Action	Final Compliance Date	Explanation
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			Not applicable.
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11. Are any other equipment or activities at this location currently (or within the last six months) under variance coverage? Yes No

Case No.	Date of Action	Final Compliance Date	Explanation
			Not applicable.

12. Were you issued any Notice(s) of Violation or Notice(s) to Comply concerning this equipment or activity within the past year? Yes No If yes, you must attach a copy of each notice.
13. Have you received any complaints from the public regarding the operation of the subject equipment or activity within the last six months? Yes No If yes, you should be prepared to present details at the hearing.
14. Explain why it is beyond your reasonable control to comply with the rule(s) and/or permit condition(s). Provide specific event(s) and date(s) of occurrence(s), if applicable.

Use of the fog machines is a critical component of the frightening special effects that Petitioner needs to create for its Halloween Horror Nights event. A dark, fog-obscured atmosphere is necessary to achieve the "horror" entertainment experience expected from a major movie studio. The fog machines offer the only effective means of creating that atmosphere. In order to achieve the level of obscurity required for the "horror" effect, Petitioner must operate the machines at such a level that the fog will exceed the opacity limitations of District Rule 401 and Health and Safety Code section 41701. The only way Petitioner could avoid violation of these rules is if both the District Rule and Health and Safety Code were amended to provide for temporary activity such as that proposed by the Petitioner. Petitioner's current understanding is that the District does not have any planned rulemaking to amend Rule 401, which is consistent with inquiries made to the District in prior years. Much of the entertainment value of the event will be lost if this variance is not granted, and Petitioner has no other means to ensure that the fog effect is achieved.

The Halloween Horror Nights event will take place on up to 63 scheduled nights. The 63 nights – including rehearsal/preview nights that are not open to the general public – would begin on the evening of August 13, 2024 and end in the early morning of November 4, 2024, such that compliance will be achieved on November 5. Currently, 43 public event nights are scheduled, along with 20 non-public event nights that consist of test nights, rehearsal nights, and one employee night. The event will start each evening at 5:30 p.m. and will run up through the early morning of November 4, 2024, Petitioner will remove the machines and will be in compliance with Rule 401 and Health and Safety Code section 41701.

15. When and how did you first become aware that you would not be in compliance with the rule(s) and/or permit condition(s)? Provide specific event(s) and date(s) of occurrence(s).

Petitioner became aware of the need for a variance during the course of developing the event.

16. List date(s) and action(s) you have taken since that time to achieve compliance.

Petitioner is currently in compliance with the opacity rules and will remain so up until the event. Petitioner will exceed the opacity limits only for the duration of the Halloween Horror Nights event.

17. What would be the harm to your business during **and/or after** the period of the variance if the variance were not granted?

Economic losses: \$6-7 million

Number of employees laid off (if any): 1,400 (temporary)

Provide detailed information regarding economic losses, if any, (anticipated business closure, breach of contracts, hardship on customers, layoffs, and/or similar impacts).

The effect of denying the variance would be to prevent a lawful business activity. The quality and quantity of fog created by the machines is integral to the entertainment value of this special event. Petitioner's inability to create the fog, and thus the "scary" atmosphere the public expects, would severely limit, if not prevent, Petitioner from proceeding with a financially successful event. A disappointed public would not create the word of mouth "buzz" necessary for financial success, and it may be difficult to convince the public to return for future events.

Failure to grant the variance would cause economic harm to Petitioner, resulting in the loss of \$6-7 million in investment and revenues, and will lead to the loss of over 1,400 temporary jobs.

18. Can you curtail or terminate operations in lieu of, or in addition to, obtaining a variance? Please explain.

Petitioner has considered curtailment. However, there is no way to curtail use of the machines sufficiently to comply with Rule 401 or Health and Safety Code section 41701, and there is no feasible means to hosting a successful event without utilizing the machines. Petitioner will limit use of the machines to the extent possible. Use will be limited to the times and days required to create the necessary effects.

19. Estimate excess emissions, if any, on a daily basis, including, if applicable, excess opacity (the percentage of total opacity above 20% during the variance period). If the variance will result in no excess emissions, insert "N/A" here and skip to No. 20.

Pollutant	(A)	(B)	(C)*
	Total Estimated Excess Emissions (lbs/day)	Reduction Due to Mitigation (lbs/day)	Net Emissions After Mitigation (lbs/day)
Not applicable.			

* Column A minus Column B = Column C

Excess Opacity: 80%

20. Show calculations used to estimate quantities in No. 19, or explain why there will be no excess emissions.

See response to number 21, below.

21. Explain how you plan to reduce (mitigate) excess emissions during the variance period to the maximum extent feasible, or why reductions are not feasible.

The 100% opacity is a result of the operational design of the fog machines. Even on the lowest setting, the opacity from each machine could reach 100%.

During all nights of the event, all machines will be operating only during the minimum hours necessary for rehearsals and the hours the event is open to the public, which will be between 5:30 p.m. and 3:30 a.m., including warm-up and shut down. None of the fog created by the machines will migrate beyond Petitioner's property.

The fog machines are used safely and routinely in the entertainment industry, including in permanent public attractions at Universal Studios and elsewhere. In addition, in response to questions the Hearing Board raised

in 2018, Universal Studios engaged AECOM Technical Services, Inc. ("AECOM") to conduct an assessment of fog fluid emissions during Universal Studios' Halloween event in 2018. That assessment concluded guest exposure to theatrical fog during the event was observed to be and is expected to continue to be at safe airborne levels. The same total volume of fog would be produced at the event in 2024.

The fog created by the fog fluid is not toxic, nor is the fog fluid toxic (and this petition requests relief from the opacity rules, not any rule or regulation related to toxicity) . Petitioner will use the same theatrical fog fluid as used in the 2023 and previous years' Halloween Horror Nights in the fog machines—Ultratec "Pro-Beam Long Lasting Fog Fluid." The Safety Data Sheet ("SDS") for the theatrical fog liquid is attached to this petition as **Attachment 3**. The SDS for the Pro-Beam Long Lasting Fog Fluid indicates the fluid is not known to be a "hazardous chemical" as defined by the Occupational Safety and Health Administration's Hazard Communication Standard. Universal Studios has confirmed with Ultratec, the manufacturer of the Pro-Beam Long Lasting Fog Fluid, that fog machines using the Pro Beam fog fluid should operate below 340°C to prevent degradation of the fog fluid. Universal Studios has contacted the manufacturers of the fog machines that will be used during the Halloween event, and those manufacturers confirmed that their fog machines operate at maximum temperatures below 250°C.

Petitioner will have appropriate warning signs posted at the park entrance and at any attraction where machines are operating. Universal Studios reviewed its warning signs and determined the warning language used in previous years provides a comprehensive warning that can effectively communicate the necessary warning to all event attendees. The warning signs will state: "Warning: persons with medical sensitivity to fog effects should be aware of the park scare zone." Universal Studios will also track any complaints from the event's attendees and report any health-related complaints to the District. Those procedures have been in place each year that Universal Studios has received a variance for its Halloween Horror Nights event.

Universal Studios has followed those procedures in previous years, and will continue to follow those procedures for future Halloween Horror Nights events. Historically, Universal Studios has received very few complaints from the millions of guests who have attended the event over the past decade and has received zero health-related complaints in 2019, 2021, 2022 and 2023. As Universal Studios has done every year that it has received a variance for the Halloween Horror Nights event, Universal Studios will comply with all conditions set forth in the variance. Universal Studios has procedures in place for its on-site medical team to record and report complaints related to the fog emissions during the Halloween Horror Nights event. Universal Studios will also promptly report any complaints related to the emission of fog to the Air District's Inspector and notify any complainants of the Air District's complaint number—1800-CUT-SMOG. Universal Studios will also continue to monitor its fog machines throughout the event to ensure the machines produce fog at appropriate levels.

22. How do you plan to monitor or quantify emission levels from the equipment or activity(s) during the variance period, and to make such records available to the District? **Any proposed monitoring does not relieve RECLAIM facilities from applicable missing data requirements.**

Petitioner anticipates that it will use up to 180 gallons of liquid fog fluid per event. This is the same maximum amount of fog fluid used in the 2019, 2021, 2022 and 2023 "Halloween Horror Nights" events. Petitioner will keep daily usage records for the liquid and will provide those records to the District upon request.

23. How do you intend to achieve compliance with the rule(s) and/or permit condition(s)? Include a detailed description of any equipment to be installed, modifications or process changes to be made, permit conditions to be amended, etc., dates by which the actions will be completed, and an estimate of total costs.

Petitioner will terminate the event, remove the fog machines, and be in compliance with Rule 401 and Health and Safety Code section 41701.

24. State the date you are requesting the variance to begin: August 13, 2024; and the date by which you expect to achieve final compliance: November 5, 2024.

The variance will not extend beyond one year.

25. List the names of any District personnel with whom facility representatives have had contact concerning this variance petition or any related Notice of Violation or Notice to Comply.

Dr. Sarah Rees Ext 2856

_____ Ext _____

If the petition was completed by someone other than the petitioner, please provide their name and title below.

Maya Lopez Grasse Alston & Bird LLP Counsel
Name Company Title

The undersigned, under penalty of perjury, states that the above petition, including attachments and the items therein set forth, is true and correct.

Executed on July 16, 2024, at Tehachapi, California

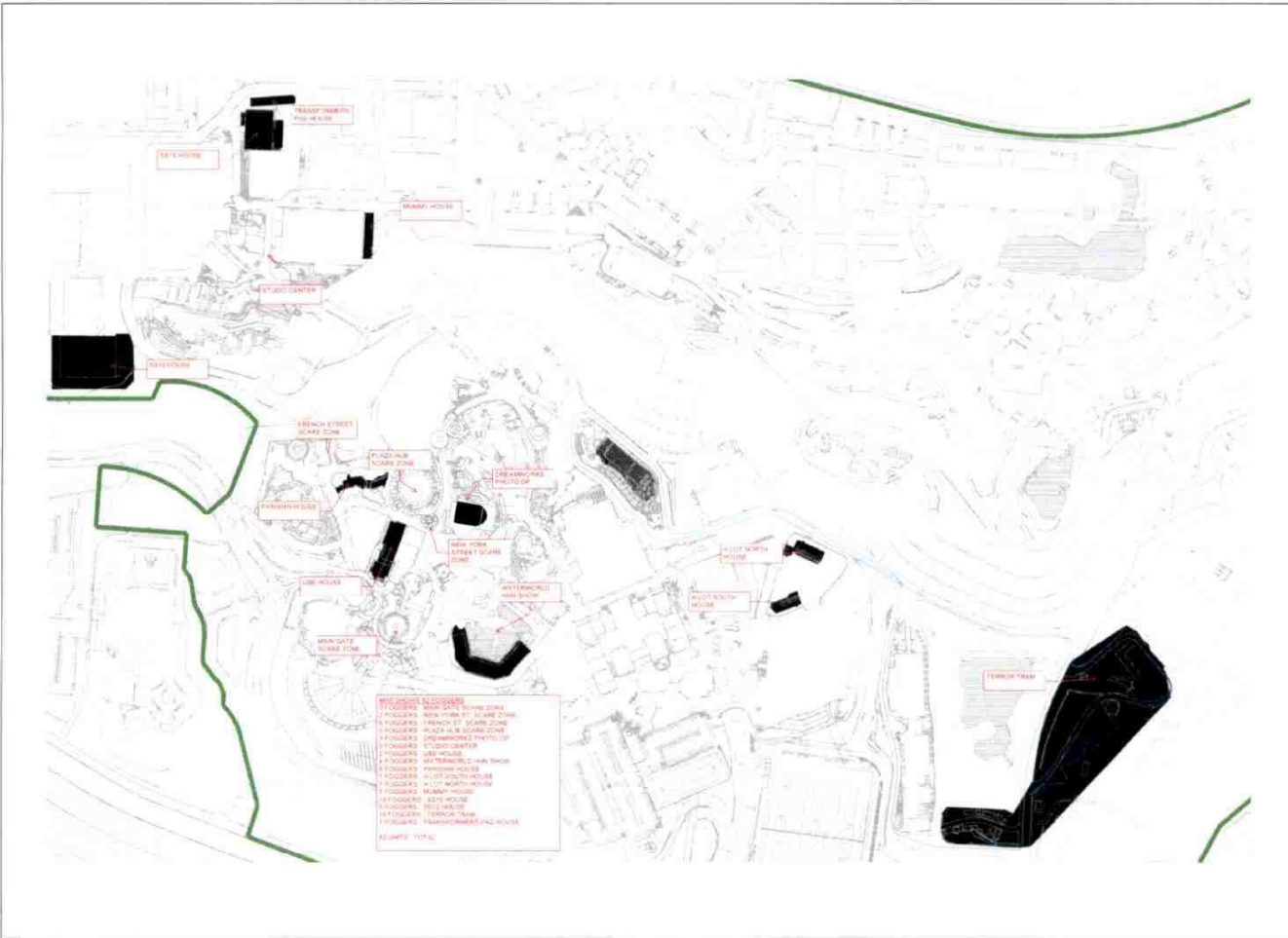
 Maya Lopez Grasse
Signature Print Name

Title: Counsel

Attachment 1

PROJECT TITLE: MALCOLM HENDERSON NORTH'S 2014

DATE FILE NAME: 1808.04.100.dwg



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Attachment 2

1 MAYA LOPEZ GRASSE (State Bar No. 279013)

2 **ALSTON & BIRD LLP**

3 333 South Hope Street, 16th Floor

4 Los Angeles, CA 90071-1410

5 Telephone: 213-576-1000

6 Facsimile: 213-576-1100

7 Attorneys for Petitioner

8 **UNIVERSAL CITY STUDIOS LLC**

9 **BEFORE THE HEARING BOARD OF THE**
10 **SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT**

11 In the Matter of

12 **UNIVERSAL CITY STUDIOS LLC**

13 Petitioner.

Case No.: 4935-20
Facility I.D.: 800202

**FINDINGS AND DECISION OF THE
HEARING BOARD AND ORDER**

Section 42350 of the California Health and
Safety Code

Hearing Date: August 15, 2023

14 **FINDINGS AND DECISION OF THE HEARING BOARD**

15 This petition for a short variance was heard on the Hearing Board's Consent Calendar
16 on **August 15, 2023**, pursuant to notice and in accordance with the provisions of California
17 Health and Safety Code Section 40825. The following members of the Hearing Board were
18 present: Cynthia Verdugo-Peralta, Chair; Robert Pearman, Esq., Vice Chair;
19 Mohan Balagopalan; and Micah Ali. Petitioner, represented by Maya Lopez Grasse, Alston &
20 Bird LLP, did not appear. Respondent Executive Officer, represented by Brian Tomasovic,
21 did not appear. The joint Stipulation to Place Matter on Consent Calendar, the Declaration of
22 Joseph C. Bellas and the Proposed Findings and Decision were received as evidence, and the
23 case submitted. The public was given the opportunity to testify. The Hearing Board finds and
24 decides as follows:
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Nature of Business and Location of Facility

Petitioner is in the business of producing television programs, motion pictures, and theme entertainment at 100 Universal City Plaza, Universal City, California.

Equipment that is the Subject of the Variance Petition

The equipment that will be used to create special fog effects during the "Halloween Horror Nights" event is fog-generating machines that are exempt from the requirement to have a written permit pursuant to Rule 219(d)(16)(M). A fog machine produces an opaque fog that remains close to the ground to create a fog effect. The fog machines heat a theatrical fog fluid consisting of propanediol and triethylene glycols and water, releasing a vapor that creates artificial "fog." Upon release, the vapor cools and forms an aerosol, to create the fog effect.

The special effects fog is widely used throughout the entertainment industry. It is necessary for Petitioner to use the fog as part of "Halloween Horror Nights," an event marketed to teenagers and adults and generally considered to be too intense for small children, in order to create a "scary" Halloween atmosphere that will provide entertainment value and achieve financial success.

SUMMARY

Petitioner will be in violation of District Rule 401 and California Health and Safety Code Section 41701 during the hours the event is open and will achieve compliance at the conclusion of the special Halloween event, on or before November 2, 2023.

Following are the facts and conclusions supporting the findings set forth in California Health and Safety Code Section 42352 necessary to grant the variance. The Executive Officer did not oppose the granting of the variance.

FINDINGS OF FACT AND CONCLUSIONS

(a)(1) The petitioner for a variance is or will be in violation of 41701 or any rule, regulation, or order of the District.

1. Petitioner will be in violation of District Rule 401(b)(1)(B) and California Health and Safety Code Section 41701 because the emissions from the special effects required to simulate the appearance of fog will result in opacity exceeding the limits in District Rule

1 401(b)(1) and in the California Health and Safety Code Section 41701 for more than three
2 minutes in any one hour.

3 **(a)(2) Non-compliance with District Rule(s) is due to conditions beyond the reasonable**
4 **control of the Petitioner.**

5 1. Petitioner will create special effects of fog that are necessary to heighten the
6 frightening experience typically associated with Halloween-themed activities and to create a
7 successful event of a caliber expected of a major Hollywood Studio.

8 2. The special effects will take place during up to forty (40) scheduled events
9 between August 24 and October 31, 2023, including one night for a test/level set night and one
10 employee preview night. Additionally, Universal may schedule up to three (3) additional
11 events during that same timeframe. Universal will inform the District immediately if a decision
12 to hold an extra event night is scheduled. The 10-hour events will begin at 5:30 p.m. and end
13 at 3:30 a.m. the following day, including warm-up and shut down. Therefore, each event will
14 technically occur over two days; however, an additional day is not affected where events are
15 held on consecutive nights (e.g. events occurring back to back Friday, Saturday, and Sunday
16 consist of three consecutive two-day events over a four day period). Forty (40) events,
17 including a test/level set night and an employee preview night, are currently scheduled for
18 August 24, September 5, 7, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 24, 27, 28, 29, 30, October 1,
19 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, and 31, 2023. Therefore,
20 fog is currently scheduled to be generated on a total of forty (40) nights carrying into the next
21 morning, covering a total number of up to fifty-one (51) days within a seventy (70) day period
22 (see the Table below). Due to potential unexpected rain and/or the popularity of the event
23 during the currently-scheduled event nights, Petitioner may add up to three (3) additional
24 events within this time-frame, beginning August 24 through November 1, which may or may
25 not occur on consecutive nights. Thus, fog may be generated on additional days during the
26 period beginning from August 24 through November 1, which includes the seventy (70) day
27 period.

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Events	Time Beginning	Time Ending
Thursday, 8/24 (test night)	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Friday 8/25		
Tuesday, 9/5 (employee night)	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Wednesday, 9/6		
Thursday, 9/7	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Friday, 9/8	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Saturday, 9/9	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Sunday, 9/10	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Monday, 9/11		
Thursday, 9/14	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Friday, 9/15	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Saturday, 9/16	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Sunday, 9/17	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Monday, 9/18		
Thursday, 9/21	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Friday, 9/22	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Saturday, 9/23	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Sunday, 9/24	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Monday, 9/25		
Wednesday, 9/27	5:30 p.m.	11:59 a.m.
	12:00 a.m.	3:30 a.m.
Thursday, 9/28	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Friday, 9/29	5:30 p.m.	11:59 p.m.

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Events	Time Beginning	Time Ending
Saturday, 9/30	12:00 a.m.	3:30 a.m.
	5:30 p.m.	11:59 p.m.
Sunday, 10/1	12:00 a.m.	3:30 a.m.
	5:30 p.m.	11:59 p.m.
Monday, 10/2	12:00 a.m.	3:30 a.m.
Wednesday, 10/4		
Thursday, 10/5	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Friday, 10/6	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Saturday, 10/7	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Sunday, 10/8	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Monday, 10/9	12:00 a.m.	3:30 a.m.
Wednesday, 10/11		
Thursday, 10/12	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Friday, 10/13	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Saturday, 10/14	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Sunday, 10/15	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Monday 10/16	12:00 a.m.	3:30 a.m.
Wednesday, 10/18		
Thursday, 10/19	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Friday, 10/20	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Saturday, 10/21	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Sunday, 10/22	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
Monday 10/23	12:00 a.m.	3:30 a.m.
Wednesday, 10/25		
Thursday, 10/26	5:30 p.m.	11:59 p.m.
	12:00 a.m.	3:30 a.m.
	5:30 p.m.	11:59 p.m.

Events	Time Beginning	Time Ending
Friday, 10/27	12:00 a.m.	3:30 a.m.
	5:30 p.m.	11:59 p.m.
Saturday, 10/28	12:00 a.m.	3:30 a.m.
	5:30 p.m.	11:59 p.m.
Sunday, 10/29	12:00 a.m.	3:30 a.m.
	5:30 p.m.	11:59 p.m.
Monday, 10/30	12:00 a.m.	3:30 a.m.
Tuesday, 10/31		
	5:30 p.m.	11:59 p.m.
Wednesday, 11/1	12:00 a.m.	3:30 a.m.

3. Universal anticipates that it will achieve final compliance on or before November 2, 2023, the day after the final event date that is currently scheduled completes on the morning of November 1, 2023. Universal will inform the District immediately if a decision to hold an extra event night is scheduled.

4. The exposure to opacity exceedances will be short in duration. Opacity exceedances will occur at attractions contained in the area shown on the attached map (Petition Attachment 1) and areas added in order to achieve the necessary effects.

5. Theatrical fog-producing products are widely used in the entertainment industry. The Safety Data Sheet (“SDS”) for the Pro Beam Long Lasting Fog Fluid to be used in the fog machines for this event (Petition Attachment 3) indicates that the product is not known to be a “Hazardous Chemical” as defined by the Occupational Safety and Health Administration’s (“OSHA”) Hazard Communication Standard. Universal Studios understands that the Pro Beam Long Lasting Fog Fluid and the fog machines that will be used, are still widely used and considered safe in the industry. The short duration of exposure at Petitioner’s events and minimal prior complaints support the conclusion that negative effects are unlikely to occur during the variance period. Universal Studios estimates it will use the same amount of fog fluid per event day that it has used in previous years for the Halloween event.

6. Universal Studios first began holding the Halloween event in the early 2000s, and it has been held annually since at least 2011 (except during the pandemic in 2020). For

1 each year that Universal has received the variance for the Halloween event, Universal has
2 followed the conditions in its variance. Those conditions include procedures for Universal
3 Studios to post warning signs for event attendees with a medical sensitivity to fog effects, track
4 any complaints from the event's attendees, report any health-related complaints to the District,
5 and provide any attendees who complain with the District's complaint number—1-800-CUT-
6 SMOG.

7 7. Historically, Universal Studios has received very few complaints during the
8 event. Specifically, Universal Studios received very few complaints from the millions of
9 guests who attended the event over the past five years. The few complaints related to the fog
10 have been similar in nature for each year Universal Studios has held the event. Universal
11 received three complaints from attendees related to the fog generated during the Halloween
12 event in 2014, one complaint in 2015, six complaints in 2016, two complaints in 2017, and
13 one complaint in 2018 (and zero complaints in 2019, 2021 and 2022; the event was not held
14 in 2020 due to the pandemic). After each of those complaints, Universal promptly verified its
15 machines were not overproducing fog so attendees could proceed through the event safely,
16 and Universal Studios notified the Air District of those complaints. Universal Studios also
17 promptly notified each complainant of the District's 1-800-CUT-SMOG complaint number.

18 8. Before granting the variance for the Halloween event in 2017, the Hearing Board
19 held a hearing on August 24, 2017, to consider Universal Studios' testimony and any public
20 testimony related to the variance request. Mr. Joseph C. Bellas, Vice President of Corporate
21 Environmental Affairs, and Ms. Aimee Kool, Senior Director of Environmental Health and
22 Safety for Universal Studios Hollywood, testified on behalf of Universal Studios during that
23 hearing. No member of the public testified during that hearing. During that hearing, the
24 Hearing Board discussed the conditions in Universal Studios' variance, including the
25 requirements to post warning signs and report complaints, before unanimously granting
26 Universal Studios' variance. During the Halloween event in 2017, Universal Studios received
27 two attendee complaints related to the fog, amongst the thousands of attendees that attended
28 the event. Those complaints were reported to the District. All complainants were also notified

1 of the District's complaint number 1-800-CUT-SMOG. Throughout the event in 2017,
2 Universal Studios took precautions to ensure its fog machines operated at appropriate levels,
3 were positioned in appropriate locations, and were not overproducing fog.

4 9. The Hearing Board granted the variance for the event in 2018 after the Hearing
5 Board considered Universal Studios' variance petition on consent at its hearing on September
6 4, 2018. No member of the public testified during that hearing. During the Halloween Horror
7 Nights event in 2018, Universal Studios received only one complaint related to the fog
8 amongst the thousands of guests that attended the event last year. That guest was notified of
9 the District's complaint number—1-800-CUT-SMOG. Throughout the event in 2018,
10 Universal Studios took precautions to ensure its fog machines operated at appropriate levels,
11 were positioned in appropriate locations, and were not overproducing fog. Universal Studios
12 had a technician onsite every night of the event to monitor the fog machines and is not aware
13 of any customer receiving medical attention due to the fog machines during the event.

14 10. The Hearing Board granted the variance for the event in 2019 after the Hearing
15 Board considered Universal Studios' variance petition on consent at its hearing on August 28,
16 2019. No member of the public testified during that hearing. Universal Studios did not receive
17 any fog-related complaints during the event held in 2019. As it did in previous years, Universal
18 Studios monitored the fog machines throughout the event to ensure they operated at
19 appropriate levels, were positioned in appropriate locations, and were not overproducing fog.

20 11. In 2020, Universal Studios did not hold the Halloween Horror Nights event and
21 therefore did not petition for a short variance due to the park's closures during the coronavirus
22 pandemic.

23 12. The Hearing Board granted the variance for the event in 2021 after the Hearing
24 Board considered Universal Studios' variance petition on consent at its hearing on August 19,
25 2021. No member of the public testified during that hearing. Universal Studios did not receive
26 any fog-related complaints during the event held in 2021.

27 13. The Hearing Board granted the variance for the event in 2022 after the Hearing
28 Board considered Universal Studios' variance petition on consent at its hearing on August 24,

1 2022. No member of the public testified during that hearing. Universal Studios did not receive
2 any fog-related complaints during the event held in 2022.

3 14. Other than those complaints received from 2014 through 2018, Universal has
4 not received any other fog-related or health-related complaints through its years of operating
5 the Halloween event. Universal Studios is not aware of any attendee receiving medical
6 attention due to the fog machines during the event. As Universal has done every year it has
7 received a variance for the Halloween event, Universal will comply with all conditions in the
8 variance, including posting warning signs, promptly reporting any complaints related to the
9 emissions of fog to the Air District's Inspector, and notifying any complainants of the Air
10 District's complaint number—1800-CUT-SMOG. Universal Studios will also continue to
11 monitor its fog machines throughout the event to ensure the machines produce fog at
12 appropriate levels. Universal Studios has a technician onsite every night of the event to monitor
13 the levels and positioning of the fog machines.

14 15. Universal Studios understands that the fog machines and fog fluid used by
15 Universal Studios in the past and that will be used in this year's event are widely and safely
16 used in the entertainment industry to achieve the desired scary effect during its events. In
17 addition, Universal Studios has confirmed with Ultratec, the manufacturer of the Pro-Beam
18 Long Lasting Fog Fluid, that fog machines using the Pro Beam fog fluid should operate below
19 340°C to prevent degradation of the fog fluid. Universal Studios contacted the manufacturers
20 of the fog machines that will be used during the Halloween event, and those manufacturers
21 confirmed that their fog machines operate at maximum temperatures below 250°C.

22 16. Petitioner further consulted with the District in 2022 and 2023 regarding the
23 possibility of a rule amendment and/or rulemaking that would establish a permit process for
24 activities like those proposed by Petitioner. The District ultimately communicated that there is
25 no rulemaking currently underway to change Rule 401, and staff continues to believe a
26 variance is the appropriate means to facilitating Petitioner's event at this point in time.

27 17. Petitioner has used these special fog effects for its past Halloween events held
28 almost annually since 2000, most recently in 2022, and cannot achieve the necessary

1 atmosphere without these special effects. Therefore, compliance with the aforementioned
2 District rules will be beyond Petitioner's reasonable control during the duration of "Halloween
3 Horror Nights" events.

4 **(a)(2) Requiring compliance would result in either (A) an arbitrary or unreasonable**
5 **taking of property, or (B) the practical closing and elimination of a lawful business.**

6 18. Failure to grant the variance would limit or preclude Petitioner's ability to create
7 the frightening and foreboding atmosphere that is critical to achieving a high-quality,
8 financially successful event, and would cause economic injury to Petitioner of \$6-7 million
9 and result in the loss of over 1,400 jobs if the event is not held.

10 **(a)(3) The closing or taking would be without a corresponding benefit in reducing air**
11 **contaminants.**

12 19. The excess opacity emissions during the variance period may reach up to 100
13 percent in some locations close to the machines but will dissipate rapidly. Generally, the
14 expected excess emissions would be 80 percent during the event hours.

15 20. Petitioner will use a mixture of food-grade propanediol and triethylene glycols
16 and water in the fog machines in accordance with permits and approvals issued by the Los
17 Angeles County Fire Department and the Los Angeles County Department of Building and
18 Safety.

19 21. The opacity exceedances will occur in a limited area on the park property as
20 shown on the map attached hereto (Petition Attachment 1) and will not migrate off-site. The
21 opacity exceedances will occur at the specific sites listed on Attachment 1 and areas added in
22 order to achieve the necessary affects. Event attendees will participate in the event on a
23 voluntary basis and will only be exposed to any opacity exceedances for the short duration
24 during which event attendees choose to participate in the event. Areas between these sites will
25 not be affected.

26 22. In response to comments from the Hearing Board for its variance petition for the
27 Halloween event in 2018, Universal Studios engaged AECOM Technical Services
28 ("AECOM") to conduct an industrial hygiene assessment during Universal Studios'

1 Halloween Horror Nights even in 2018 to evaluate employee and guest exposures to the
2 theatrical fog during the event. That monitoring concluded employee and guest exposures to
3 the theatrical fog during the event were and are expected to continue to be at safe airborne
4 levels. The level of fog produced during the 2023 event will be comparable to those levels
5 produced during the 2018, 2019, 2021 and 2022 events. (See Declaration of Joe Bellas.)

6 23. Exposure to fog emissions by any event participant would be on a voluntary
7 basis and would be very limited. Typically, event guests spend more time outside of the event
8 areas with fog than they do inside those event areas with fog. In addition, the opacity
9 exceedances will occur in a limited area on the park property and will not migrate off-site.
10 Preventing the event, therefore, would be without a corresponding benefit in reducing air
11 contaminants.

12 **(a)(4) The Petitioner has given consideration to curtailing operations of the source in**
13 **lieu of obtaining a variance.**

14 24. Petitioner considered curtailment in lieu of obtaining a variance and will in fact
15 limit the use of fog to the minimum required to create the necessary effects. However, the fog
16 is necessary in order to make the event an entertainment and financial success. Petitioner has
17 researched other options and it is impractical to generate the desired "fog" effect without using
18 a theatrical fog product.

19 **(a)(5) During the period the variance is in effect, the petitioner will reduce excess**
20 **emissions to the maximum extent feasible.**

21 1. During the period the variance is in effect, Petitioner will operate the equipment
22 at the minimum level necessary to create the required special effects and has agreed to comply
23 with the mitigation measures set forth in this variance order.

24 2. Petitioner will operate up to 82 machines at the approximate locations indicated
25 in Attachment 1 to the Petition. Petitioner may reallocate the machines among these or other
26 sites within the event to create the desired effect. The fog machines will only be operated for
27 a maximum of ten (10) hours per event, including machine warm-up time, shut down, and
28 operating hours of the event. Fog will generally be emitted at the ground level, which can be

1 defined generally as within two feet of the ground. Universal Studios will post clear, visible
2 warning signs at all entrances to the park and at every attraction stating: "Warning: persons
3 with medical sensitivity to fog effects should be aware of the park scare zone." Universal
4 Studios has determined that warning language provides a comprehensive warning that can
5 effectively communicate the necessary warning to all event attendees. Additionally, event
6 attendees will participate in the event on a voluntary basis and will only be exposed to any
7 opacity exceedances for the short duration during which attendees choose to participate in the
8 event. Event attendees also have many platforms through which they may report complaints
9 related to the fog to Universal Studios in real time, including through an online general
10 message system, a smartphone application, by social media outlets, by telephone, or in person
11 to any employee or at a customer service desk.

12 **(a)(6) During the period the variance is in effect, the Petitioner will monitor or otherwise**
13 **quantify emission levels from the source, if requested to do so by the District, and report**
14 **these emission levels to the District pursuant to a schedule established by the District.**

15 1. During the period the variance is in effect, Petitioner has agreed to comply with
16 the conditions set forth in this variance order.

17 **Operation under the order is not expected to result in a violation of California Health**
18 **and Safety Code Section 41700.**

19 1. The fog is generated from the machines are not expected to travel beyond the
20 theme park's boundaries so as to create a nuisance in violation of California Health and Safety
21 Code Section 41700.

22 ORDER

23 THEREFORE, good cause appearing, the Hearing Board orders as follows:

24 A. Petitioner is granted a short variance from District Rule 401(b)(1)(B) and California
25 Health and Safety Code Section 41701 for the use of up to 82 fog-generating machines
26 to create special effects for its "Halloween Horror Nights" special event at Universal
27 Studios Hollywood for forty (40) scheduled and three (3) potential additional events in
28 the timeframe beginning on August 24 and concluding on or before November 1, 2023.

1 The final compliance date will be the morning after the conclusion of the last potential
2 event date, on November 2, 2023.


3 B. The variance granted herein is subject to the following conditions:

- 4 1. Petitioner shall limit the generation and emission of special effects fog reaching
5 up to 100% opacity to the following periods (as listed in the Petition): A
6 maximum of a 70-day timeframe, during the period commencing on August 24
7 and ending on or before November 1, 2023. Within that 70-day timeframe, forty
8 (40) event nights, including one test/level set night and one employee preview
9 night, will take place within the period commencing on August 24 and ending
10 on November 1, 2023, starting at 5:30 p.m. and ending no later than 3:30 a.m.
11 the following day. Those forty (40) events are scheduled to take place on August
12 24, September 5, 7, 8, 9, 10, 14, 15, 16, 17, 21, 22, 23, 24, 27, 28, 29, 30, October
13 1, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 25, 26, 27, 28, 29, and 31,
14 2023. Universal may schedule up to three (3) additional events during that same
15 70-day timeframe. Petitioner shall only emit fog under this variance from the 82
16 generating machines identified on the attached site map (Attachment 1 to the
17 variance Petition), although the machines may be reallocated among various
18 sites to create the necessary effects.
- 19 2. No opacity beyond the limits of District Rule 401 shall be permitted to travel
20 beyond the perimeter of the Petitioner's property.
- 21 3. Petitioner shall not use more than a total of 180 gallons of fog fluid per 10-hour
22 event. The fog fluid must be food grade Pro Beam Long Lasting Fog Fluid
23 manufactured by Ultratec Special Effects.
- 24 4. Petitioner shall keep records of the amount of fog fluid used on each date. Said
25 records shall be made available to the District upon request. Petitioner shall
26 submit a written summary to the District at the expiration of the subject variance.
- 27 5. Petitioner shall immediately respond to any complaints received and shall
28 promptly notify the District (Telephone: 1-800-CUT-SMOG) of any complaints,

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including health related complaints, that it receives related to the emission of fog from the event. Petitioner shall also notify each complainant, when they call in complaints, of the aforesaid District complaint number.

6. Petitioner shall post clearly visible warning signs at all entrances to the park and at every attraction stating: "Warning: persons with medical sensitivity to fog effects should be aware of the park scare zone."
7. Petitioner will notify the District (Telephone: 1-800-CUT-SMOG) immediately if a decision to add any of the additional three events is made.
8. Petitioner shall pay all applicable fees to the Clerk of the Board by November 2, 2023, or the variance shall be invalidated pursuant to Rule 303.
9. Petitioner shall notify the Clerk of the Board in writing when final compliance is achieved.

BOARD MEMBER: 
Robert Pearman, Esq., Vice Chair

DATED: August 22, 2023

Attachment: Site Map

Prepared by Maya Lopez Grasse

PROOF OF SERVICE BY E-MAIL

Case No. 4935-20


I, the undersigned, declare that I am employed in the **County of Los Angeles, State of California**. I am over the age of eighteen years and am not a party to the within action. My business address is **21865 Copley Drive, Diamond Bar, California 91765**.

CALIFORNIA AIR RESOURCES BOARD variance@arb.ca.gov	AIR ENFORCEMENT OFFICE aeo_r9@epa.gov and US ENVIRONMENTAL PROTECTION AGENCY REGION IX ATTN: ROSHNI BRAHMBHATT brahmbhatt.roshni@epa.gov
Joseph C. Bellas, NBC Universal - Environmental Affairs Joe.bellas@nbcuni.com	Maya Lopez Grasse ALSTON & BIRD LLP Maya.grasse@alston.com

BY E-MAIL - By transmitting a true pdf copy of the **Findings and Decision** before the **Hearing Board** by e-mail transmission from arothschild@aqmd.gov to each of the interested party at the e-mail addresses set forth above. Said transmission(s) were completed on the aforesaid date at the time stated on declarant's email transmission record.

I declare under penalty of perjury under the laws of the **State of California** that the foregoing is true and correct.

Executed on **August 22, 2023** at Diamond Bar, California.



Altheresa Rothschild
Deputy Clerk Transcriber
Clerk of the Boards

Attachment 3

SAFETY DATA SHEET

1. Product and Company Identification

Product identifier	Pro Beam Long Lasting Fog Fluid
Other means of identification	Not available
Recommended use	Theatrical Fog
Recommended restrictions	None known.
Manufacturer information	Ultratec Special Effects 1960 Blue Heron Drive London, ON N6H 5L9 CA Phone: 1 -519-659-7972 Toll Free Phone: 1-800-388-0617 Emergency Number: ChemTel: 1-800-255-3924
Supplier	See above.

2. Hazards Identification

Physical hazards	Not classified.
Health hazards	Not classified.
Environmental hazards	Not classified.
WHMIS 2015 defined hazards	Not classified
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	The mixture does not meet the criteria for classification.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)	None known
WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)	None known
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Not applicable.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
1,2-Propanediol		57-55-6	15 - 40*
Triethylene glycol		112-27-6	15 - 40*

Composition comments	US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. *CANADA GHS: The exact percentage (concentration) of composition has been withheld as a trade secret.
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4. First Aid Measures

Inhalation	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation develops or persists.

Eye contact	Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 15 minutes. Obtain medical attention if irritation develops or persists.
Ingestion	Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious or is convulsing.
Most important symptoms/effects, acute and delayed	Direct contact with eyes may cause temporary irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear rubber gloves and safety glasses with side shields. Keep out of reach of children.

5. Fire Fighting Measures

Suitable extinguishing media	Alcohol foam. Carbon dioxide. Water Fog. Dry chemical.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	Firefighters should wear a self-contained breathing apparatus.
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self-contained breathing apparatus.
Fire-fighting equipment/instructions	Cool containers with flooding quantities of water until well after fire is out.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.
Hazardous combustion products	May include and are not limited to: Oxides of carbon.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Large Spills: Stop leak if you can do so without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Avoid prolonged exposure. Use good industrial hygiene practices in handling this material. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.
Conditions for safe storage, including any incompatibilities	Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children.

8. Exposure Controls/Personal Protection

Occupational exposure limits

Canada, Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
1,2-Propanediol (CAS 57-55-6)	TWA	155 mg/m3	Vapor and aerosol.
		10 mg/m3	Aerosol.
		50 ppm	Vapor and aerosol.

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
1,2-Propanediol (CAS 57-55-6)	TWA	10 mg/m3	Aerosol.
Triethylene glycol (CAS 112-27-6)	TWA	10 mg/m3	Particulate.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH or OSHA PEL.
Appropriate engineering controls	General ventilation normally adequate.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Safety glasses recommended.
Skin protection	
Hand protection	If there is constant skin contact, rubber gloves are recommended.
Other	As required by employer code.
Respiratory protection	Not normally required if good ventilation is maintained. Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
Thermal hazards	Not available.
General hygiene considerations	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink.

9. Physical and Chemical Properties

Appearance	Clear
Physical state	Liquid.
Form	Liquid
Color	Colorless
Odor	no odour
Odor threshold	Not available.
pH	Neutral
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	Not available.
Partition coefficient (n-octanol/water)	Not available.
Flash point	> 249.8 °F (> 121.0 °C) Tag Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	> 1 (Air = 1)
Relative density	1.05
Solubility(ies)	Complete
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and Reactivity

Reactivity	May react with incompatible materials.
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Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable.
Conditions to avoid	Avoid temperatures exceeding the flash point. Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizers.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological Information

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Information on likely routes of exposure	
Ingestion	May cause stomach distress, nausea or vomiting.
Inhalation	No adverse effects due to inhalation are expected.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	No adverse effects due to eye contact are expected.
Symptoms related to the physical, chemical and toxicological characteristics	There are no hazards associated with this product in normal use.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
1,2-Propanediol (CAS 57-55-6)		
<i>Acute</i>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg, 24 Hours, ECHA 20800 mg/kg, Millipore
<i>Inhalation</i>		
LC50	Rabbit	> 317042 mg/m ³ , 2 Hours, ECHA
<i>Oral</i>		
LD50	Dog	19 g/kg, HSDB
	Guinea pig	19700 mg/kg, ECHA 18.4 g/kg, HSDB
	Mouse	24900 mg/kg, ECHA 23900 mg/kg, HSDB 23.9 g/kg, HSDB
	Rabbit	22.8 g/kg, CCOHS 18 g/kg, HSDB
	Rat	19.4 - 36 g/kg, Millipore 22000 mg/kg, ECHA 21 g/kg, CCOHS
Triethylene glycol (CAS 112-27-6)		
<i>Acute</i>		
<i>Dermal</i>		
LD50	Rabbit	22600 mg/kg, HSDB 22460 mg/kg 16 ml/kg, 24 Hours, ECHA
	Rat	> 5000 mg/kg, Millipore
<i>Inhalation</i>		
LC50	Rat	> 5.2 mg/l/4h, Millipore > 3.9 mg/L, 4 Hours, HSDB
<i>Oral</i>		
LD50	Guinea pig	7900 mg/kg, HSDB
	Mouse	18500 mg/kg, HSDB

Components	Species	Test Results
	Rabbit	9500 mg/kg, HSDB
	Rat	> 2000 mg/kg, ECHA > 16 ml/kg, ECHA 17000 mg/kg, HSDB
Skin corrosion/irritation	Not expected to be a primary skin irritant. Prolonged skin contact may cause temporary irritation.	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	
Conjunctival oedema value	Not available.	
Recover days	Not available.	
Respiratory or skin sensitization		
Respiratory sensitization	Not available.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Mutagenicity	Non-hazardous by WHMIS/OSHA criteria.	
Carcinogenicity	Non-hazardous by WHMIS/OSHA criteria.	
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.	
Reproductive toxicity	Non-hazardous by WHMIS/OSHA criteria.	
Teratogenicity	Non-hazardous by WHMIS/OSHA criteria.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not classified.	
Chronic effects	Non-hazardous by WHMIS/OSHA criteria.	

12. Ecological Information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Ecotoxicological data

Components	Species	Test Results	
1,2-Propanediol (CAS 57-55-6)			
Crustacea	EC50	Daphnia	10000 mg/L, 48 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	> 10000 mg/L, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	710 mg/L, 96 hours
Triethylene glycol (CAS 112-27-6)			
Crustacea	EC50	Daphnia	42426 mg/L, 48 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	48.9 - 56 mg/L, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	> 10000 mg/L, 96 hours
Persistence and degradability	No data is available on the degradability of this product.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Mobility in general	Not available.		
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

13. Disposal Considerations

Disposal instructions	Review federal, state/provincial, and local government requirements prior to disposal. Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport Information

Transport of Dangerous Goods (TDG) Proof of Classification Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below.

U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions

Not applicable

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - Minnesota Haz Subs: Listed substance

1,2-Propanediol (CAS 57-55-6)

Listed.

Triethylene glycol (CAS 112-27-6) Listed.
US - New Jersey RTK - Substances: Listed substance
 1,2-Propanediol (CAS 57-55-6)
US - Texas Effects Screening Levels: Listed substance
 1,2-Propanediol (CAS 57-55-6) Listed.
 Triethylene glycol (CAS 112-27-6) Listed.
US. Massachusetts RTK - Substance List
 Not regulated.
US. New Jersey Worker and Community Right-to-Know Act
 Not regulated.
US. Pennsylvania Worker and Community Right-to-Know Law
 1,2-Propanediol (CAS 57-55-6)
 Triethylene glycol (CAS 112-27-6)
US. Rhode Island RTK
 1,2-Propanediol (CAS 57-55-6)
 Triethylene glycol (CAS 112-27-6)
US. California Proposition 65
 Not Listed.

Inventory status

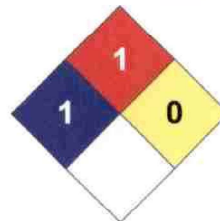
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 1
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Other information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.