BEFORE THE HEARING BOARD
OF THE
BAY AREA AIR QUALITY MANAGEMENT DISTRICT
STATE OF CALIFORNIA

APPEAL

In the Matter of the Appeal of

Docket No. 3742

TESLA, INC.

From Denial of Permit Application 31706

I. SUMMARY

Tesla, Inc. ("Tesla" or "Applicant") operates an automotive manufacturing facility, located at 45500 Fremont Blvd., in Fremont, California. See Attachment 1, (TESLA-BAAQMD31706_000001). Within the facility is the South Paint Shop Body Line ("SPS"). See Attachment 2, (TESLA-BAAQMD31706_000002). On April 21, 2022, Tesla Inc. ("Tesla" or "Applicant") submitted Application 31706 for the SPS. See Attachment 3, (TESLA-BAAQMD31706_000003-69). And on May 17, 2023, the Air Pollution Control Officer ("APCO") issued a denial letter and evaluation report for SPS Application 31706 (the "Denial") to Tesla. See Attachment 4, (TESLA-BAAQMD31706_0000070-133).

Tesla's Authority to Operate is subject to Permit Condition 27161, Part 15, which states:

> 15. The owner/operator of A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183 shall ensure that the POC/NPOC emissions from S-1002, S-1007, S-4036, S-4037, S-4038, S-4039, and S-4041 are abated at all times of operation by the properly installed, properly operated, and properly maintained Thermal Oxidizers A-1002, A-1007, A-30180, A-30181, A-30182, and A-30183, respectively.

Application 31706 was submitted to revise the requirement in Part 15 to abate precursor and non-precursor organic compound emissions from sources in SPS to ensure that unplanned shutdowns or outages of thermal oxidizers (events that also automatically shut down production) are treated predictably and appropriately from a compliance and enforcement perspective when unabated emissions as residual VOCs are flushed from the operating equipment.

The APCO has the authority to deny an application that fails to comply with applicable requirements (Regulation 2, Rule 1, Section 2-1-304). As stated by APCO, "The denial is required by Regulations 2-1-304, 2-2-301, and 2-5-301…." See Attachment 4 at TESLA-BAAQMD31706_000070. Specifically, the APCO stated that "Application 31706, as submitted, would violate federal law and will not meet Air District Best Available Control Technology requirements set forth in Air District Regulation 2-2-301 and Best Available Control Technology for Toxics in Air District Regulation 2-5-301." *Id.* As set forth below, the Denial was baseless and not supported by law, regulations or the facts of this matter.

Applicant requests an Order from the Hearing Board reversing the Denial and granting Permit Application 31706 with Condition 27161, Part 15, as originally submitted. Alternatively, Applicant requests an Order from the Hearing Board modifying Permit Condition 27161, Part 15 to clarify how unplanned shutdowns or outages will be treated for compliance and enforcement purposes.

II. STANDING

A. Right of the Party to Bring this Appeal.

Article 3, Section 3.1 of the Hearing Board Rules, states:

> § 3.1 **Who May Bring an Appeal.** An applicant for a permit or any other person dissatisfied with the decision of the Air Pollution Control Officer regarding a permit, or any other person authorized by law, may appeal to the Hearing Board for an order modifying or reversing a decision of the Air Pollution Control Officer.[1]

Tesla is dissatisfied with the decision of the Air Pollution Control Officer to deny Application 31706 for, Permit Condition 27161, Part 15. Consequently, Applicant appeals to the Hearing Board for an order reversing or modifying the decision.

B. Timeliness of Appeal.

BAAQMD Rule 2-1-410.2 states, in relevant part:

> In accordance with Section 42302.1 of the Health and Safety Code, within ***30 days*** of any decision of the APCO, pertaining to the issuance of an Authority to Operate, any aggrieved person who, in person or through a representative, appeared, submitted written testimony, or otherwise participated in the action before the District may request the Hearing Board of the District to hold a public hearing to determine whether the Authority to Operate was properly issued or for an order modifying or reversing that decision….
>
> (Emphasis added.)

[1] BAAQMD Hearing Board Rules, effective June 2011.

Denial of South Paint Shop Body Line Permit Application 31706 was issued on May 17, 2023. See Attachment 4 (TESLA-BAAQMD31706_000071). The appeal deadline is June 16, 2023.

C. Required Content of Appeal.

Article 3, Section 3.4 of the Hearing Board Rules, states:

> § 3.4 **Appeal**. Appeals in accordance with the District's Permit Regulations or statutory provisions shall include a copy of the permit or Permit Application, supporting documents, and the decision of the Air Pollution Control Officer. A map showing the location of the subject property and a line diagram of the process, where applicable, shall be included with the appeal. The appeal shall set forth the issues raised by the appeal and the principal facts in support thereof.

Attachments 1 through 4 contain the Permit Application, APCO decision, subject property map, and process line diagram. Other supporting documents are referenced throughout this appeal and are included as Attachments 5 through 9. The issues raised by this appeal and the principal facts in support thereof are set forth below.

III. BACKGROUND

The Fremont Factory's South Paint Shop ("SPS") Body Line is designed with an interlock between production and its abatement system, which consists of six thermal oxidizers. When an abatement device (i.e., thermal oxidizer) is not operating, the interlock is engaged and all production in the affected units stops. New parts are not introduced into the affected units and no new paint is sprayed.

When a shutdown is unplanned, the VOC-laden air is vented differently for ovens and booths. The ovens are vented through the cooling, but still hot, thermal oxidizers. The booths, on the other hand, must purge through a bypass. This is done for safety reasons. It eliminates the possibility of an explosion caused by contact of VOC-laden air with hot surfaces in the thermal oxidizer. The danger of an explosion is present because VOC concentrations within the thermal oxidizer could increase if the combustion air supply (which dilutes the incoming VOC-laden stream when the thermal oxidizer is operating) is cut off by an unplanned shutdown. The bypass eliminates this danger by preventing contact between VOC-laden air and ignition sources. This danger is present in the booths, but not the ovens, because VOC concentrations in the booth exhaust are normally higher than the oven exhaust. As illustrated below, emissions during these bypass events do not exceed any TAC trigger levels in District Regulation 2-5.

On April 21, 2022, Tesla submitted an application to revise one condition in the operating permit for the SPS Body Line. Specifically, Tesla sought to revise Permit Condition 27161, Part 15, which currently states:

> 15. The owner/operator of A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183 shall ensure that the POC/NPOC emissions from S-1002, S-1007, S-4036, S-4037, S-4038, S-4039, and S-4041 are abated at all times of operation by the properly installed, properly operated, and properly maintained Thermal Oxidizers A-1002, A-1007, A-30180, A-30181, A-30182, and A-30183, respectively.

See Attachment 3 at TESLA-BAAQMD31706_000003.

Tesla's requested revision was to add:

> b. In the event of an unplanned shutdown of the South Paint Sources (S-1001, S-1002, S-1005, S-1007, S-4033, S-4034, S-4035, A-4036, S-4037, S-4038, S-4039, S-4040, S-4041, and S-4042) or Abatement device4s (A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183), the owner/operator shall calculate emissions from such events and include these emissions for the purposes of determining compliance with Part 2. For the purposes of determining compliance with the twelve-month emission limits of Part 2, an unplanned shutdown or outage will not result in immediate violation of Part 2 or Part 15a, when the owner/operator would have otherwise complied, had the unplanned shutdown not occurred.

Id at TESLA-BAAQMD31706_000005.

The timeline for Permit Application 31706 is provided in the table below.

Event	**Actor**	**Timing Requirement**[2]	**Requirement Date**	**Date Event Occurred**
Application Submitted	Tesla		N/A	4/21/22
Incompleteness Letter	District	15 working days after submittal	5/12/22	5/10/22
Fee Invoice	District	15 working days after submittal	5/12/22	5/25/22
Invoice Payment	Tesla	Payment due 30 days after invoice	6/24/22	6/9/22

[2] Amendments to Regulation 2, Rule 1 were adopted on 12/15/2021 and became effective 7/1/2022. Timing requirements and requirement dates listed reflect the regulatory change.

Response to Incomplete Letter	Tesla	Information due 90 days after receipt of Incomplete Letter	9/13/22	7/19/22
Completeness	By action of Regulation 2-1-432	Upon submittal of fees, as well as information requested in incomplete letter	N/A	7/19/22
Permit Decision	District	90 days after completion, unless extended with applicant's consent	10/17/22 (Tesla did not consent to extend)	5/16/23

Nearly 10 months after Application 31706 was deemed complete and 7 months past APCO's regulatory deadline, APCO denied Tesla's application, stating that "Application 31706, as submitted, would violate federal law and will not meet Air District Best Available Control Technology requirements set forth in Air District Regulation 2-2-301 and Best Available Control Technology for Toxics in Air District Regulation 2-5-301." *Id.* Oddly, in the year from when Application 31706 was submitted and receipt of the District's permit decision denying Application 31706, the District *never* raised questions about BACT applicability to Tesla. See Attachment 5 (TESLA-BAAQMD31706_0000134-155), for Substantive Communications.

IV. ARGUMENT

The Denial should be reversed. First, the revision Tesla requested in Application 31706 does not constitute a permit modification under the District's rules. This in turn rendered much of the APCO's evaluation of Application 31706 unnecessary, let alone intrinsically flawed as factors were considered that do not apply to Tesla's request. Specifically, the Denial is justified solely[3] by an alleged failure to comply

[3] The Denial letter also states that the application "would violate federal law" See Attachment 4 at TESLA-BAAQMD31706_000070. The Engineering Evaluation states, "Air District Regulation 2, Rule 2 and Rule 5 have been federalized by being approved for adoption in California's State Implementation Plan (SIP)." *Id.* at TESLA-BAAQMD31706_000083. Thus, the Denial is based solely on alleged noncompliance with BACT and TBACT.

with BACT and/or TBACT; however, the BACT and TBACT requirements are only triggered by a permit modification.

Second, even if Application 31706 is a modification, BACT and TBACT are not triggered. The District made inaccurate presumptions that erroneously inflated the potential to emit. the methodologies employed and calculations made by the District were erroneous. The District used a methodology that Tesla is unable to validate. Further, it conflicts with the methodology developed by the District during permit discussions, which would not trigger BACT or TBACT. Even under a conservative mass balance approach, BACT and TBACT are not triggered.

Third, even if the requested revision was subject to BACT or TBACT (which Tesla disputes), operation of the equipment as proposed in the Application would comply with BACT and TBACT. The District's BACT/TBACT analysis did not provide any evidence that any existing similar facility is subject to, and in continuous compliance with, a requirement to operate a thermal oxidizer during unplanned shutdown of an automobile spray booth or oven. In the absence of such evidence, the requirement to use such equipment cannot be deemed "achieved in practice." Furthermore, the District did not perform the technological and economic feasibility analysis necessary to support a BACT determination that is not "achieved in practice."

Therefore, because the Denial is justified solely by an incorrect conclusion that the application would fail to comply with BACT and/or TBACT, the Denial should be reversed.

In addition, the APCO used different standards to evaluate Tesla. It did not adhere to the District's own long-standing processes and procedures when determining whether to grant the requested permit revision. By circumventing its processes, inappropriate assumptions were made, leading to incorrect conclusions about available BACT. Further, the APCO's suggestion in the Denial that Tesla can avail itself of the District's process in exercising enforcement discretion is a red herring. It is inappropriate to expect a permittee to rely on discretionary measures that are inherently subject to arbitrary application. As a permittee, Tesla is entitled to predictable standards against which the permittee and the District will be measured, which is what Tesla requested by submitting Application 31706.

Tesla requests that the Hearing Board reverse the Denial and issue the permit revision as requested in the application, or with appropriate revisions to the text to achieve the objectives of the application (to include unplanned shutdown events in the authorized operation).

A. BACT and TBACT do not Apply, Because the Requested Revision is not a Permit Modification.

The District's Regulations define "modify" in Rule 2-1-234 as a project that presents two elements: the first element requires a "change" to the permitted equipment, its operation, or production including "any physical change, change in method of operation, change in throughput or production, or other similar change at an existing source…" Rule 2-1-234. The second element requires an increase in emissions that is either an increase in potential to emit or an increase over actual emissions baseline resulting from such change. Rule 2-1-234. Both elements must be present in an application to be a modification.

1. The requested revision will not result in a physical change.

Tesla's requested revision did not request and will not result in a physical change to permitted equipment. The application does not seek to add new equipment or to physically change existing equipment. Indeed, the application does not seek any "physical change, change in method of operation, change in throughput or production, or other similar change" that would render the application a request for a modification. Rule 2-1-234. On the contrary, Application 31706 simply sought to confirm that the permittee would not automatically be in violation when an unplanned shutdown occurs and production stops along with abatement equipment, as the existing equipment is designed.

2. The requested revision will not result in a change in the method of operation.

Tesla's requested revision also did not request and will not result in a change in the method of operation of permitted equipment. The system is designed to operate the way it is described in the permit. Safe entry into a production unit after a shutdown requires that VOC-laden gases be purged first and a restart of the thermal oxidizer after it has been shut down also requires that VOC-laden gases be purged first. If the thermal oxidizer is operating, as is the case with a planned shutdown, purge gases are routed to the thermal oxidizer and abated. If the thermal oxidizer is not operating, as is the case when the oxidizer experiences an unplanned shutdown, purge gases may be routed to the atmosphere through a bypass, or

they may be routed to the atmosphere through the cooling thermal oxidizer. In the latter case, some abatement will occur as long as the oxidizer is hot enough. Depending on how fast the oxidizer cools down, the amount of abatement could be significant. In any event, the methodology for calculating event emissions that was proposed by Tesla makes the conservative assumption that no abatement occurs during an unplanned shutdown event.

Tesla has always operated the system this way and the previous owners of the facility operated the system this way.

3. The requested revision will not result in an increase in throughput or production or other similar change.

No changes in the amount of throughput or production, or any other aspect of production were requested and there is nothing in the application to suggest anything to the contrary.

4. Because the Application does not seek to "modify" the permit, the District may not consider other factors used to consider a permit modification.

As discussed above, Tesla's application does not seek to modify the permit because it does not seek to make any physical change, change in method of operation, change in throughput or production, or other similar change. Thus, under a plain reading of the term "modify" as defined in the District's Rules, other factors for a permit modification are immaterial. The Engineering Evaluation incorrectly summarizes Section 2-1-234:

"Section 2-1-234.1 defines a modified source as an increase in a source's daily or annual potential to emit, determined according to the definition in Section 2-1-217." See Attachment 4 at TESLA-BAAQMD31706_000080. This summary ignores the fact that emissions may not be considered for this purpose unless there is a physical change, change in method of operation, change in throughput or production, or other similar change.

A "change" is a condition precedent, as there must first be a change that then "*results in* an increase in emissions…." District Rule 2-1-234 (emphasis added). The District acknowledges this in the *Bay Area air Quality Management District – Complex New Source Review Permitting Handbook* at page 9:

> The first element of the definition requires that there is some sort of change implemented at the source. This could be any type of change being made to the facility, such as a renovation or overhaul of the equipment, and expansion of capacity, an increase in production, or other similar change. (But note that the change must be something that is

> not allowed under the source's existing permit. An operational change that is within the normal range of operations currently authorized by the Air District does not implicate the "modification" definition in Section 2-1-234.)
>
> If a facility will be making any such change at a permitted source, then the first element is satisfied and the inquiry moves to the second element: whether the change will result in an increase above the triggering thresholds for either of the two "modification" emissions increase tests.

The Engineering Evaluation failed entirely to address the "change" element of the definition of modification, which is required before an evaluation of potential emissions is even due. Instead, it only evaluated the "increase in emissions" element.

5. Because the Application does not seek a modification, the requirements for a permit modification do not apply.

Because both elements are required for an application to be considered a "modification," and because, as demonstrated above, the first element is not present, the District need not evaluate the second element relating to emissions. Further, since the requested revision is not a modification, neither BACT nor TBACT review were triggered. Thus, the APCO erred in denying the application because the Denial was based on the flawed conclusion that the requested revision would fail to meet BACT and TBACT and this requirement was not triggered in the first place. The APCO cannot ignore the first element that must be present for an application to be considered a modification simply to deny Tesla's application. Therefore, on its face, the Board should reverse the denial and approve Application 31706.

B. The Emission Calculations in the Engineering Evaluation are In Error.

As discussed above, BACT only applies to new or modified sources. Because this source is neither new nor modified, as defined in the District's Rules, BACT does not apply. Even if the District was required to consider potential to emit (which Tesla disputes), the District's emission calculations are riddled with errors. First, as discussed above, the District erroneously believed that the requested revision would allow Tesla to continue production during an unplanned shutdown of the abatement system. This inaccurate presumption increased estimates of potential emissions to an alarming degree. Second, the District calculated emissions from an unplanned shutdown event at the booths using a complicated methodology. In addition to being provided without reference and impossible to verify, it was not applied correctly. The result was flawed calculation of VOC concentration in the spray booth. The District used

this incorrect and convoluted calculation methodology even though it had already developed a methodology during the application process for Application #30204 changes (that are still currently under revision). See Attachment 6 (TESLA-BAAQMD31706_0000156-158). Moreover, spray booth VOC concentrations can be calculated using a much simpler approach: mass balance.

1. The District Erred by Including a Scenario where Production Continues During an Unplanned Shutdown because the Plant is Designed to Make That Impossible

The District erroneously believed that the requested revision in Part 15 "would allow for production activities to continue during an unplanned shutdown of an abatement system." See Attachment 4 at TESLA-BAAQMD31706_000074. This directly conflicts with representations in Application 31706 that make clear an "unplanned shutdown of an abatement device causes all production to stop." See Attachment 3 at TESLA-BAAQMD31706_000004. Production cannot continue during a shutdown because the SPS is designed with an interlock between production and the abatement system. Attachment 7 (TESLA-BAAQMD31706_0000159-164). Put simply, production stops when abatement stops in the event of an unplanned shutdown or outage:

> The South Paint Shop (SPS) Body Line at Tesla is designed with an interlock between production and its abatement systems. To comply with PC 27161 Part 15, any unplanned shutdown of an abatement device causes all operation to stop (i.e., All active production is halted - "Production release" will not be achieved). The SPS Body line has a total of 6 thermal oxidizers (1 per oven and 1 per spray booth zone) and the setpoint temperature of these devices are tied into the production release of each system. In addition, since all the ovens work with recovering heat from the TO exhausts, it is impossible for the ovens to run without the TO running at or above the setpoint temperature.

See Attachment 3 at TESLA-BAAQMD31706_000003-6.

The proposed revision in Application 31706 Part 15b does not change, contradict, or remove the requirement in Part 15a that emissions "are abated at all times of operation." To the contrary, the requested revision in Part 15b only applies "[i]n the event of an unplanned shutdown of the South Paint Sources… or Abatement devices." Therefore, both as required by the permit language and as a practical matter due to the design of the South Paint Sources, operations cease during an unplanned shutdown. Because continued production activities are not permitted under Application 31706 and are not possible by design, the APCO's conclusions are unsupported and the denial should be reversed.

2. The District's Emission Calculations for a Shutdown Event Without Continued Operations are Incorrect.

The APCO overestimated both the maximum hourly emissions and maximum daily emissions. As discussed below, the maximum VOC present in a booth or oven at the time an event begins can be calculated. Because production ceases during an event, no other VOCs can be emitted. The amount of VOC present is an upper limit on the amount that can be emitted. As discussed below, the District used an undocumented and incorrect methodology to calculate a range of emission estimates. These estimates purport to be based on variations in gas flow rates and air recirculation rate, inflating the estimated emissions by a factor of up to 30 above the amount of VOC that is actually present.

a. Maximum Hourly Emissions are overestimated.

The method used by the District to calculate "minimum" event emissions is the same as that used by Tesla to calculate the maximum; it assumes that all of the VOC in the system at the time of an unplanned shutdown event is emitted, unabated. This is the maximum amount that is physically possible to emit and is conservative in that it does not account for any abatement resulting from the existing practice of venting oven (but not booth) emissions through the cooling, but still hot, thermal oxidizers. However, the methodology used by the District to calculate "maximum" event emissions for the ovens is not documented and cannot be reproduced, rendering its validity in general, and its specific application by the District, unreliable.

For example, the curves shown in Figure D-1 of the Engineering Evaluation are not supported by calculations. The values shown make no physical sense. Missing from the figure is the case where the Air Recycle Rate is zero percent, which is the situation that applies to the ovens. See Attachment 4 at TESLA-BAAQMD31706_000098.

Even if the curves shown in Figure D-1 were valid (and they are not), there is no basis for the District to use anything other than the correct air recirculation rate for each affected source. As noted, the air recycle rate for the ovens is zero. The air recycle rate for the booths is known to be 80%. Consequently, the ranges of emissions in Table D-16 (and carried forward to Table 3 of the body of the Evaluation) are not representative of the application.

Using the correct methodology, the maximum VOC present in the booths at the beginning of an event is 51 lb. No more VOCs can be emitted, because no more VOCs are present, and none are introduced. In contrast, in Table 1 of the Engineering Evaluation, the District's estimate of the combined emissions from the booths during an event ranges from 63 lb to 1,441 lb. Similar errors were made for the ovens. See Attachment 4 at TESLA-BAAQMD31706_000076.

All these errors are corrected in Table Appeal-1 presented below.

b. Maximum Daily Emissions are Overestimated.

The errors in calculating hourly emissions are carried over into the calculation of maximum daily emissions. If the impossibly high emissions resulting from the District's estimate of maximum emissions from an event, and the impossible scenario of continued production without abatement, are removed, the actual potential to emit is much smaller than the District's estimate. See corrected emission summary in Table Appeal-1 below.

Table Appeal-1 Corrected VOC Emissions

Source	Source #	Type	Hourly (lb/hr)		Event (lb) [3]	Maximum Daily (lb/day)	
			Uncontrolled Emissions	Abated Emissions[2]		No Event[4]	With Event[5]
E-coat	S-1002	Oven	[redacted]				
Sealant	S-1007	Oven					
3-Wet Coat	S-4036	Booth					
	S-4037	Booth					
	S-4038	Booth					
Prime & Clearcoat Oven	S-4039	Oven					
Purge Solvents	S-4041	Misc.					

Notes:

[1] All three booths have a common recirculating air supply and common exhaust to control device.

[2] From *Engineering Evaluation*, Table 1. See Attachment 4 (TESLA-BAAQMD31706_000076).

[3] Calculations based on worst case assumptions at time production stops: a) number of cars within booth or oven; b) amount of VOCs in uncured paint on cars; c) concentration of VOC in booth or oven. No credit taken for VOC destruction in cooling thermal oxidizers. Purge will be completed within one hour of initiation.

[4] 24 hours of abated emissions.

[5] 23 hours of abated emissions plus 1 event.

c. Maximum Annual Emissions will not Increase.

The District's determination that the proposed permit condition, Part 15b, would result in an increase in annual emissions above its authorized emission limit was incorrect. Permit Condition 2a sets an annual emission limit at 290.87 tpy. The District stated: "Although Permit Condition 27161 Part 2a limits total POC and NPOC emissions on an annual and monthly basis, the limit only applies when Tesla uses a material other than those listed in Part 1 of the same condition or uses materials in excess of the limits in Part 1." See Attachment 4 at TESLA-BAAQMD31706_000080. This statement, while true, is also irrelevant. Tesla uses coatings not listed in Part 1 of the same condition; consequently, Part 2 is applicable and enforceable.

The APCO hypothesizes that Tesla might stop using alternate coatings and circumvent the emission limit in Permit Condition 2a. The APCO's concern is meritless for three reasons: First, Tesla has always used alternate coatings. Two, if the District had concerns about this supposed loophole, it's one that's existed since the District first issued Permit 27161 on June 5, 2020. Permit Application 31706 proposed a methodology for calculating emissions during an unplanned shutdown event and including those emissions in emissions compliance reports, subject to those existing annual emissions limits. Third, if this language in Permit 27161 concerned the District, it had ample chances to raise the concern to Tesla and the APCO has the authority to impose permit conditions to address this. The District never found it important enough to do so.

The APCO also stated, "Further, the limit applies to combined emissions from multiple sources where the limit does not effectively limit individual source emissions." See Attachment 4 at TESLA-BAAQMD31706_000080. This statement is true, but beside the point. Tesla's processes are already designed and operated in the manner described above. Consequently, the Potential to Emit for any of the affected sources, properly determined under the definition of Rule 2-1-234.1.2, must include any emissions from unplanned shutdown events.

In its Application, Tesla communicated its intent to operate these sources without increasing emissions from any source. Even if its proposed language did not effectively accomplish this intent, as

noted above, the APCO has the authority to impose permit conditions that accomplish the stated goal. Instead of doing so, however, the District chose to evaluate scenarios that were wholly incompatible with Tesla's Application, and denied the Application based on those scenarios.

3. Even if Production Activities Could Continue During an Unplanned Shutdown, the District's Emission Calculations for that Scenario are Incorrect.

The methodology used by the District to calculate the VOC remaining in ovens was incorrect. As a result of this error, the District overestimates the amount of VOC in an oven at steady state, and the corresponding hourly emissions, by a factor of 8. If the District's error is corrected in the spreadsheet, the answer it gives is identical to the emission estimate provided by Tesla in its application, using a different methodology (mass balance). The errors in calculating hourly emissions are carried over into the calculation of maximum daily emissions. If the impossibly high emissions resulting from the District's estimate of maximum emissions from an event, and the impossible scenario of continued production without abatement are removed, the actual potential to emit is much smaller than the District's estimate. Consequently, when an appropriate mass balance methodology is used, Maximum Annual Emissions will not increase.

C. TBACT Does Not Apply

As discussed above, TBACT only applies to new or modified sources. Because this source is neither new nor modified, as defined in the District's Rules, TBACT does not apply. In addition, TBACT only applies if emissions of Toxic Air Contaminants (TACs) exceed the thresholds in Regulation 2-5. The same errors the District committed that resulted in incorrect VOC calculations when evaluating this Application also apply to the calculation of TACs. Tesla included conservative estimates of TAC emissions in its Application. See Attachment 3 at TESLA-BAAQMD31706_000004. These values are presented in Table Appeal-2 below.

Table Appeal-2. TAC Emissions and TBACT Applicability[1]

CAS #	Parameter	Emissions (lb/hr)	2-5 TAC Acute Limit (lb/hr)	Exceeds Limit
67-63-0	Isopropyl Alcohol	[redacted]		NO
1339-20-7	Xylene			NO
100-41-4	Ethylbenzene			NO

50-00-0	Formaldehyde	[redacted]	NO
91-20-3	Napthalene		NO
108-98-2	1-Methoxy-2-propanol		NO

[1] From revised emission calculations sent to Mr. Madhav Patil on 7/20/2022. See Attachment 5 at TESLA-BAAQMD31706_000147-153.

As demonstrated above, even if the Application presented a change to equipment, operation or throughput or production that required the District to consider whether the proposed change would result in increased emissions or comply with TBACT, the District's assumptions, methodology and calculations were erroneous.

D. Even if the Application was subject to BACT, the Requested Revision would Comply because BACT for an Unplanned Shutdown is Cessation of Production.

A source is required to be in continuous compliance with BACT at all times. However, a source may not be able to achieve strict limits under all circumstances for all operating modes. Thus, the applicable regulations and past District practice allow different BACT limits to apply during different operational modes because emission characteristics (e.g., temperature, concentration, presence of catalyst poisons, etc.) may be different for each mode. APCO did not consider this in its determination.

1. In order to be able to require stringent controls under most conditions, a different standard may be applied under specified conditions.

BACT limits during routine operation are often not achievable during startup and shutdown. Different BACT limits may also be applied for different fuels, or different raw materials. For example: the CO and NOx control equipment typically used for a gas-fired turbine achieve significant reductions during most situations. Catalytic abatement at power plants has contributed greatly to achieving and maintaining compliance with federal ambient air quality standards. However, these devices do not reduce emissions when the temperature is too low, i.e., during startup and shutdown of these units.

Because BACT applies whenever a source is operating, BACT must be set at a level achievable at all times. In order to be able to require catalytic controls during power production, regulatory agencies have excluded startup and shutdown operations from the strict limits applicable while the unit is above the threshold temperature. See Attachment 8 (TESLA-BAAQMD31706_0000165-167). Other permit

conditions apply during startup, including time limits and other requirements. *Id.* These other requirements are also BACT for those modes. This practice of setting different BACT control requirements for different operating modes makes strict limits during production possible.

2. Abatement using an operating thermal oxidizer is not technologically feasible during an unplanned shutdown.

As discussed above, Tesla's equipment is designed such that an unplanned shutdown of the thermal oxidizer prevents continued operation of the production line, therefore, VOC-laden air must be vented from the system before the thermal oxidizer may be restarted. There are three possible places to vent the gases in the system: 1) through the cooling thermal oxidizer (as is the case for the ovens); 2) venting directly to the atmosphere (as is the case for the booths); or 3) through some other control device.

As long as the thermal oxidizers are still hot, scenario 1 results in some abatement but the conservative estimate of zero destruction is assumed for compliance calculations because the VOC destruction efficiency at lower temperatures is unknown. Scenario 2 results in no abatement. Again, zero destruction was assumed for compliance calculations in Tesla's application. Scenario 3 could result in nearly complete abatement but is likely infeasible for both technological and economic reasons. From a technological standpoint, presuming the other control device is one or more backup thermal oxidizers, it would involve significant ducting and control issues. Economically, the cost of installing and operating one or more backup thermal oxidizers would not meet District cost effectiveness guidelines and would therefore be unjustified under District policy. Furthermore, operating a backup thermal oxidizer would result in substantial unnecessary combustion emissions, and would result in a net environmental detriment.

3. Neither Tesla nor the District previously identified unplanned shutdowns as a special operating mode for the purposes of BACT determination.

Tesla did not identify unplanned shutdowns as an operating mode in its initial application because it believed that such events would occur much less frequently and that the District's breakdown enforcement discretion relief would be available, considering that every event meets the definition of a breakdown. Thus, neither Tesla nor the District were aware of this operating mode for purposes of the initial BACT determination.

4. Because unplanned shutdowns were not previously identified, and the historical record demonstrates that continuous compliance with the current formulation of BACT is not technologically feasible, the District erred by concluding that the current BACT requirement has established "achieved in practice" BACT for this mode.

The District's evaluation of "achieved in practice" BACT is both incomplete and in error. It is incomplete because the District did not take the steps necessary to learn whether the emission limitation determinations in the clearinghouses upon which it were actually built and operated were in compliance with the reported limits.[4] It is in error because the District took the actual determinations (emission limits expressed in units of lbs of emissions per gallon of applied coatings, averaged over a month) and converted them to a requirement to continuously abate emissions by venting to a thermal oxidizer, with no averaging period. Tesla believes it can comply with a limit that includes monthly emissions averaging; whereas it is technically infeasible to comply with the requirement to continuously abate emissions using a control device that has experienced an unplanned shutdown.

E. Even if unplanned shutdowns are subject to the same BACT limit as production, the District's BACT determination in the Engineering Evaluation is not supported by the record.

The Engineering Evaluation's Table E-5 presents the most stringent emission limitations found during the District's review of BACT determinations by other agencies.

[4] Note that the determinations listed in various BACT clearinghouses often do not reflect the nuances of different requirements that apply to different modes of operation. The clearinghouse may lack fields for this information, or the level of detail is simply not provided by the reporting agency. The conclusion is that clearinghouse results may support a determination that an application which proposes permit conditions that meet or exceed the limits listed therein, but the clearinghouse is merely the starting point of the investigation needed to make the determination.

Table E-5. Most Stringent Achieved-In-Practice Determinations for Minimizing VOC Emissions

Process	Abatement / Measure	Abatement Efficiency			Other
		Capture (percent)	Destruction (percent)	Overall (percent)	
Electrodeposition Coating	Dip Coating (100% transfer efficiency) Regenerative Thermal Oxidizer	100	98	98	0.1000 lb VOC /gallon, 0.0400 lb VOC / gacs (1)
Topcoat Coating	Adsorption Wheel System (booths only) Regenerative Thermal Oxidizer (booths and ovens)	85.000 (2)	95.000	81.000	3.53 lb VOC / gacs (1) (monthly average)
Primer Coating	Adsorption Wheel System (booths only) Regenerative Thermal Oxidizer (booths and ovens)	85.000 (2)	95.000	81.000	2.9200 lb / gacs (1) (calendar month average)
Final Repair	None Listed	N/A (3)	N/A (3)	N/A (3)	4.8000 lb VOC / gacs (1) (daily average)
Purge and Cleaning Solvent	Concentrators and Regenerative Thermal Oxidizers	Not Listed	Not Listed	83.600	

Notes:
1. gacs = gallon of applied coating solids.
2. Capture efficiency calculated from listed destruction and overall abatement efficiencies.
3. N/A = Not Applicable

See Attachment 4 at TESLA-BAAQMD31706_000122.

The table title presents the above as "Achieved in Practice." However, nowhere in the Evaluation does the District document that it confirmed that the sources that were the subject of the determinations were built, operated, and capable of achieving compliance at all times. "District staff in reviewing BACT performance data must make the engineering determination that the control would reasonably be expected to perform for a sufficient duration to make the control option cost-effective."[5] Established practice for the District is to accept these determinations at face value when the application will meet or exceed the limitations. When the District determines that the application would not meet limitations established District practice is to confirm that the reference projects were built, and were in continuous compliance, usually for at least two years, in order for the reference project to be deemed "achieved in practice."[6] This

[5] BACT/TBACT Workbook, (BAAQMD, 2002)
[6] Although the Workbook does not specify two years of operating data demonstrating continuous compliance, this value has often been used in projects around the state in order to address concerns about diminishing effectiveness of control systems (especially catalysts and carbon adsorption systems) over time.

is because some projects are never built or promise more than they can deliver. Occasionally, control devices do not live up to design expectations, or unforeseen operating factors affect continuous compliance. As a result, the proposed emission limitation must be confirmed as actually achievable, and achieved over an appropriate period of time, before being relied upon as "achieved in practice." The District failed to conduct such confirmation.

Even if the emission limits had been achieved in practice, the District did not apply the referenced limits properly. All of the limits identified came from the EPA database, which means that they are Lowest Achievable Emission Rate (LAER) determinations. LAER determinations differ from District BACT determinations in that the ***emission limit*** is the applicable requirement, not the control technique. The control technique is the method used to comply with the emission limit and this is important for Tesla's application, because the enforceable limit in each case is expressed as pounds of VOC emitted per gallon of applied coating solids, calculated on a monthly average. Using a monthly average means that periods where the actual emissions exceed the limit (such as unplanned shutdowns) can be balanced by periods where the actual emissions are less than the limit.

Consequently, the District's determination that the control technologies listed in EPA's LAER determinations represent "achieved in practice" is unsupported by the record because the District failed to document whether the reference operation continuously complied with the emission limit under all operating conditions, and second, because the District failed to take into account the fact that the form of the limit (monthly average) would allow continuous compliance even if the abatement equipment was not in continuous operation.

The District's error could be corrected by revising Condition 15 to allow demonstration of compliance on a monthly basis; or it could evaluate BACT for unplanned shutdowns, as described above, and be able to determine compliance on an hourly basis. Therefore, the Denial was in appropriate and the Hearing Board should granting Permit Condition 27161, Part 15 either as written or modified as indicated to provide for compliance determinations on a monthly or hourly basis.

F. Tesla Should not be Required to Rely on the District's Enforcement Discretion

In its denial letter, the District suggests that the requested revision is unnecessary because the District's Rules provide for enforcement relief in the case of equipment breakdowns. Breakdown relief is

provided under Sections 1-112 and 1-113. These are both at the District's discretion. Section 1-208 of the District's Rules requires Tesla to "demonstrate that an unplanned shutdown was due to an unforeseeable failure or malfunction…." Under this provision, Tesla must make a demonstration after each event, investing significant time and effort without any certainty of success (and in fact, history suggests it will fall on deaf ears). While Section 1-208 does not specifically state that it is discretionary, relief still relies on the District's interpretation.

The District has consistently thwarted Tesla's efforts to invoke the breakdown procedure to address the situation covered by the application. Past history has shown that the District's application of enforcement relief is discretionary, inconsistent, not subject to any particular standard of application, and thus is subject to change and unpredictable. In fact, Tesla has sought, and the District denied, enforcement relief in the past in situations in which enforcement discretion would otherwise be justly exercised. Tesla submitted the application because the District has repeatedly declined to exercise its discretion to grant relief. Breakdown relief was requested 16 times but granted it only once. Among the breakdown relief requests denied were an unplanned shutdown caused by two vehicle bodies colliding inside the oven and the activation of a sprinkler alarm. See examples in Attachment 9 (TESLA-BAAQMD31706_000168-189).

History shows that relief under Sections 1-112, 1-113, or 1-208 would have been granted to Tesla if it were almost any other company; and would have been granted if it were in the jurisdiction of almost any other agency. In other words, the District's Enforcement Division has been exercising its discretion in an arbitrary manner, refusing to grant customarily available relief.

In contrast, permit conditions are predictable and set a standard against which both the District and the permittee can reasonably rely – for those reasons, Tesla sought its requested revision through its Permit. Tesla's Application essentially builds the relief the District claims is available (although in practice arbitrarily withheld in the past), into the Permit, removing arbitrariness, and adding fairness. As a permittee, Tesla is entitled to permit conditions upon which it can rely and upon which it can act with predicable outcomes.

V. REQUESTED RELIEF

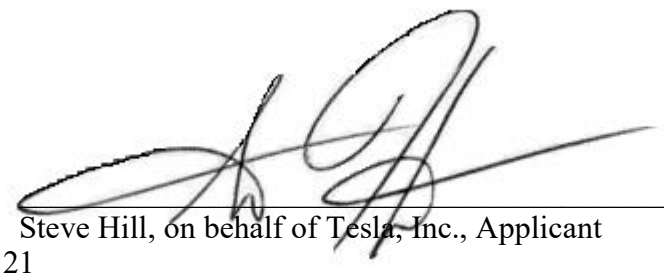
Applicant requests an Order from the Hearing Board granting Permit Condition 27161, Part 15, as originally submitted. Alternatively, Applicant requests an Order from the Hearing Board granting Permit Condition 27161, Part 15, modified as follows:

> 15. a. The owner/operator of A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183 shall ensure that the POC/NPOC emissions from S-1002, S-1007, S-4036, S-4037, S-4038, S-4039, and S-4041 are abated at all times of operation by the properly installed, properly operated, and properly maintained Thermal Oxidizers A-1002, A-1007, A-30180, A-30181, A-30182, and A-30183, respectively, except during unplanned shutdown of an abatement device, which is governed by Condition 15b.
>
> b. In the event of an unplanned shutdown of the one or more South Paint Sources (S-1001, S-1002, S-1005, S-1007, S-4033, S-4034, S-4035, S-4036, S-4037, S-4038, S-4039, S-4040, S-4041, and S-4042) or Abatement devices (A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183), the owner/operator shall immediately cease production in sources connected to the affected abatement device(s). calculate Emissions from such events shall be calculated using a methodology approved by the APCO, and include these emissions shall be included for the purposes of determining compliance with Part 2. The unplanned shutdown event shall end when production resumes. For the purposes of determining compliance with the twelve-month emission limits of Part 2, an unplanned shutdown or outage will not result in immediate violation of Part 2 or Part 15a, and when the owner/operator would have otherwise complied, had the unplanned shutdown not occurred.

Each alternative text suggestion addresses a concern expressed by the District:

- The first clarifies that the "relief" in Condition 15b applies in the very limited circumstances of an unplanned shutdown of an abatement device;
- The second clarifies that relief is only available if production ceases immediately;
- The third adds customary language, commonly used in District permits, clarifying that emission calculation methodologies are subject to review and approval by the District;
- The fourth makes it clear that the recommencement of production is not included in the "relief" And as a result, the abatement device must be online and at temperature before production begins in order for the source to be in compliance with Condition 15; and
- The fifth deletes superfluous language.
- Language requiring that oven exhaust be routed through the cooling thermal oxidizer has not been suggested because it is unnecessary since the capability to bypass the thermal oxidizer does not exist.

Respectfully submitted, on this date June 16, 2023.



Steve Hill, on behalf of Tesla, Inc., Applicant

PROOF OF SERVICE

In the Matter of the Appeal of
TESLA, INC.
From Permit Conditions Contained in Permit Application 31706

Docket No. 3742

I am and was at all times herein mentioned over the age of 18 years and not a party to the action in which this service is made. At all times herein mentioned I have been employed in the County of Alameda in the office of a member of the bar of this court at whose direction the service was made. My address is 901 Page Avenue, Fremont, CA 94538.

On June 16, 2023, I served the following document(s):

APPEAL

by placing ☐ (the original) ☒ (a true copy thereof) in a sealed envelope addressed to:

For Tesla

Steve Hill
1019 ALVARADO TERR.
Walla Walla, WA 99362
Via email: stevehillesq@gmail.com

Josh Gubkin
Tesla Managing Counsel, EHS&S
901 Page Ave.
Fremont CA 94538
Via email: *jgubkin@tesla.com*

BAAQMD Hearing Board

Marcy Hiratzka
Clerk of the Boards, Executive & Administrative Resources
Hearing Board
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Via email: mhiratzka@baaqmd.gov

Alexander "Sandy" Crockett
District Counsel
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Via email: acrockett@baaqmd.gov

☐ **BY MAIL:** I caused such envelope to be placed for collection and mailing, following our ordinary business practices. I am readily familiar with Tesla, Inc.'s practice for collecting and processing correspondence for mailing. On the same day that correspondence is placed for collection and mailing, it is deposited in the ordinary course of business with the United States Postal Service, in a sealed envelope with postage fully prepaid.

☐ **BY MAIL:** I deposited the sealed envelope with the United States Postal Service, with the postage fully prepaid at 901 Page Avenue, Fremont, CA 94538.

☐ **BY OVERNIGHT DELIVERY:** I placed the sealed envelope(s) or package(s) designated by the express service carrier for collection and overnight delivery by following the ordinary business practices of Tesla, Inc. I am readily familiar with Tesla, Inc.'s practice for collecting and processing of correspondence for overnight delivery, said practice being that, in the ordinary course of business, correspondence for overnight delivery is deposited with delivery fees paid or provided for at the carrier's express service offices for next-day delivery.

☒ **BY E-MAIL OR ELECTRONIC TRANSMISSION:** Based on a court order or an agreement of the parties to accept service by e-mail or electronic transmission, I caused the documents to be sent to the person[s] at the e-mail addresses listed on the attached service list. I did not receive, within a reasonable time after the transmission, any electronic message or other indication that the transmission was unsuccessful.

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

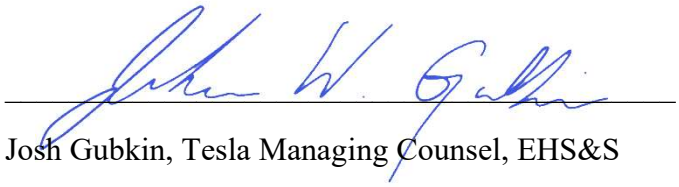
Executed on June 16, 2023 at Fremont, CA.

Jennifer Nguyen
Staff Paralegal Specialist, EHS

VERIFICATION

I, the undersigned, do hereby declare under penalty of perjury, under the laws of the State of California, that I have read the foregoing document, that I know its contents, and that it is true.

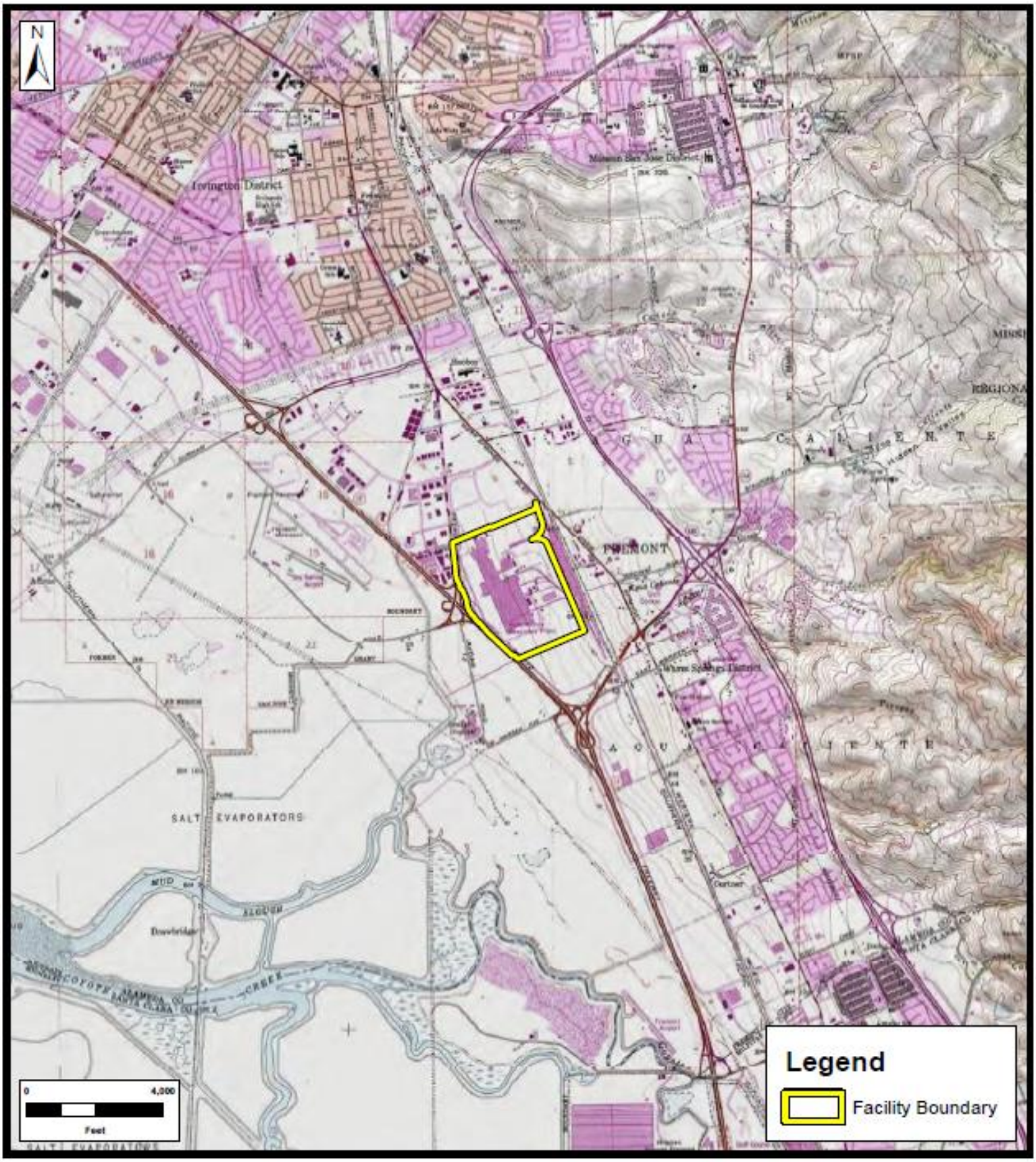
Executed on June 16, 2023 at Fremont, CA.



Josh Gubkin, Tesla Managing Counsel, EHS&S

ATTACHMENT 1

FACILITY LOCATION MAP
TESLA, INC., 45500 FREMONT BLVD., FREMONT, CA 94538
(BAAQMD PLANT # 20459)



ATTACHMENT 2

CONFIDENTIAL – TESLA TRADESECRET

TESLA-BAAQMD31706-000002

ATTACHMENT 3

45500 Fremont BLVD., Fremont CA 94578
P 650 681 5100 F 650 681 5101

April 21st, 2022

Via email to: nmaiden@baaqmd.gov; mpatil@baaqmd.gov; permits@baaqmd.gov; aborja@baaqmd.gov

Engineering Division
Bay Area Air Quality Management District
375 Beale Street
San Francisco, CA 94105

Subject: Application to Modify Permit Condition No.27161

Facility Location: Fremont Factory, 45500 Fremont Boulevard, Fremont, CA 94538

Plant Number: 20459

Tesla, Inc. (Tesla) is writing to Bay Area Air Quality Management District (BAAQMD) to request a change for Permit Condition 27161 Part 15. Current language:

> *"15. The owner/operator of A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183 shall ensure that the POC/NPOC emissions from S-1002, S-1007, S-4036, S-4037, S-4038, S-4039, and S-4041 are abated at all times of operation by the properly installed, properly operated, and properly maintained Thermal Oxidizers A-1002, A-1007, A-30180, A-30181, A-30182, and A-30183, respectively. "*

Tesla complies with PC 27161 Part 15 and works with BAAQMD's Compliance and Enforcement division for any reportable compliance activities (RCAs) that are related to PC 27161 Part 15. The basis for PC27161 Part 15 is Regulation 2-1-403 which states:

> "***2-1-403 Permit Conditions:*** *Except as to permit applications reviewed in accordance with Section 2-1-311, the APCO may impose any permit condition that the APCO deems reasonably necessary to ensure compliance with federal or California law or District regulations. For any permit application which was reviewed as a ministerial project in accordance with Section 2-1-311, the APCO shall only impose permit conditions as set forth in the District's Permit Handbook*

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P 650 681 5100 F 650 681 5101

for the type of source being permitted. The APCO may require the installation of devices for measurement or analysis of source emissions or ground-level concentrations of air contaminants."

The South Paint Shop (SPS) Body Line at Tesla is designed with an interlock between production and its abatement systems. To comply with PC 27161 Part 15, any unplanned shutdown of an abatement device causes all operation to stop (i.e., All active production is halted - "Production release" will not be achieved). The SPS Body line has a total of 6 thermal oxidizers (1 per oven and 1 per spray booth zone) and the setpoint temperature of these devices are tied into the production release of each system. In addition, since all the ovens work with recovering heat from the TO exhausts, it is impossible for the ovens to run without the TO running at or above the setpoint temperature

However, any residual air within the system (booth or oven) may escape unabated after an unplanned shutdown - the magnitude of these emissions can be estimated conservatively (The format and estimation methodology of these emissions have been discussed and finalized with the permitting division). The emissions from an event do not exceed any TAC trigger levels in Regulation 2-5. A breakdown of emissions during an event are conservatively estimated below (more detailed calculations are included in Attachment A):

CAS #	***Parameter***	***Emissions (lb/hr)***	***2-5 TAC Acute Limit (lb/hr)***	***Exceeds Limit?***
	Estimated VOC Released during Event	[redacted]	*-*	*NO*
67-63-0	*Isopropyl alcohol*	*4.36*	*7.1*	*NO*
1330-20-7	*Xylene*	*0.00*	*49*	*NO*
100-41-4	*Ethylbenzene*	*0.00*	*-*	*NO*
50-00-0	*Formaldehyde*	*0.00*	*0.12*	*NO*
91-20-3	*Naphthalene*	*0.00*	*-*	*NO*
107-98-2	*1-Methoxy-2-propanol*	*0.00*	*-*	*NO*

Considering the negligible magnitude of emissions during these unplanned shutdown events and that the abatement devices are an integral part of achieving production, Tesla believes that there is sufficient

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room to include these unplanned shutdown events under permitted emission limits for emission sources. Tesla also believes that the current structure of PC 27161 Part 15 when coupled with a lack of an official definition for "excess emissions"[1] creates an inflexible regulatory requirement that is not supported by the basis cited by the permit condition.

Permit Condition Modification

Tesla is requesting a modification to permit condition 27161 Part 15 to include consideration of Tesla's 12-month emission limit of Part 2 when determining if emissions during an unplanned shutdown or outage are considered excessive.

Tesla is requesting that the PC 27161 Part 15 be revised to the following:

> *"15.*
>
> *a. The owner/operator of A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183 shall ensure that the POC/NPOC emissions from S-1002, S-1007, S-4036, S-4037, S-4038, S-4039, and S-4041 are abated at all times of operation by the properly installed, properly operated, and properly maintained Thermal Oxidizers A-30192, A-1007, A-30180, A-30181, A-*
>
> *30182, and A-30183, respectively.*
>
> *b. In the event of an unplanned shutdown of the South Paint Sources (S-1001, S-1002, S-1005, S-1007, S-4033, S-4034, S-4035, S-4036, S-4037, S-4038, S-4039, S-4040, S-4041, and S-4042) or Abatement devices (A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183), the owner/operator shall calculate emissions from such events and include these emissions for the purposes of determining compliance with Part 2. For the purposes of determining compliance with the twelve-month emission limits of Part 2, an unplanned shutdown or outage will not result in immediate violation of Part 2 or Part 15a, when the owner/operator would have otherwise complied, had the unplanned shutdown not occurred. "*

The proposed permit condition modification above is based on Title V permit conditions granted by BAAQMD at other facilities. The permit condition modification is purely administrative and will not result in a physical or operational change and thus there will be no environmental harm or impact as a result of approval of this request. Additionally, Tesla would like to emphasize the proposed permit

[1]Tesla Correspondence with Compliance and Enforcement on 10/26/2021

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condition change will not change or increase the potential emissions from the sources listed in the condition. The proposed permit modification meets all criteria for approval and Tesla respectfully requests that the Air District approve this modification.

If you have any questions or comments regarding this application, please contact me at hshakoor@tesla.com or (408) 329-2463.

Attachments (Provided Separately)

- Attachment A: Emission Calculations (Calculations in Native excel format)
- Attachment B: P-101B
- Attachment C: SDS

Cc: Rob Mccafferty, Director, Environmental, Health and Safety (Tesla)

Jimmy Dileo, Manager, Environmental Affairs (Tesla)

Hari Krishna Bharadwaj, Staff Environmental Engineer (Tesla)

Subbarao Nagulapaty, Global Air Quality Program Manager (Tesla)

TRADE SECRET/CONFIDENTIAL INFORMATION

CAS #	Parameter	Emissions (lb/hr)	2-5 TAC Acute Limit (lb/hr)	Exceeds Limit?
	Estimated VOC Released during Event	[redacted]		NO
67-63-0	Isopropyl alcohol	4.36	7.1	NO
1330-20-7	Xylene	0.00	49	NO
100-41-4	Ethylbenzene	0.00 -		NO
50-00-0	Formaldehyde	0.00	0.12	NO
91-20-3	Naphthalene	0.00 -		NO
107-98-2	1-Methoxy-2-propanol	0.00 -		NO

TRADE SECRET/CONFIDENTIAL INFORMATION

Method 1: Average Based on worst case VOC lb/gal from the SDS sheets used in the permit application

Coating/Sealer	Coating Name	Contribution[1]	TAC Percent of VOC					
			67-63-0	1330-20-7	100-41-4	50-00-0	91-20-3	107-98-2
			Isopropyl alcohol	Xylene	Ethylbenzene	Formaldehyde	Naphthalene	1-Methoxy-2-propanol
[redacted]								
		TAC Total (lb/hr)	4.38	0.00	0.00	0.00	0.00	0.00

1. Contribution determined by Ratio of VOC/car

TRADE SECRET/CONFIDENTIAL INFORMATION blue -> inputs, black -> calculations/conversions Event Calculations

Input Parameters

Parameter	E-coat Oven	Sealer Oven	3-wet process booth	Primer and Clearcoat oven	Data Source/Comments
Average Temp (°C)	199	160	23	143	Expected Operational temperature
Average Temp (°F)	390.2	320	73.4	289.4	Converted from C to F
Max Rate of the Plant (Jobs or car units/hour)	[redacted]				Paint Operations (See VOC per car backup for more info)
Volume of Booth/oven (ft^3)	35254	19025	178651	32830	Info from Durr, Design Info for Booth/Oven
Exhaust Air flow rate (acfm) (ft^3/min)	17,000	14,700	88,000	12,000	Info from Durr, Design Info for Booth/Oven.
Exhaust Air flow rate (ft^3/hr)	597886	563543	4934141	478827	Conversion from ft3/min to Nft3/hr
Worst case VOC per car (lb VOC/car) *	0.31	0.29	3.93	1.68	Paint Operations (See VOC per car backup for more info)
Air Density (lb/ft^3)	0.05	0.05	0.07	0.05	Air Density of booth/oven calculation

Conversion Table

From	To	Factor
lb/ft3	kg/m3	16.02
acfm	Nm3/hr	1.699
Density of air (kg/m3)		1.29
Density of air (lb/ft3)		0.0797

[redacted]

Note: The Emission Numbers for the 3-wet booth from booh/oven air volume factor in recycle air (55.87 lbs); The calculations for these were provided by Mr.Nick Maiden on 10/2021.

[1] **Emissions released into the atmosphere from booth/oven air volume (lb) =** Concentration of exhaust (lb VOC/ft^3)*Volume of booth or oven (ft^3)

[2] **Emissions released into the atmosphere from coating on the car (lb) =** VOC per car (lb VOC/car) *cars/units during bypass in the booth or oven (cars)

[3] **Total Released from booth or oven (lb) =** Emissions released into atmosphere from booth/oven air volume (lb)+ Emissions released from coating on the car (lb). Note this is super conservative estimate which assumes that full volume of paint on car evaporates along with the booth volume.

Key Variables which feed into the above equations are:

1) Concentration in Exhaust (lb VOC/ft^3) = (lb VOC/ car) * cars/hr / Exhaust Air flow rate(ft^3/hr))
1.1) lb VOC/car = Coating Volume per car (Buffered value in gal/car) * Worst Case VOC content in the coating (lb VOC/gal)
1.2) cars/hr = Max capacity of the plant, buffered to 40

1.3) Exhaust flow rate (ft^3/hr) = Provided by Durr
2) Volume of booth or oven (ft^3) = Provided by Durr
3) cars or units during bypass Maximum capacity of the ovens and booth during any given time

TRADE SECRET/CONFIDENTIAL INFORMATION

Coating/Sealer	Coating Name	Volume per car: Volume (Gal)[1]	Volume (mL)[1]	Buffer%	Buffered Values (ml)	Buffered Values (gal)	VOC (lb/gal)[2]	lb VOC/car[3]
[redacted]		0.169	639	0%	639	0.169	0.04	0.01
		1.40	5300	0%	5300	1.400	0.22	0.31
		0.22	833	0%	833	0.220	3.61	0.79
		0.44	1666	0%	1666	0.440	4.31	1.90
		0.9	3407	0%	3407	0.900	3.08	2.77
				0%				
		0.57	2175	0%	2175	0.575	0.29	0.17
		0.0118	44.7	0%	45	0.012	7.64	0.09
		0.0047	17.9	0%	18	0.005	7.64	0.04
		0.0024	9.2	0%	9	0.002	7.64	0.02
		0.62	2359	0%	2359	0.623	0.20	0.12

[1] Conservative estimated values, which are further buffered by a conservative percentage to estimate the worst case volume of coating per car

[2] Based on worst case VOC lb/gal from the SDS sheets used in the permit application

[3] VOC (lb/gal) * Buffered Values (gal/car)

Max Rate (units/hour)[3]

Description	[redacted]
E-coat Oven	
Sealer Oven	
3-wet process booth	
Prime and Clearcoat oven	

lb VOC/car in the booths and oven[4]

Ovens and Booths	lb VOC/car
Sealer Oven	0.29
TC Oven	1.68
TC Booth	3.93
E-coat Oven	0.31

[3] [redacted]

[4] Primer, Basecoat, Clear coat and Thinner VOCs are estimated to be split as 70% released in the TC booth and 30% in the TC oven

TRADE SECRET/CONFIDENTIAL INFORMATION

		VOC Content	Density	TAC Weight Percent						TAC Percent of VOC					
				67-63-0	1330-20-7	100-41-4	50-00-0	91-20-3	107-98-2	67-63-0	1330-20-7	100-41-4	50-00-0	91-20-3	107-98-2
Coating/Sealer	Coating Name	lb/gal	lb/gal	Isopropyl alcohol	Xylene	Ethylbenzene	Formaldehyde	Naphthalene	1-Methoxy-2-propanol	Isopropyl alcohol	Xylene	Ethylbenzene	Formaldehyde	Naphthalene	1-Methoxy-2-propanol
[redacted]															

BAAQMD Calculations

Abbreviation	*Description*	*Units*
c	concentration in booth	(kg/kg)
q	amount of VOC added to booth	(kg/hr)
n	volume changes per hour	
V	booth volume	m^3
t	time	hour
c_1	booth concentration at start	kg/kg
c_2	incoming air concentration	kg/kg

Equation Used in Calculations:

$c = (q/nV)(1-e^{-nt}) + (c_1 - c_2)e^{-nt} + c_2$

$c = c_1 + (q/nV)(1-e^{-nt}) + c_2(1-e^{-nt})$

$c = c_1 + (q/nV) - (q/nV)(e^{-nt}) + c_2(1-e^{-nt})$

$c = c_1 + (q/nV) - (q/nV)(e^{-nt}) + c_2 - (c_2)(e^{-nt})$

Asymptote = q/AR

Inputs

Select Source:	3-Wet Process Booth
Air Recycle Rate:	80%

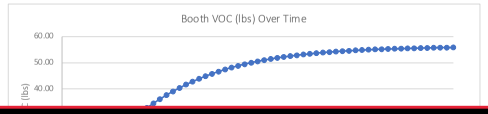
q = (# cars/hour) x (VOC kg/car)

$c_1(i+1)$ = (air recycle rate x (exhaust rate) x c(i)

$c_2(0) = 0$

n = (Air Recycle %)*(# Air Exchanges per Hour)

tabluate between what he is calculation vs Tesla calc
177 ppm to lbs of VOC per event



[redacted]

BAAQMD Calculations

Source	Volume of Booth/oven (ft^3)	Exhaust Air flow rate (ft^3/hr)	Max Rate of the Plant (Jobs or car units/hour)	Worst case VOC per car (lb VOC/car) *
E-coat oven	35,254	597,886	[redacted]	0.47
Sealer oven	19,025	563,543		0.36
3-Wet Process Booth	178,651	4,934,141		4.91
Primer and Clearcoat oven	32,830	478,827		2.10

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Application Cover Form – "P-101B form"

All fields are required unless otherwise noted. Please type or print.
No information provided on this form can be marked trade secret.

Send to:
BAAQMD
Engineering Division
375 Beale St., Suite 600
San Francisco, CA 94105
Email: perrmits@baaqmd.gov
Phone: (415) 749-4990

1. Facility and Project Information

➢ If this facility does not have a current BAAQMD permit or active permit application (new facility), fill out the **Facility Creation and Contacts Form** part of this form.

Facility Name	Facility ID (except new facilities)
Tesla, Inc.	20459

Application Title/ Project or Equipment Description
Amendment to PC 27161

Equipment/Project Location in relation to facility location (e.g., NW corner of facility OR 338 Washington Dr.) (Optional)

2. Application Contact

First Name	Last Name
Hunaid	Shakoor

Business Name of Contact (If different from facility)	Contact Title
	Environmental Engineer

Address Line 1	Address Line 2 (Optional)
45500 Fremont Boulevard	

City	State	Zip Code
Fremont	CA	94538

E-mail Address
hshakoor@tesla.com

Primary Phone (xxx-xxx-xxxx)	Alternate Phone (Optional)	Fax Number (Optional)
408-329-2463		

3. Proximity to a School (K-12)

Is the equipment/project located within 1,000 ft of the outer boundary of the nearest school? ☐ Yes ☒ No

4. Additional Information: *The following additional information is required to complete all permit applications and should be included with your submittal. Failure to provide this information may delay the review of your application.*

☒ A facility map with street address or location and the property boundary, drawn roughly to scale, that locates the equipment and its emission points, completed data form(s), and a pollutant flow diagram for each piece of equipment. (See www.baaqmd.gov/forms/permits)
☒ Equipment/project description, manufacturer's data
☒ Discussion and/or calculations of air pollutant emissions from the equipment

5. Small Business Certification (optional): *If the facility identified in Part 1 qualifies as a small business as defined in Regulation 3, certify by checking **both** boxes that your business meets all the following criteria. You may qualify for an application fee reduction.*

☐ The business does not employ more than 10 persons and its gross annual income does not exceed $750,000.
☐ And the business is not an affiliate of a non-small business. (Note: a non-small business employs more than 10 persons and/or its gross income exceeds $750,000.)

6. Green Business Certification (optional): *If the facility identified in Part 1 has been certified as a Green Business by the Association of Bay Area Governments and implemented by participating counties, check the box & include your documentation. You may qualify for an application fee reduction.*

☐ Green Business certificate included

An electronic version of this form and instructions can be found at www.baaqmd.gov.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

Application Cover Form – "P-101B form"

All fields are required unless otherwise noted. Please type or print.
No information provided on this form can be marked trade secret.

Send to:
BAAQMD
Engineering Division
375 Beale St., Suite 600
San Francisco, CA 94105
Email: perrmits@baaqmd.gov
Phone: (415) 749-4990

7. Accelerated Permitting (optional): *The Accelerated Permitting Program entitles you to install and operate qualifying sources of air pollution and abatement equipment **while your permit application is being processed**. To qualify for this program, you must certify that your project will meet all of the following criteria. Please acknowledge each item by checking each box.*

- [X] Uncontrolled emissions of any single pollutant are each less than 10 lb/highest day, or the equipment has been pre-certified by the BAAQMD.
- [X] Emissions of toxic compounds do not exceed the trigger levels identified in Table 2-5-1 (see Regulation 2, Rule 5).
- [X] The source is not a diesel engine
- [X] The project is not subject to public notice requirements (the source is either more than 1000 ft. from the nearest school, or the source does not emit any toxic compound in Table 2-5-1 of BAAQMD Regulation 2, Rule 5).
- [X] For replacement of abatement equipment, the new equipment must have an equal or greater overall abatement efficiency for all pollutants than the equipment being replaced.
- [X] For alterations of existing sources, the requested change does not result in an increase in emissions for all pollutants.
- [X] Payment of all applicable permit application fees (the minimum permit fee to install and operate each source). See Regulation 3 or contact the Engineering Division for help in determining your fees.

8. ***CEQA*** *Please answer the following questions pertaining to CEQA (California Environmental Quality Act).*

A. Has another public agency prepared, required preparation of, or issued a notice regarding preparation of a California Environmental Quality Act (CEQA) document (initial study, negative declaration, environmental impact report, or other CEQA document) that analyzes impacts of this project or another project of which it is a part or to which it is related? If no, go to section 8B. Describe the document or notice, preparer, and date of document or expected date of completion:

No

B. List and describe any other permits or agency approvals required for this project by city, regional, state or federal agencies

None

C. List and describe all other prior or current projects for which either of the following statements is true: (1) the project that is the subject of this application could not be undertaken without the project listed below, (2) the project listed below could not be undertaken without the project that is the subject of this application:

None

9. Trade Secret Information: *Under the California Public Records Act, all information in your permit application will be considered a matter of public record and may be disclosed to the public, unless you have asked BAAQMD to treat certain items as trade secret as specified in Regulation 2, Rule 1, Section 402.7.*

Does this application contain Trade Secret information? [ ] Yes [X] No

- [ ] Each page containing trade secret information must be labeled "trade secret" with the trade secret information **clearly marked** and you must provide a "public copy" with the information **redacted**.
- [ ] For each item asserted to be trade secret, you must provide a statement which provides the basis for your claim.

10. Certification/Signature

I hereby certify that I am authorized to complete this form for the facility and that all information contained herein is true and correct.
I acknowledge that all documentation in this application submittal is a matter of public record unless otherwise indicated per Section 9 of this form.

Name	Title	
Hunaid Shakoor	Environmental Engineer	
Signature	Date (mm/dd/yy)	Phone (xxx-xxx-xxxx)
HShakoor	4/15/2022	408-329-2463

An electronic version of this form and instructions can be found at www.baaqmd.gov.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
BAAQMD
Engineering Division
375 Beale St., Suite 600
San Francisco, CA 94105

Instructions: Application Cover Form – "P-101B" and "Facility Creation Form and Contacts"

Introduction

Use the following instructions to guide you through the ***Application Cover Form – P-101B and Facility Creation and Contacts Form*** and in assembling an application packet.

Minimum Requirements

Failure to submit the minimum forms in the format specified will result in the return of all submitted material.

The minimum submittal requirements to create an application with BAAQMD are:

1. Application Cover Form: P-101B
2. Facility Creation Form (For first time permittees only) and Facility Contacts Form (For first time permittees, but can be used to update contacts for existing facilities with permits – See Next Sections)
3. Cover letter on company letterhead describing the project
4. At least one (1) Data Form or a Permit Condition Change Request form
5. If the application contains Trade Secret information, submit the documents specified under Trade Secret section of this form.

Electronic submittals (preferred):

- Attachments must be PDF files only.
- Email plus attachments is limited to under 35 MB in size.

Paper submissions:

- No staples
- Two (2) copies of all data forms must be provided
- Paper size limited to 11"x17" size

Other Forms

Forms you may want to include in your application:

- HRA Form – Health Risk Assessments
- Form APPENDIX H- CEQA Information
- Permit Condition Change Request Form
- **Data Forms**- Source Information (if applicable)
  - Form A- Abatement Device
  - Form C- General Combustion Device
  - Form G- General Source
  - Form ICE: Internal Combustion Engines
  - Form S: Coating & Solvent Sources
  - Form T: Tank Devices
  - Form P: Emission Point
  - Boiler Registration form

Trade Secret information

If your application has extensive areas marked Trade Secret, this may delay the acceptance of your application.

To claim information as Trade Secret, please provide the following:

1. Rationale for each Trade Secret claim per the Government Code 6254.7
2. A "Trade Secret" Copy identifying the item
3. A "Public Copy" containing the redactions of the trade secret information

Where to Send?

Email your application materials to permits@baaqmd.gov or mail to:

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Engineering Division
375 Beale St., Suite 600
San Francisco, CA 94105

Still need help?

Call the Engineering Division at (415) 749-4990 or email permits@baaqmd.gov

We create chemistry

Safety Data Sheet

[redacted]

1. Identification

Product identifier used on the label

[redacted]

Recommended use of the chemical and restriction on use

Recommended use*: for industrial use only

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

---

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

Aquatic Acute	3	Hazardous to the aquatic environment - acute

Label elements

Hazard Statement:
H402 Harmful to aquatic life.

Precautionary Statements (Prevention):
P273 Avoid release to the environment.

[redacted]

Precautionary Statements (Disposal):

P501	Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified

No applicable information available.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Weight %	Chemical name
[redacted]		

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air. If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:
If symptoms persist, seek medical advice. Wash thoroughly with soap and water.

If in eyes:
Flush with copious amounts of water for at least 15 minutes. Hold eyelids open to facilitate rinsing. If irritation develops, seek medical attention. Seek medical attention.

If swallowed:
Immediate medical attention required. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting. Rinse mouth and then drink plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

[redacted]

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
carbon dioxide, foam, dry powder, water spray

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Vapors and/or decomposition products are irritant and/or toxic. If product is heated above decomposition temperature acrid smoke and fumes will be released.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Notify proper authorities. Do not flood burning material with water due to potential spreading of fire. Flash fire may occur. Run-off water from fire may cause pollution. Contain contaminated water/firefighting water. Remove product from areas of fire, or otherwise cool sealed containers with water in order to avoid pressure build up due to heat. Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Avoid prolonged inhalation. Wear suitable personal protective clothing and equipment. Ensure adequate ventilation.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities.

Methods and material for containment and cleaning up

Dike spillage. Spills should be contained, solidified, and placed in suitable containers for disposal. Place into appropriately labeled waste containers.

7. Handling and Storage

Precautions for safe handling

Handle and open container with care. WARNING: Empty containers may still contain hazardous residue. Do not puncture, drop, or slide containers. Ensure adequate ventilation. Avoid contact with the skin, eyes and clothing.

Proper ventilation and respiratory protection is required when sanding, flame cutting, welding or brazing coated surfaces. Do not apply to hot surfaces.

[redacted]

Protection against fire and explosion:
Risk of explosion if heated under confinement. Sealed containers should be protected against heat as this results in pressure build-up.

Conditions for safe storage, including any incompatibilities
Segregate from strong bases. Segregate from oxidizing agents. Segregate from incompatible substances. Segregate from strong acids.

Suitable materials for containers: Carbon steel (Iron), tinned carbon steel (Tinplate)

Further information on storage conditions: Keep container tightly closed. Store protected against freezing. Protect from direct sunlight.

Storage stability:
Consult local fire marshal for storage requirements.

8. Exposure Controls/Personal Protection

[redacted]

Advice on system design:
General mechanical ventilation should comply with OSHA 1910.94.
Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:
Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. Wear a NIOSH-certified (or equivalent) organic vapour respirator. Particulate filters should be added during spray operations. Wear respiratory protection if ventilation is inadequate.

[redacted]

Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:
Use appropriate chemically resistant gloves as determined by an evaluation of glove performance characteristics and the hazards and potential hazards identified, including but not limited to butyl, natural and synthetic rubber, nitrile, or neoprene.

Eye protection:
Wear face shield if splashing hazard exists. Tightly fitting safety goggles (chemical goggles).

Body protection:
Body protection must be chosen based on level of activity and exposure.

General safety and hygiene measures:
Work place should be equipped with a shower and an eye wash. Remove contaminated clothing. Remove contaminated clothing immediately and clean before re-use or dispose it if necessary. Contact lenses should not be worn. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

[redacted]

[redacted]

10. Stability and Reactivity

Reactivity
No applicable information available.

Chemical stability
The product is chemically stable.

Possibility of hazardous reactions
No applicable information available.

Conditions to avoid

Incompatible materials
strong oxidizing agents, strong bases, strong acids

Hazardous decomposition products

Decomposition products:
carbon dioxide, carbon monoxide

Thermal decomposition:
No applicable information available.

---

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: Aspiration may result in chemical pneumonitis, which may be fatal. Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.
No applicable information available.

Assessment other acute effects
No applicable information available.

Irritation / corrosion
Assessment of irritating effects: No applicable information available.
Ingestion may cause irritation of the gastrointestinal tract.

Sensitization
Assessment of sensitization: No applicable information available.

Aspiration Hazard
No applicable information available.

Chronic Toxicity/Effects

Repeated dose toxicity

[redacted]

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

[redacted]

Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

[redacted]

Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

[redacted]

Reproductive toxicity

[redacted]

Assessment of reproduction toxicity: No applicable information available.

Teratogenicity
Assessment of teratogenicity: No applicable information available.

Symptoms of Exposure

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

12. Ecological Information

No applicable information available.

13. Disposal considerations

Waste disposal of substance:
Do not incinerate closed containers. The use and processing of this product, or addition of other constituents, may cause it to be considered a hazardous waste. Do not discharge into drains/surface waters/groundwater.
Incinerate or dispose of in a RCRA-licensed facility. Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

Container disposal:
Do not reuse containers without commercial reconditioning.
Dispose of in accordance with national, state and local regulations.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical	TSCA, US	released / listed

[redacted]

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

State regulations

[redacted]

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

WARNING: This product can expose you to chemicals including [redacted] (AIRBORNE, UNBOUND PARTICLES OF RESPIRABLE SIZE), which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

NFPA Hazard codes:
Health: 1 Fire: 1 Reactivity: 0 Special:

HMIS III rating
Health: 1¤ Flammability: 1 Physical hazard: 0

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2018/10/08

Full Disclosure:

[redacted]

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE , IT IS

Safety Data Sheet

[redacted]

PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY OUR COMPANY HEREUNDER ARE GIVEN GRATIS AND WE ASSUME NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.
END OF DATA SHEET

We create chemistry

Safety Data Sheet

[redacted]

1. Identification

Product identifier used on the label

[redacted]

Recommended use*: Paints, Coatings and Related Materials; for industrial use only
Unsuitable for use: Not intended for sale to or use by the general public.

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

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2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

No need for classification according to GHS criteria for this product.

Label elements

The product does not require a hazard warning label in accordance with GHS criteria.

[redacted]

Hazards not otherwise classified

No applicable information available.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

[redacted]

4. First-Aid Measures

Description of first aid measures

General advice:
First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Remove contaminated clothing.

If inhaled:
Keep patient calm, remove to fresh air. If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:
If symptoms persist, seek medical advice. Wash thoroughly with soap and water

If in eyes:
Flush with copious amounts of water for at least 15 minutes. Hold eyelids open to facilitate rinsing. If irritation develops, seek medical attention. Seek medical attention.

If swallowed:
Immediate medical attention required. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Do not induce vomiting. Rinse mouth and then drink 200-300 ml of water.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Information on: 1-butoxypropan-2-ol
Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps
---

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:	Treat according to symptoms (decontamination, vital functions), no known specific antidote.

[redacted]

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
carbon dioxide, foam, dry powder, water spray

Unsuitable extinguishing media for safety reasons:
water jet

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
Vapors and/or decomposition products are irritant and/or toxic. If product is heated above decomposition temperature acrid smoke and fumes will be released.

Advice for fire-fighters

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Notify proper authorities. Do not flood burning material with water due to potential spreading of fire. Flash fire may occur. Run-off water from fire may cause pollution. Contain contaminated water/firefighting water. Remove product from areas of fire, or otherwise cool sealed containers with water in order to avoid pressure build up due to heat. Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Avoid prolonged inhalation. Wear suitable personal protective clothing and equipment. Ensure adequate ventilation.

Environmental precautions

Do not discharge into drains/surface waters/groundwater.

A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities.

Methods and material for containment and cleaning up

Dike spillage. Shovel into open container.

7. Handling and Storage

Precautions for safe handling

Handle and open container with care. WARNING: Empty containers may still contain hazardous residue. Do not puncture, drop, or slide containers. Ensure adequate ventilation. Avoid contact with the skin, eyes and clothing.

Proper ventilation and respiratory protection is required when sanding, flame cutting, welding or brazing coated surfaces. Do not apply to hot surfaces.

[redacted]

Protection against fire and explosion:
Risk of explosion if heated under confinement. Sealed containers should be protected against heat as this results in pressure build-up.

Conditions for safe storage, including any incompatibilities

Segregate from strong bases. Segregate from oxidizing agents. Segregate from incompatible substances. Segregate from strong acids.

Suitable materials for containers: Carbon steel (Iron), tinned carbon steel (Tinplate)

Further information on storage conditions: Keep container tightly closed. Store protected against freezing. Protect from direct sunlight.

Storage stability:
Storage temperature: 25 - 50 °C
Consult local fire marshal for storage requirements.
Slow non-hazardous polymerization possible when at or exceeding maximum temperatures.
Protect from temperatures above: 50 °C

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

2-butoxyethanol	OSHA PEL	PEL 50 ppm 240 mg/m3 ; Skin Designation ; The substance can be absorbed through the skin. SKIN_FINAL ; The substance can be absorbed through the skin. TWA value 25 ppm 120 mg/m3 ;
	ACGIH TLV	TWA value 20 ppm ;

Advice on system design:
Provide local exhaust ventilation to maintain recommended P.E.L.
General mechanical ventilation should comply with OSHA 1910.94.

Personal protective equipment

Respiratory protection:
Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. Respiratory protection may not be required under normal operating conditions if adequate ventilation is provided. Wear a NIOSH-certified (or equivalent) organic vapour respirator. Particulate filters should be added during spray operations. Wear respiratory protection if ventilation is inadequate.

Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:
Use appropriate chemically impervious gloves as determined by an evaluation of glove performance characteristics and the hazards and potential hazards identified, including but not limited to butyl, natural and synthetic rubber, nitrile, or neoprene.

Eye protection:
Wear face shield if splashing hazard exists. Tightly fitting safety goggles (chemical goggles).

Body protection:
Body protection must be chosen based on level of activity and exposure.

[redacted]

General safety and hygiene measures:
Work place should be equipped with a shower and an eye wash. Employee education and training in the safe use and handling of isocyanates is required under the OSHA Communication Standard. Remove contaminated clothing. Remove contaminated clothing immediately and clean before re-use or dispose it if necessary. Contact lenses should not be worn. Hands and/or face should be washed before breaks and at the end of the shift.

9. Physical and Chemical Properties

[redacted]

10. Stability and Reactivity

Reactivity
No applicable information available.

Chemical stability
The product is chemically stable.

Possibility of hazardous reactions
No applicable information available.

Conditions to avoid

[redacted]

Incompatible materials
strong oxidizing agents, strong bases, strong acids

Hazardous decomposition products

Decomposition products:
nitrogen oxides, carbon dioxide, carbon monoxide, hydrogen cyanide

Thermal decomposition:
No applicable information available.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity
Assessment of acute toxicity: No applicable information available.

Information on: 1-butoxypropan-2-ol
Assessment of acute toxicity:Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact. The inhalation of a highly enriched/saturated vapor-air-mixture represents an unlikely acute hazard.

Assessment other acute effects
No applicable information available.

Irritation / corrosion
Assessment of irritating effects: No applicable information available.

Information on: 1-butoxypropan-2-ol
Assessment of irritating effects: Eye contact causes irritation. Skin contact causes slight irritation. The European Union (EU) has classified the substance as "irritating" to skin.

Sensitization
Assessment of sensitization: No applicable information available.

Aspiration Hazard
No applicable information available.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No applicable information available.

Genetic toxicity
Assessment of mutagenicity: No applicable information available.

Carcinogenicity
Assessment of carcinogenicity: No applicable information available.

[redacted]

Reproductive toxicity
Assessment of reproduction toxicity: No applicable information available.

Teratogenicity
Assessment of teratogenicity: No applicable information available.

Medical conditions aggravated by overexposure
Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended. The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing.

12. Ecological Information

No applicable information available.

13. Disposal considerations

Waste disposal of substance:
Do not incinerate closed containers. The use and processing of this product, or addition of other constituents, may cause it to be considered a hazardous waste. Do not discharge into drains/surface waters/groundwater.
Incinerate or dispose of in a RCRA-licensed facility. Dispose of in accordance with national, state and local regulations. It is the waste generator's responsibility to determine if a particular waste is hazardous under RCRA.

Container disposal:
Do not reuse containers without commercial reconditioning.
Dispose of in accordance with national, state and local regulations.

14. Transport Information

Land transport
USDOT

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

[redacted]

Federal Regulations

Registration status:
Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

State regulations

State RTK	CAS Number	Chemical name
NJ	111-76-2	2-butoxyethanol

Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:

WARNING: This product can expose you to chemicals including METHANOL, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

NFPA Hazard codes:
Health: 1 Fire: 1 Reactivity: 0 Special:

HMIS III rating
Health: 1 Flammability: 1 Physical hazard: 0

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2020/10/22

Full Disclosure:

CAS Number	Content	Chemical name
[redacted]		

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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[redacted]

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END OF DATA SHEET

Environmental Data Sheet
(Certified Product Data Sheet)

Product Code: [redacted]
Product Name:

Date: 02/12/2021
Time: 08:35:31

Product Physical Characteristics (based on formula)

	weight%	volume%
Total Solids	[redacted]	
Total Volatile		
Water		
Exempt Volatile		
VOC		
Volatile HAP		
Solid HAP		
Formaldehyde		

Gallon Weight [redacted]
Solvent Density

VOC Information

	lb/gal	g/ltr
VOC per gallon with water (VOC as packaged)	[redacted]	
VOC per gallon less water, less exempt (VOC less exempt)		
VOC per gallon of solids		
VOC per pound of solids		
VOC TBAc* per gallon with water (VOC as packaged)		
VOC TBAc* per gallon less water, less exempt (VOC less exempt)		

*TBAc is not universally recognized as an exempt solvent. Users should consult the applicable regulation for their region.

HAPs Information

	lb/gal	g/ltr
LBs volatile HAPs / gallon of paint supplied	[redacted]	
LBs of volatile HAPs / lb of solids / gallon as supplied		
LBs of volatile HAPs / gallon of solids / gallon as supplied		
LBs solid HAPs / gallon of paint supplied		
LBs solid HAPs / lb of solids / gallon as supplied		
LBs solid HAPs / gallon of solids / gallon as supplied		

	I	II	III	IV
Product is photochemically reactive as per SCAQMD rule 102	0.000	35.502	0.000	35.502

Solvents:

Component Name	CAS Number	Weight %	Vol %	SARA 313	HAP	Carc
[redacted]				X		
				X		

Environmental Data Sheet

(Certified Product Data Sheet)

Product Code: [redacted]
Product Name:

Date: 02/12/2021
Time: 08:35:31

[redacted]	X	X	X

Hazardous Solids:

Component Name	CAS Number	Weight %	Vol %	SARA 313	HAP	Carc
[redacted]						X

Environmental Data Sheet
(Certified Product Data Sheet)

Product Code: [redacted]
Product Name:

Date: 02/12/2021
Time: 08:35:32

Product Physical Characteristics (based on formula)

	weight%	volume%
Total Solids	[redacted]	
Total Volatile		
Water		
Exempt Volatile		
VOC		
Volatile HAP		
Solid HAP		
Formaldehyde		

Gallon Weight [redacted]
Solvent Density

VOC Information

	lb/gal	g/ltr
VOC per gallon with water (VOC as packaged)	[redacted]	
VOC per gallon less water, less exempt (VOC less exempt)		
VOC per gallon of solids		
VOC per pound of solids		
VOC TBAc* per gallon with water (VOC as packaged)		
VOC TBAc* per gallon less water, less exempt (VOC less exempt)		

*TBAc is not universally recognized as an exempt solvent. Users should consult the applicable regulation for their region.

HAPs Information

	lb/gal	g/ltr
LBs volatile HAPs / gallon of paint supplied	[redacted]	
LBs of volatile HAPs / lb of solids / gallon as supplied		
LBs of volatile HAPs / gallon of solids / gallon as supplied		
LBs solid HAPs / gallon of paint supplied		
LBs solid HAPs / lb of solids / gallon as supplied		
LBs solid HAPs / gallon of solids / gallon as supplied		

	I	II	III	IV
Product is photochemically reactive as per SCAQMD rule 102	0.000	39.922	0.085	40.007

Solvents:

Component Name	CAS Number	Weight %	Vol %	SARA 313	HAP	Carc
[redacted]						
				X		
				X		

Environmental Data Sheet
(Certified Product Data Sheet)

Product Code: [redacted]
Product Name:

Date: 02/12/2021
Time: 08:35:32

[redacted]	X	X	X

Hazardous Solids:

Component Name	CAS Number	Weight %	Vol %	SARA 313	HAP	Carc
[redacted]				X		
						X
				X		
						X

[redacted]

Environmental Data Sheet
(Certified Product Data Sheet)

Product Code: [redacted]
Product Name:

Date: 02/12/2021
Time: 08:35:32

Product Physical Characteristics (based on formula)

	weight%	volume%
Total Solids	[redacted]	
Total Volatile		
Water		
Exempt Volatile		
VOC		
Volatile HAP		
Solid HAP		
Formaldehyde		

Gallon Weight [redacted]
Solvent Density

VOC Information

	lb/gal	g/ltr
VOC per gallon with water (VOC as packaged)	[redacted]	
VOC per gallon less water, less exempt (VOC less exempt)		
VOC per gallon of solids		
VOC per pound of solids		
VOC TBAc* per gallon with water (VOC as packaged)		
VOC TBAc* per gallon less water, less exempt (VOC less exempt)		

*TBAc is not universally recognized as an exempt solvent. Users should consult the applicable regulation for their region.

HAPs Information

	lb/gal	g/ltr
LBs volatile HAPs / gallon of paint supplied	[redacted]	
LBs of volatile HAPs / lb of solids / gallon as supplied		
LBs of volatile HAPs / gallon of solids / gallon as supplied		
LBs solid HAPs / gallon of paint supplied		
LBs solid HAPs / lb of solids / gallon as supplied		
LBs solid HAPs / gallon of solids / gallon as supplied		

	I	II	III	IV
Product is photochemically reactive as per SCAQMD rule 102	0.000	33.340	0.213	33.553

Solvents:

Component Name	CAS Number	Weight %	Vol %	SARA 313	HAP	Carc
[redacted]				X		
				X		

Environmental Data Sheet

(Certified Product Data Sheet)

Product Code: [redacted]
Product Name:

Date: 02/12/2021
Time: 08:35:32

[redacted]	X	X	X

Hazardous Solids:

Component Name	CAS Number	Weight %	Vol %	SARA 313	HAP	Carc

nexeo solutions

Safety Data Sheet

[redacted]

Version 1.4 Revision Date: 03/17/2017

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : [redacted]
CAS Name :

Recommended use of the chemical and restrictions on use

Recommended use : Solvent.

Manufacturer or supplier's details

Company : Nexeo Solutions, LLC.
Address 3 Waterway Square Place Suite 1000
The Woodlands, TX. 77380
United States of America

Emergency telephone number:
Health North America: 1-855-NEXEO4U (1-855-639-3648)
Health International: 1-855-NEXEO4U (1-855-639-3648)
Transport North America: CHEMTREC (1-800-424-9300)

Additional Information: : Responsible Party: Product Safety Group
E-Mail: msds@nexeosolutions.com
SDS Requests: 1-855-429-2661
SDS Requests Fax: 1-281-500-2370
Website: www.nexeosolutions.com

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Reproductive toxicity : Category 1B

Specific target organ toxicity - single exposure : Category 3 (Central nervous system)

GHS Label element

Hazard pictograms :

Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.
H336 May cause drowsiness or dizziness.
H360 May damage fertility or the unborn child.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces.

No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

CAS-No.	Chemical Name	Weight %
[redacted]		

Any Concentration shown as a range is due to batch variation.

Molecular formula [redacted]

Synonyms

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

Do not leave the victim unattended.

If inhaled	:	Consult a physician after significant exposure. If unconscious place in recovery position and seek medical advice.
In case of skin contact	:	If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital. Do not induce vomiting without medical advice.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid exposure - obtain special instructions before use. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	No smoking. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

CAS-No.	Components	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
[redacted]		TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH

		ST	150 ppm 540 mg/m3	NIOSH REL
		TWA	100 ppm 360 mg/m3	NIOSH REL
		TWA	100 ppm 360 mg/m3	OSHA P0
		STEL	150 ppm 540 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

In the case of vapour formation use a respirator with an approved filter.

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Colour

Odour

Odour Threshold

pH

Freezing Point (Melting point/freezing point)

Boiling Point (Boiling point/boiling range)	:	[redacted]
Flash point	:	
Evaporation rate	:	
Flammability (solid, gas)	:	
Upper explosion limit	:	
Lower explosion limit	:	
Vapour pressure	:	
Relative vapour density	:	
Relative density	:	
Density	:	
Solubility(ies) Water solubility	:	
Solubility in other solvents	:	
Partition coefficient: n-octanol/water	:	
Auto-ignition temperature	:	
Thermal decomposition	:	
Viscosity Viscosity, dynamic	:	
Viscosity, kinematic	:	
Surface tension	:	

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac-	:	Vapours may form explosive mixture with air.

tions

Conditions to avoid	:	Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Strong acids Strong bases Strong oxidizing agents

SECTION 11. TOXICOLOGICAL INFORMATION

Skin corrosion/irritation

Components:
1589-47-5:
Species: Rabbit
Result: Irritating to skin.

Serious eye damage/eye irritation

Components:
1589-47-5:
Species: Rabbit
Result: Risk of serious damage to eyes.

Germ cell mutagenicity

Components:
1589-47-5:

Germ cell mutagenicity - Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Carcinogenicity

Components:
1589-47-5:

Carcinogenicity - Assessment	:	Carcinogenicity classification not possible from current data.

IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen

by NTP.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

Components:

1589-47-5:

Effects on foetal development : Species: Rabbit
Application Route: Inhalation
Dose: 0, 145, 225, 350, and 545 ppm
Duration of Single Treatment: 13 d
Frequency of Treatment: 6 hr/day
Developmental Toxicity: LOAEC: 225 ppm
Symptoms: Skeletal and visceral variations, Malformations were observed.

Teratogenicity - Assessment : Clear evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

Components:

107-98-2:
Target Organs: Central nervous system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

1589-47-5:
Target Organs: Respiratory system
Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

Further information

Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause narcotic effects.
Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

Components:

1589-47-5:

Stability in soil : Remarks: Not expected to adsorb on soil.

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation):
UN3092, 1-Methoxy-2-propanol, 3, III

IATA (International Air Transport Association):
UN3092, 1-Methoxy-2-propanol, 3, III

IMDG (International Maritime Dangerous Goods):
UN3092, 1-METHOXY-2-PROPANOL, 3, III, Flash Point:31 °C(88 °F)

SECTION 15. REGULATORY INFORMATION

WHMIS Classification : B2: Flammable liquid
D2A: Very Toxic Material Causing Other Toxic Effects

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Fire Hazard Chronic (Delayed) Health Hazard Immediate (Acute) Health Hazard
SARA 302	:	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

107-98-2	Glycol ether PM	90 - 100 %

Pennsylvania Right To Know

107-98-2	Glycol ether PM	90 - 100 %

New Jersey Right To Know

107-98-2	Glycol ether PM	90 - 100 %

California Prop 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

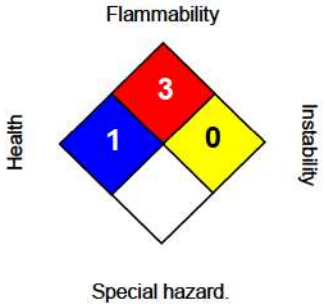
The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory

DSL	:	All components of this product are on the Canadian DSL
AICS	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PHIL	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory

SECTION16. OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	1
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 =Extreme, * = Chronic

Revision Date : 03/17/2017

Material number:
16113778, 16077217, 87694, 16056614, 16062114, 554355, 578758, 599254, 696556, 731693, 103768, 109768, 71632, 88013, 119450, 54933, 54600, 547219, 546940, 88316, 774103, 734535, 73178, 727244, 726703, 725915, 699240, 622973, 606388, 56313, 55558, 504591, 39833, 20183, 20182, 20181, 16030248, 108417, 108224, 103764

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals

EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50		Lethal Concentration 50%	

Revision Number: 002.0

Issue date: 09/20/2021

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: [redacted]
Product type/use: adhesive and sealant
Restriction of Use: None identified
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: [redacted]

Region: United States
Contact information:
Telephone: +1 (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
DANGER:	MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION. MAY CAUSE CANCER.

HAZARD CLASS	HAZARD CATEGORY
EYE IRRITATION	2A
SKIN SENSITIZATION	1
CARCINOGENICITY	1A

PICTOGRAM(S)

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust or fumes. Wash affected area thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, clothing, eye and face protection.

Response: IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical attention. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. Wash contaminated clothing before reuse.

Storage: Store locked up.

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
[redacted]		10 - 30
		10 - 30
		5 - 10
		1 - 5

[redacted]		0.1 - 1
		0.1 - 1

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

Skin contact: Immediately wash skin thoroughly with soap and water. Obtain medical attention if irritation persists.

Eye contact: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Ingestion: Get immediate medical attention. Do not induce vomiting.

Symptoms: See Section 11.

Notes to physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear full protective clothing. Wear self-contained breathing apparatus.

Unusual fire or explosion hazards: None identified.

Hazardous combustion products: Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Thermal decomposition products of polyvinyl chloride (PVC) may include vinyl chloride, hydrogen chloride, phosgene, ethylene, benzene, toluene, 1,3,5-trichlorobenzene, and naphthalene.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Wear suitable protective clothing, gloves and eye/face protection. Do not allow product to enter sewer or waterways. Remove all sources of ignition.

Clean-up methods: Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of according to Federal, State and local governmental regulations.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid breathing fumes if this product is used at high temperatures. Provide adequate ventilation. Do not take internally. For industrial use only.

Storage: For safe storage, store between 10 °C (50°F) and 30 °C (86°F)
Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Keep away from heat and direct sunlight.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

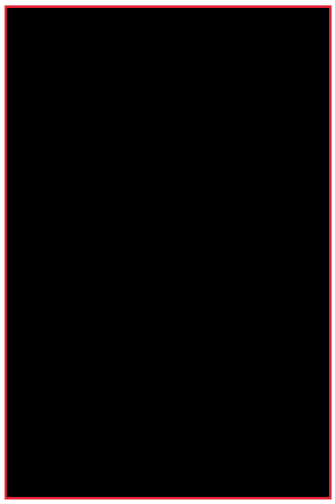
Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
[redacted]	10 mg/m3 TWA Inhalable particles. 3 mg/m3 TWA Respirable particles. 10 mg/m3 TWA Total dust.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust. 5 mg/m3 TWA Respirable fraction. 50 MPPCF TWA Total dust. 15 mg/m3 TWA Total dust. 15 MPPCF TWA Respirable fraction.	None	None
[redacted]	10 mg/m3 TWA Total dust. 3 mg/m3 TWA Respirable particles. 10 mg/m3 TWA Inhalable particles.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust. 5 mg/m3 PEL Respirable fraction. 15 mg/m3 TWA Total dust. 50 MPPCF TWA Total dust. 15 MPPCF TWA Respirable fraction. 5 mg/m3 TWA Respirable fraction.	None	None
[redacted]	1 mg/m3 TWA Respirable fraction.	0.5 ppm OSHA_ACT (as vinyl chloride monomer) 5 ppm STEL (as vinyl chloride monomer) 1 ppm TWA (as vinyl chloride monomer) (as vinyl chloride monomer) 15 mg/m3 PEL Total dust. 5 mg/m3 PEL Respirable fraction. 15 mg/m3 TWA Total dust. 5 mg/m3 TWA Respirable fraction. 50 MPPCF TWA Total dust. 15 MPPCF TWA Respirable fraction.	None	None
[redacted]	None	None	None	196 ppm TWA
[redacted]	None	None	None	None
[redacted]	0.025 mg/m3 TWA Respirable fraction.	0.05 mg/m3 TWA (Respirable dust.) (Respirable dust.) 0.025 mg/m3 OSHA_ACT (Respirable dust.) 0.05 mg/m3 PEL Respirable dust. 2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable.	None	None

Engineering controls: Ventilation should effectively remove and prevent buildup of any vapor/mist/fume/dust generated from the handling of this product.

Respiratory protection:	When dusts or thermal processing fumes are generated and ventilation is not sufficient to effectively remove them, appropriate NIOSH/MSHA approved respiratory protection must be provided.
Eye/face protection:	Wear safety glasses; chemical goggles (if splashing is possible).
Skin protection:	Chemical resistant, impermeable gloves. Gloves should be tested to determine suitability for prolonged contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Color:
Odor:
Odor threshold:
pH:
Vapor pressure:
Boiling point/range:
Melting point/ range:
Specific gravity:
Vapor density:
Flash point:
Flammable/Explosive limits - lower:
Flammable/Explosive limits - upper:
Autoignition temperature:
Flammability:
Evaporation rate:
Solubility in water:
Partition coefficient (n-octanol/water):
VOC content:
Viscosity:
Decomposition temperature:



10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Irritating and/or toxic fumes and gases may be emitted upon the product's decomposition. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Heat and processing may result in the release of low levels of vinyl chloride.
Incompatible materials:	Reaction with strong acids. This product may react with strong oxidizing agents.
Reactivity:	Not available.
Conditions to avoid:	Heat, flames, sparks and other sources of ignition.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation: Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact: This product may cause irritation to the skin. May cause skin sensitization.
Eye contact: This product may cause irritation to the eyes. Rubbing may cause abrasion of cornea. Vapors may also produce eye irritation.
Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
[redacted]	None	Nuisance dust
	Oral LD50 (Rat) = 6,450 mg/kg Oral LD50 (Mouse) = 6,450 mg/kg Inhalation LC50 (Rat, 4 h) = > 3 mg/l	Nuisance dust
	None	Respiratory
	Inhalation LC50 (Rat, 4 h) = > 8,530 mg/m3 Inhalation LC50 (Rat, 4 h) = > 5.36 mg/l	Irritant
	None	Allergen, Irritant
	None	Immune system, Lung, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
[redacted]	No	No	No
	No	No	No
	No	No	Yes
	No	No	No
	No	No	No
	Known To Be Human Carcinogen.	Group 1	Yes

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed as active or are exempt from listing on the Toxic Substances Control Act (TSCA) inventory.
TSCA 12 (b) Export Notification:	None above reporting de minimis
CERCLA/SARA Section 302 EHS:	None above reporting de minimis.
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health
CERCLA/SARA Section 313:	None above reporting de minimis.
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: 2 & 3

Prepared by: Regulatory Affairs

Issue date: 09/20/2021

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CONFIDENTIAL – TESLA TRADESECRET

TESLA-BAAQMD31706-000060 to
TESLA-BAAQMD31706-00069

ATTACHMENT 4

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

May 16, 2023

VIA ELECTRONIC MAIL

Tesla, Inc.
45500 Fremont Blvd
Fremont, CA 94538
rmccafferty@tesla.com

Attention: Rob McCafferty

Application Number: 31706
Plant Number: 20459
Equipment Location:
Same as above

Subject: **Denial of South Paint Shop Body Line Application 31706**

Dear Applicant:

This letter is to notify you that your application for a change in Permit Condition 27161 has been denied.

Tesla, Inc. (Tesla) submitted an application to the Bay Area Air Quality Management District (Air District) on April 25, 2022, asking the Air District to remove the requirement in Tesla's existing permit to abate precursor and non-precursor organic compound emissions from sources in Tesla's South Paint Shop Body Line at all times of operation. Specifically, Tesla requested that the Air District allow emissions to bypass associated thermal oxidizers during unplanned shutdowns or outages at any South Paint Shop source or abatement device.

After review of Application 31706 in accordance with applicable Air District regulations, the Air District has determined that Application 31706, as submitted, would violate federal law and will not meet Air District Best Available Control Technology requirements set forth in Air District Regulation 2-2-301 and Best Available Control Technology for Toxics in Air District Regulation 2-5-301.

The denial is required by Regulations 2-1-304, 2-2-301, and 2-5-301, shown below.

2-1-304 Denial, Failure to Comply With Applicable Requirements: The APCO shall deny an authority to construct or permit to operate if the APCO finds that the subject of the application would not or does not comply with any emission limitations or other regulations of the District (including but not limited to the BACT and offsets requirements in Regulations 2-2-301 through 2-2-303), or with applicable permit conditions or federal or California laws or regulations, or if any required fees have not been paid. Such denial shall not be based solely on the type of construction or design of equipment.

2-2-301 Best Available Control Technology Requirement: An authority to construct and/or permit to operate for a new or modified source shall require BACT to control emissions of District BACT pollutants under the following conditions:

301.2 Modified Source: An authority to construct and/or permit to operate for a modified source shall require BACT to control emissions of each District BACT pollutant for which the source is "modified" as defined in Section 2-1-234 for which:

2.1 the source, after the modification, will have the potential to emit that pollutant in an amount of 10.0 or more pounds on any day as defined in Regulation 2-1-217; and

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

2.2 the modification will result in an increase in emissions of that pollutant above baseline levels calculated pursuant to Section 2-2-604.

2-5-301 Best Available Control Technology for Toxics (TBACT) Requirement: The applicant shall apply TBACT to any new or modified source of TACs where the source risk is a cancer risk greater than 1.0 in one million (10^{-6} or 1.0E-6), and/or a chronic hazard index greater than 0.20.

The definitions of District BACT pollutant and Toxic Air Contaminant are presented for reference:

2-2-210 District BACT Pollutant: Precursor organic compounds (POC), non-precursor organic compounds (NPOC), oxides of nitrogen (NO_X), sulfur dioxide (SO_2), PM_{10}, $PM_{2.5}$, and carbon monoxide (CO).

2-5-222 Toxic Air Contaminant, or TAC: An air pollutant that may cause or contribute to an increase in mortality or in serious illness or that may pose a present or potential hazard to human health. For the purposes of this rule, TACs consist of the substances listed in Table 2-5-1 Toxic Air Contaminant Trigger Levels.

Accordingly, the Air District must, and hereby does, deny Application 31706, pursuant to Air District Regulation 2-1-304.

Tesla must continue to meet its permit obligations under its existing approved Permit to Operate for the South Paint Shop Body Line including Permit Condition 27161, Part 15.

You have the right to appeal this decision in accordance with Regulation 2, Rule 1, Section 410. If you wish to appeal, you must submit a written request to the Air District's Hearing Board within 30 days of receipt of this letter. If you have any questions regarding the appeal procedure, you may contact Marcy Hiratzka, Clerk of the Boards, at (415) 749-5073.

A copy of the engineering evaluation report containing the basis for this decision is attached. If you have any questions, please contact **Alfonso Borja, Supervising Air Quality Engineer,** at **aborja@baaqmd.gov**.

Regards,

Dr. Philip Fine
Air Pollution Control Officer

Enclosure

Cc (via electronic mail only):

Shannon Broome
Partner/Office Managing Partner San Francisco
Hunton Andrews Kurth LLP
SBroome@hunton.com

Josh Gubkin
Managing Counsel—EHS&S
Tesla
jgubkin@tesla.com

Alexandra Kamel
Assistant Counsel II
Bay Area Air Quality Management District
akamel@baaqmd.gov

CONFIDENTIAL – TESLA TRADESECRET

TESLA-BAAQMD31706-000073 to
TESLA-BAAQMD31706-000133

ATTACHMENT 5

May 10, 2022

Tesla Motors, Inc.
45500 Fremont Blvd.
Fremont, CA 94539

Attention: **Hari Bharadwaj**

Application Number: **31706**
Plant Number: **20459**
Equipment Location:
Same As Above

Dear Applicant:

Your application for a change of permit condition for the following equipment:
S-1002: E-Coat Oven;
S-1007: Sealer Oven;
S-4036: Primer Booth
S-4037: Basecoat Booth
S-4038: Clearcoat Booth
has been assigned above application number and is currently incomplete.

Tesla proposed to add the following Part 15 b to Permit Condition 27161, Part 15:
"b. In the event of an unplanned shutdown of the South Paint Sources (S-1001, S-1002, S-1005, S-1007, S-4033, S-4034, S-4035, S-4036, S-4037, S-4038, S-4039, S-4040, S-4041, and S-4042) or Abatement devices (A-30192, A-1007, A-30180, A-30181, A-30182, and A-30183), the owner/operator shall calculate emissions from such events and include these emissions for the purposes of determining compliance with Part 2. For the purposes of determining compliance with the twelve-month emission limits of Part 2, an unplanned shutdown or outage will not result in immediate violation of Part 2 or Part 15a, when the owner/operator would have otherwise complied, had the unplanned shutdown not occurred."

The Permit Condition 27161, Part 28 through 34 is for Continuous Emission Monitoring (CEM) that will give continuous emission readings during each bypass event, then why do we need to calculate the emissions for each bypass event again, please explain.

Please submit the above items within 30 days. Your submittal will be acted upon within 15 working days of receipt of the above items. Construction or operation of equipment without an Authority to Construct or Permit to Operate will result in appropriate enforcement action.

Please include your application number with any correspondence with the Air District. If you have any further questions, please call Madhav Patil at (415) 749-4674, (fax 415-749-5030).

Very sincerely yours,

Madhav Patil
Air Quality Permit Engineer

From: Hari Bharadwaj
Sent: Monday, July 18, 2022 5:40 PM
To: Madhav Patil
Subject: RE: Application 31706
Attachments: Draft South Paint Shop bypass parametric emissions monitoring conditions.msg; RE: Tesla (AN 30204) - South Paint Body Line and bypass calcs; RE: Draft South Paint Shop bypass parametric emissions monitoring conditions; RE: Tesla (AN 30204) bypass calcs

Hello Madhav,

We discussed this incomplete letter (CEMS vs calculations) on the phone on the very same day; but I realized that you might need a formal response for your records as well

As discussed, Permit condition 27161, Part 28 through 34 has been extensively discussed with BAAQMD.
Tesla and BAAQMD have agreed on a calculation methodology for estimating emissions from bypass events and using CPMS; and removing CEMS conditions from the permit (i.e. moving to PEMS)
This was discussed extensively in 2020; with Tesla providing a final set of comments over to the District on 9/3/2020 and submitting a proposed calculation methodology.
On 08/03/2021; BAAQMD (Mr. Nick Maiden) provided Tesla with a slightly revised approach in estimating emissions from emergency bypass events; to which Tesla was in agreement with and provided comments via a response letter dated 11/27/2021.
This was formalized into draft permit conditions by BAAQMD (Mr. Nick Maiden) on 6/14/2022;
Tesla then submitted a couple of corrections to these draft conditions on 6/25/2022.
I am attaching all the recent communication on this issue; so that you have a copy of it as well for your records.
Let me know if you need any additional clarification.

Thanks,
Hari

Staff Environmental Engineer – California Manufacturing, EHS
45500 Fremont Boulevard, Fremont, CA 94538
E.Hbharadwaj@tesla.com T. 513.379.6218

From: Madhav Patil <MPatil@baaqmd.gov>
Sent: Tuesday, May 10, 2022 2:51 PM
To: Hari Bharadwaj <hbharadwaj@tesla.com>
Subject: Application 31706

Hi Hari,
I reviewed application 31706 for a change of permit condition for the South Paint Shop bypass events. Attached is an incomplete letter. Please reply with the requested information. I will send you invoice tomorrow.

Thanks,
Madhav

CONFIDENTIAL – TESLA TRADESECRET

TESLA-BAAQMD31706-000136 to
TESLA-BAAQMD31706-000155

ATTACHMENT 6

From: Nicholas Maiden <nmaiden@baaqmd.gov>
Sent: Tuesday, June 14, 2022 11:46 PM
To: Hari Bharadwaj
Cc: Subbarao Nagulapaty; Alfonso Borja; Madhav Patil
Subject: Draft South Paint Shop bypass parametric emissions monitoring conditions
Attachments: Tesla SPS PEM permit conditions_Draft.docx

Hari,

Attached for your review is draft condition language pertaining to the South Paint Shop bypass stack parametric emissions monitoring system.

Once this language is finalized, we can incorporate with the rest of the SPS conditions as well as use for the other applications where bypass stacks are present.

Regards,

Nicholas C. Maiden, P.E.
Manager
Bay Area Air Quality Management District | **Engineering Division** | **Engines, Material Handling, and Permitting Section**
375 Beale Street | Suite 600 | San Francisco, CA 94105
Office: 415.749.4718 | Fax: 415.749.4992

27) The owner/operator shall implement and operate an Air District-approved parametric emission monitoring system (as defined in Regulation 1) to estimate all emissions from each bypass stack on a per minute basis. [Basis: Cumulative Increase]

28) When determining compliance with the emission limits of this condition, the owner/operator shall include all emissions from all bypass stacks with emissions from the South Paint Shop Sources (S-57, S-58, S-59, S-65, S-4029, S-4064, S-4065, S-4066, A-30170, A-30171, A-30175, A-30175, and A-30176). [Basis: Cumulative Increase]

29) The owner/operator shall calculate emissions from all bypass stacks using the equations below:

Bypass Stack Emissions = Applied Coating Emissions + Booth / Oven Emissions [Eqn 1]

where:
- Applied Coating Emissions = emissions released from coating on vehicle(s), (see Eqn 2)
- Booth / Oven Emissions = emissions released from booth/oven air volume, (see Eqn 3)

Applied Coating Emissions = (# vehicles in booth/oven) x (VOC/vehicle) [Eqn 2]

where:
- # vehicles in booth / oven = # of vehicles in booth / oven during bypass event
- VOC / vehicle = amount of VOC applied per vehicle (lbs/vehicle)

Booth / Oven Emissions = ($C_{1,i}$) x (V) [Eqn 3]

where:
- $C_{1,i}$ = booth / oven concentration at minute i, (lbs/cubic foot), (see Eqn 4)
- V = booth / oven volume (cubic feet)

Booth / Oven Concentration ($C_{1,i}$) = (q_i/n_iV) x (1-e^(-nt)) + ($C_{1,i-1} – C_{2,i}$) x (e^(-nt)) + $C_{2,i}$ [Eqn 4]

where:
- $C_{1,i}$ = booth / oven concentration at minute i, (lbs/cubic foot)
- q_i = amount of VOC added to the booth / oven at minute I, (lbs)
  = vehicle rate (# vehicles/hour) at minute i x applied VOC / vehicle (lbs/vehicle)
- n_i = volume changes (changes per hour) at minute i
  = Air Recycle Rate (%) x Air Exchange Rate (# air exchanges per hour)
  = Air Recycle Rate (%) x Exhaust Rate (cubic feet/hour) / Volume (cubic feet)
- V = booth / oven volume (cubic feet)
- t = time (minute)
- $C_{1,i-1}$ = existing VOC concentration at minute i-1, (lbs/cubic foot)
- $C_{2,i}$ = VOC concentration of incoming air, (lbs/cubic foot), (see Eqn 5)

Incoming Air Concentration ($C_{2,i}$) = (AR_i) x (ER/60)/V x ($C_{1,i-1}$) [Eqn 5]

where:
- $C_{2,i}$ = incoming air concentration at minute i, (lbs/cubic foot)
- AR_i = air recycle rate into booth / oven (%) at minute i
  = booth / oven volume (V) / exhaust rate (cubic feet/hour)

ER = booth / oven exhaust rate (cubic feet/hour)
= (% of max exhaust rate) x (maximum exhaust rate)
60 = minutes / hour
V = booth / oven volume (cubic feet)
$C_{1,i-1}$ = booth / oven VOC concentration at minute i-1, (lbs/cubic foot)
[Basis: Cumulative Increase]

30) For determining toxic air contaminant (as defined in Regulation 2, Rule 5) emissions from each bypass stack, the owner/operator shall use emission estimates calculated per Part 29 with the maximum content of individual toxic air contaminants within each material applied to vehicles within a booth or oven whose emissions were routed to a bypass stack. The owner/operator shall use Air District-approved methods and assumptions for estimating toxic air contaminant emissions.
[Basis: Regulation 2, Rule 5]

31) Within an Air District-approved format, the owner/operator shall record the following:
a. The number of vehicles within each booth and oven on a minute basis,
b. The number of vehicles being coated per hour on a minute basis,
c. The types, product names, and amount (gallons) of coatings applied to each vehicle,
d. The maximum VOC content (lbs VOC/gallon of coating) of each applied coating,
e. The individual toxic air contaminant (TAC) content (lbs TAC/gallon of coating) of each applied coating,
f. Maximum volume (cubic feet) of all booths and ovens,
g. The air recycle rate (percent) of all booths and ovens on an hourly basis,
h. The exhaust air rate (cubic feet per minute) for all booths and ovens on a minute basis,
i. The maximum exhaust rate (cubic feet per minute) of all booths and ovens,
j. Emissions estimates calculated per Part 27, Part 28, and Part 30.
The owner/operator shall maintain all records for a period of at least five years and shall make available to the APCO on request.
[Basis: Cumulative Increase, Toxics]

32) The owner/operator shall report any periods of inoperation of the parametric emissions monitoring system required in Part 27 that are greater than 24 continuous hours by the following working day, followed by notification of resumption of monitoring to the Air District Compliance and Enforcement Division.
[Basis: Section 1-523]

33) The owner/operator shall report any exceedance of an emission limit, as determined by the parametric monitoring system required in Part 27, within 96 hours after each occurrence. The report shall include the nature, extent, and cause of the exceedance.
[Basis: Section 1-523]

34) Within 30 days of a bypass event, the owner/operator shall provide to the Air District Compliance and Enforcement Division, emission estimates per Part 27, Part 28, and Part 30 for each bypass event. For any emitted TAC that has an acute threshold within Table 2-5-1 of Regulation 2, Rule 5; the owner/operator shall include hourly emission estimates for each hour that emissions were emitted at a bypass stack. The report shall include the nature, extent, and cause of each event and whether emissions exceeded an emission limit. If more than one event occurs within a 30-day period, the owner/operator may consolidate emission estimates within a single report provided emission estimates for each event are identified.
[Basis: Cumulative Increase, Regulation 2, Rule 5]

ATTACHMENT 7

CONFIDENTIAL – TESLA TRADESECRET

TESLA-BAAQMD31706-000159 to
TESLA-BAAQMD31706-000164

ATTACHMENT 8

Tesla's proposed permit condition language was based on existing permit conditions issued by BAAQMD. Specifically, the language for the proposed condition 15a was based on the following permit:

Martinez Refining Company LLC
Plant No. A0011
Condition #12271
71. In the event that the OPCEN Sulfur Plant 4 (SRU4) (S4180), SCOT No. 4 (A4180), and/or SCOT Tailgas Thermal Oxidizer for Sulfur Plant 4 (A4181) is shut down, all acid gas feed to the SRU4 shall be completely curtailed or reallocated to other sulfur recovery systems so that no acid gases are vented to the flare, nor any unabated SRU4 tailgas (tailgas not treated in SCOT No. 4) is routed to the Thermal Oxidizer for Sulfur Plant 4 (A4181). This shall be completed within the following timeframes:
a. Prior to any planned shutdown of OPCEN Sulfur Plant 4 (SRU4) (S4180), SCOT No. 4 (A4180), or Thermal Oxidizer for Sulfur Plant 4 (A4181);

b. Within 24 hours of any unplanned shutdown of OPCEN Sulfur Plant 4 (SRU4) (S4180), SCOT No. 4 (A4180), or Thermal Oxidizer for Sulfur Plant 4 (A4181) and the District shall be notified of all such occurrences within 48 hours. [basis: BACT, offsets].

The owner/operator shall calculate excess emissions resulting from any unplanned shutdown of SRU4, SCOT No. 4 or SCOT Tailgas Thermal Oxidizer. These excess emissions shall be included for the purposes of determining compliance with Condition A. If inclusion of these excess emissions causes the owner/operator to exceed the monthly trigger level in Condition A, Facility's Compliance Plan shall describe how the owner/operator will achieve the additional emission reductions necessary to maintain compliance with the consecutive twelve-month limit. These reductions will be provided to the extent necessary by one or more of the following:
c. Additional reductions in SO2 emissions from the CO Boilers (S1507, 1509, and/or 1512);

d. the use of banked emissions reduction credits; and

e. other means approved by the District.

For the purposes of determining compliance with the twelve-month emission limits of Condition A, an SRU4 outage will not result in immediate violation of Condition A, when the owner/operator would have otherwise complied, had the outage not occurred. If an SRU outage occurs, the District will only include the SRU excess emissions for calculating the twelve-month totals beginning five months prior to the month in which the outage occurred. Therefore, the owner/operator will have six months following an SRU4 outage to reduce emissions sufficiently to keep their twelve-month emission totals below the limit indicated in Condition A. [basis: offsets]

Other permit conditions with similar allowances for shutdown periods are included below:

Air Liquide Large Industries US LP

Plant No. B7419
Condition #23179
5. The following emission concentration limits from S2 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (120 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.
7a. The following hourly mass emission limits from S2 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (120 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.

Phillips 66 San Francisco Refinery

Plant No. A0022
Condition #1440
7. This part will apply after VOC emissions at S1007 must be reduced to provide offsets for Application 13424 per Condition 22970, Part B. The owner/operator shall ensure that S1007, DAF, is controlled by A49, DAF Thermal Oxidizer or A51, DAF Carbon Bed, at all times of operation of S1007, except for up to 175 hours per any consecutive 12-month period for startup, shutdown, or maintenance. [Offsets]

Corteva Agriscience

Plant No. A0031

Condition #11276

3. The Vapor Balance System for 1,3-dichloropropene (DCP) tank truck or railcar unloading (A-144) shall be properly maintained and operated and shall abate S-5 during any DCP unloading operation. (Basis: Cumulative Increase)
4. The Vapor Balance System for Dowanol PM tank truck loading (A-153) shall be properly maintained and operated and shall abate S-6 during any Dowanol PM loading operation. (Basis: Voluntary Limit)

Condition #14438

5. The A-192 Dowicil Solvent Recovery System shall be vented to the S-389 Thermal Oxidizer or the S-336 Thermal Oxidizer at least 89.0% of the total annual Dowicil Plant operating time. (Basis: BACT)
Condition #17985
3. The owner/operator shall ensure the Hydrochloric Acid Storage Tank T-122 (S576) is abated by the properly operating Acid Absorbers (A-87 and A-85) and the Caustic Scrubber (A-199), in series, at all times when S-576 is operating. (Basis: BAAQMD Regulation 6-1-310 and BAAQMD Regulation 7-300/BAAQMD Regulation 2-1-403)

Condition #19356

9. The limits specified in conditions 3 and 4 shall not apply during startup periods not exceeding 3 hours and shutdown periods not exceeding 2 hours for source S-1011. [Basis: Regulation 2-1-403]

10. "Startup" shall mean that period of time commencing with the introduction of fuel to the boiler, and ending when the boiler has achieved compliance with two consecutive data CEMS points for the emission limits contained in Conditions 3 and 4, not to exceed 3 hours. [Basis: Regulation 2-1-403]
11. "Shutdown" shall mean that period of time during which the boiler in question

Air Liquide Large Industries US LP

Plant No. B7419
Condition #23179
5. The following emission concentration limits from S2 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (120 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.

7a. The following hourly mass emission limits from S2 shall not be exceeded. These limits shall not apply during startup periods not exceeding 24 hours (120 hours when drying refractory or during the first startup following catalyst replacement) and shutdown periods not exceeding 24 hours. The District may approve other startup and shutdown durations.

AB&I Foundry

Plant No. A0062
Condition #9351
1. The owner/operator of S-1 Cupola shall operate the A-20 and A-22 Afterburners such that the 15-minute average combustion zone temperature does not fall below 1300 degrees F. Periods when the cupola is off blast and for 15 minutes after going on blast from an off blast condition are not included in the 15-minute average. (basis: 40 CFR 63.7690 (b)(3))
2. To demonstrate compliance with part 1, the owner/operator of S-1 shall install, operate, and maintain a continuous temperature monitor and recorder to measure and record the combustion zone temperature of A-20 and A-22. (basis: Regulation 1-521)

ATTACHMENT 9

45500 Fremont BLVD., Fremont CA 94578
P 650 681 5100 F 650 681 5101

April 29th, 2022

Via email to: compliance@baaqmd.gov

Mr. Jeff Gove
Director of Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: 10-day NOV Response

Subject: 10-day Response for NOV No. A61155
Deviation and RCA Number: Deviation #6876 and RCA #08G03-04
Facility Location: Fremont Factory, 45500 Fremont Boulevard, Fremont, CA 94538
Plant Number: 20459/E0459/A1438

Dear Mr. Gove,

On April 25th, 2022, Tesla, Inc. (Tesla) was issued Notice of Violation (NOV) No. A61155 in response to Tesla's 30-day Title V deviation and 30-day Reportable Compliance Activity (RCA) follow-up reports (Deviation #6876 and RCA #08G03-04.) for failure to meet Permit Condition #27161, Parts 15 & 19 per Regulation 2-6-307 for the events on March 8th 2022.

On March 8th, 2022, there was an unforeseen malfunction at the Prime and Clearcoat Oven Thermal Oxidizer (TO) of the 3 wet-system at the South Paint Shop. The Prime and Clearcoat Oven TO (A-30183) lost temperature during production which triggered an emergency shutdown. This malfunction resulted in the temperature of the TO (A-30183) to drop below the permitted temperature of 1400 °F. Estimates of total VOC emissions during these events are 0.00815 tons.

Brief Description and Cause of Event

On March 8th, 2022, A-30183 started to lose temperature. Following an investigation by the maintenance and controls team. The root cause of the issue was found to be a defective air flow switch. Records showed that the air flow switch had preventative maintenance performed on March 6th 2022.

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Corrective and Preventative Actions

As a corrective action, Tesla replaced the air flow switch with an on hand spare. Operations continued to monitor the TO and found no issues after the installation. Tesla would like to note this air flow switch is in Zone 4 of the oven and is not related to the air flow switch that was replaced in September 2021.

The official explanation provided to Tesla stated that the NOV was issued due to "excessively recurrent breakdown" of the same equipment. Tesla objects to the classification of this malfunction event under the "excessively recurrent breakdown" category as this seems entirely dependent on the discretion of the inspector, is not grounded in the real-world operation of industrial equipment nor a concrete definition of what is considered "excessive" or "recurrent".

The rationale behind classifying this event as "recurrent" stems from a previous breakdown of the same TO. However, Tesla maintains that treating a complicated system such as a TO as a single piece of "equipment" does not consider the real-world operation of a system with multiple complicated and moving parts. In addition, BAAQMD's guidelines[1] state that "multiple occurrences (more than 2) of the same event should generally be regarded as excessively recurrent." This event (as it relates to the Zone 4 air flow switch) has never occurred before and thus would not be regarded as excessively recurrent.

As such, there were no "excess emissions" resulting from the described event (These emissions were neither above permit limits, neither do they interfere with the attainment or maintenance of any CAAQS or NAAQS nor did they keep persisting beyond 24 hours with the breakdown of abatement equipment).

We respectfully request that the district rescind the NOV (# A61155) and grant breakdown relief for this malfunction event as requested in our submissions to the District. In addition, the events outlined above qualify for no enforcement action under BAAQMD Regulation 1, Rule 1-113 as detailed below.

- *If excessive emissions resulting from the breakdown of air pollution abatement equipment or operating equipment persist until the end of a production run or up to 24 hours, whichever is sooner, a violation of District regulations shall be deemed to have occurred*. – No excess emissions beyond permitted limits occurred during these events; none of these events persisted beyond 24 hours.

[1] https://www.baaqmd.gov/~/media/files/compliance-and-enforcement/policies-and-procedures/breakdown_guidelines.pdf

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- *However, the APCO may elect to take no enforcement action if the person responsible for the emissions shows that appropriate corrective measures have been taken and that emissions are either in compliance or that the equipment has been shut down either before the next production run or within 24 hours, whichever is sooner* – All appropriate corrective measures have been taken; the emissions are in compliance.

Tesla seeks to continue to work transparently and provide full cooperation with the BAAQMD on all items related to air permitting and compliance at the Fremont Factory.

All information contained in this report is the best available at the time of submittal and any new material information ascertained after the date of the letter will be communicated in a supplemental written communication to the BAAQMD. As such, Tesla reserves its right to amend or supplement this report.

If you have any questions or comments regarding this submittal, please contact Hunaid Shakoor at Hshakoor@tesla.com or (408) 329-2463.

Sincerely,

Rob Mccafferty

Director, Environmental, Health and Safety (Tesla)

Cc: Jimmy Dileo, Manager, Environmental Affairs (Tesla)

Subbarao Nagulapaty, Global Air Quality Program Manager (Tesla)

Hari Krishna Bharadwaj, Staff Environmental Engineer (Tesla)

Yesenia Villasenor, Associate General Counsel, EHS (Tesla)

Alyssa Espiritu, Sr. Air Quality Inspector (BAAQMD)

From: Hari Bharadwaj
Sent: Saturday, May 7, 2022 7:53 AM
To: Aleah Zapf
Cc: Jimmy Dileo; Hunaid Shakoor
Subject: RE: Tesla, Inc RCA 08G61/08G62

Hi Aleah,

Can I chat with you about this on Monday? I don't think this line of reasoning is quite right, even if you go by how the rules are written:

BREAKDOWN

A breakdown is any unforeseeable failure or malfunction of any air pollution control equipment or ope which causes a violation of any emission standard or limitation prescribed by Air District, California or f regulations, or laws, where such failure or malfunction:

- Is not the result of intent, neglect, or disregard of any air pollution control law, rule or regu
- Is not the result of improper maintenance;
- Does not constitute a nuisance;
- Is not an excessively recurrent breakdown of the same equipment.

Breakdowns are not limited to problems with the air pollution control equipment. A malfunction of **operating equipment** is a breakdown that can qualify for relief, which is exactly what happened here (The oven – is the operating equipment in question. The emissions are coming from the oven; that is the source we are requesting breakdown relief for)

Thanks,
Hari

Staff Environmental Engineer – California Manufacturing, EHS
45500 Fremont Boulevard, Fremont, CA 94538
E.Hbharadwaj@tesla.com T. 513.379.6218

From: Aleah Zapf <azapf@baaqmd.gov>
Sent: Thursday, May 5, 2022 8:22 AM
To: Hari Bharadwaj <hbharadwaj@tesla.com>
Subject: RE: Tesla, Inc RCA 08G61/08G62

Hi Hari,

That will need to be stipulated in your permit conditions which will state that one can shut down the oven during an (emergency) event.

The action taken by the operator by shutting down the oven is the error.

Thanks,

Dqdk#] dsi#
Dlu#Txddw|#qvshfwru#
Compliance & Enforcement Division
Bay Area Air Quality Management District
375 Beale Street, Ste 600, San Francisco, CA 94105
Work: (415) 749-4605; Mobile: (628) 221-9622
Email: azapf@baaqmd.gov

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

From: Hari Bharadwaj <hbharadwaj@tesla.com>
Sent: Monday, May 2, 2022 3:44 PM
To: Aleah Zapf <azapf@baaqmd.gov>; Jimmy Dileo <jdileo@tesla.com>
Cc: Hunaid Shakoor <hshakoor@tesla.com>; Subbarao Nagulapaty <snagulapaty@tesla.com>
Subject: RE: Tesla, Inc RCA 08G61/08G62

Hi Aleah,

One follow-up question; Without shutting down the oven to clear out the collided bodies (which is the root cause); what would be the alternative for Tesla to safely enter the oven and resolve this issue, which needed manual intervention?

The fact that this event was not a malfunction of the air pollution control equipment should ideally offer more credence to the argument that this was an unforeseen scenario, which resulted in a breakdown.

Is “operator error” so narrowly defined, without taking into account any safety considerations? Where is the “error” in this scenario?

Thanks,
--Hari

Staff Environmental Engineer – California Manufacturing, EHS
45500 Fremont Boulevard, Fremont, CA 94538
E.Hbharadwaj@tesla.com T. 513.379.6218

From: Aleah Zapf <azapf@baaqmd.gov>
Sent: Monday, May 2, 2022 2:44 PM
To: Jimmy Dileo <jdileo@tesla.com>
Cc: Hunaid Shakoor <hshakoor@tesla.com>; Hari Bharadwaj <hbharadwaj@tesla.com>; Subbarao Nagulapaty <snagulapaty@tesla.com>
Subject: Tesla, Inc RCA 08G61/08G62

Good Afternoon:

Per our discussion, the Air District has denied breakdown relief for RCA 08G61/08G62 because it was not a malfunction of air pollution control equipment. A deviation of condition 27161 part 15 and part 19 occurred due to an operator error who shut down the oven which caused the thermal oxidizer to shut down.

Please find attached Notice of Violation (NOV #A61604) for deviating permit condition 27161 part 15 and part 19. Please sign the NOV on the signature line and return it via email. The NOV can be signed using one of the following methods:

1. Use Acrobat Reader to electronically sign the PDF document:
   - Use Acrobat Reader Fill & Sign.
   - Send the signed PDF copy of the NOV back via email.

2. Manually sign the NOV:
   - Print the NOV attached to the email.
   - Sign on the signature line.
   - Scan the document.
   - Send the signed PDF copy of the NOV back to the inspector via email.

Within 10 days, return a copy of this notice with a written description of the immediate corrective action you have taken to prevent continued or recurrent violation. This violation is subject to substantial penalty. Your response does not preclude further legal action. Please email your 10-day response to compliance@baaqmd.gov and Cc me on this email.

Please let me know if you have any questions.

Sincerely,

Dchdk#] dsi#
Dlu#Txdcw|#Eqvshfwru#
Compliance & Enforcement Division
Bay Area Air Quality Management District
375 Beale Street, Ste 600, San Francisco, CA 94105
Work: (415) 749-4605; Mobile: (628) 221-9622
Email: azapf@baaqmd.gov

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

45500 Fremont BLVD., Fremont CA 94578
P 650 681 5100 **F** 650 681 5101

May 10th 2022

Via email to: compliance@baaqmd.gov

Mr. Jeff Gove
Director of Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: 10-day NOV Response

Subject: 10-day Response for NOV No. A61604
Deviation and RCA Number: RCA #08G61/08G62
Facility Location: Fremont Factory, 45500 Fremont Boulevard, Fremont, CA 94538
Plant Number: 20459/E0459/A1438

Dear Mr. Gove,

On May 2nd, 2022, Tesla, Inc. (Tesla) was issued Notice of Violation (NOV) No. A61604 in response to Tesla's 30-day Title V deviation and 30-day Reportable Compliance Activity (RCA) follow-up reports (RCA #08G61/08G62) for failure to meet Permit Condition #27161 part 15 and part 19.

On March 25th, 2022, there was an unforeseen malfunction which required a shutdown of the Prime and Clear Oven (S-4039) and the prime & Clearcoat Oven TO (A-30183) of the 3 wet-system at the South Paint Shop. This shutdown resulted in the temperature of the TO (A-30183) to drop below the permitted temperature of 1400 °F. Estimates of VOC emissions during this event are minimal (0.013 tons) and demonstrate that there were no excess emissions above permitted limits.

Corrective and Preventative Actions

Two vehicle bodies on the conveyor line collided on 3/25/2022. As a result, to safely enter the oven and clear the vehicle bodies, maintenance initiated an emergency shutdown of the oven and TO. The collision occurred due to a conveyor issue where a trailing vehicle had improper clearance. The root cause of the improper clearance between vehicles was due to the stopper. The stopper serves to slow down vehicles entering the oven and provide enough clearance between vehicles. The stopper tip had

eroded and thus was not able to successfully slow down the vehicle entering the oven resulting in improper clearance.

As a corrective action, a new stopper was installed internally on 3/25/22 and validated. Tesla has not had issues with the stopper since operations began in the South Paint Shop and the stopper does not have a provided life cycle or maintenance guide. As such there was nothing Tesla could have done to prevent this issue from occurring. As a preventative action Tesla has added visual checks of the stopper to the monthly preventative maintenance schedule.

There were no "excess emissions" resulting from the described event (These emissions were neither above permit limits, neither do they interfere with the attainment or maintenance of any CAAQS or NAAQS nor did they keep persisting beyond 24 hours with the breakdown of abatement equipment).

The district's reasoning for issuing an NOV was stated as follows:

> *"it was not a malfunction of air pollution control equipment. A deviation of condition 27161 part 15 and part 19 occurred due to an "operator error" who shut down the oven which caused the thermal oxidizer to shut down."*

However, per BAAQMD's guidance document[1]:

> *"A breakdown is any unforeseeable failure or malfunction of any air pollution control equipment or operating equipment which causes a violation of any emission standard or limitation prescribed by Air District, California or federal rules, regulations, or laws, where such failure or malfunction:*
>
> - *Is not the result of intent, neglect, or disregard of any air pollution control law, rule or regulation;*
> - *Is not the result of improper maintenance;*
> - *Does not constitute a nuisance;*
> - *Is not an excessively recurrent breakdown of the same equipment."*

In summary, breakdowns are not limited to problems with the air pollution control equipment. A malfunction of operating equipment is a breakdown that can qualify for relief. The event described is a result of a malfunction of the equipment that feeds the oven, the malfunction of the stopper was not

[1] BAAQMD Compliance & Enforcement Division Policies and Procedures -- Reportable Compliance Activity (RCA) Program (Effective 10/27/2021).

reasonably foreseeable, and was not the result of inadequate maintenance or improper operation. The stopper malfunction resulted in rendering the oven inoperable and the only remediation of the situation required shutting down the oven so maintenance personnel can safely enter the oven and clear out the collision. To reiterate, there was no other way to fix the issue without initiating a shutdown. There was no operator error as shutting down the oven was the only way to resolve the issue. Tesla strongly believes this incident meets the requirements of a breakdown report.

We respectfully request that the district rescind the NOV (# A61604) and grant breakdown relief for this malfunction event as requested in our submissions to the District.

In addition, the events outlined above qualify for no enforcement action under BAAQMD Regulation 1, Rule 1-113 as detailed below.

- *If excessive emissions resulting from the breakdown of air pollution abatement equipment or operating equipment persist until the end of a production run or up to 24 hours, whichever is sooner, a violation of District regulations shall be deemed to have occurred. – No excess emissions beyond permitted limits occurred during these events; none of these events persisted beyond 24 hours.*
- *However, the APCO may elect to take no enforcement action if the person responsible for the emissions shows that appropriate corrective measures have been taken and that emissions are either in compliance or that the equipment has been shut down either before the next production run or within 24 hours, whichever is sooner – All appropriate corrective measures have been taken; the emissions are in compliance.*

In addition, under the district's policy and procedure document[2] around denial of breakdown relief states:

"1. Denial - The Inspector will deny relief if any of the following conditions exist:

a. The breakdown is the result of intent, negligence, or disregard of air pollution control regulations.
b. The breakdown is the result of improper maintenance.
c. The breakdown creates a public nuisance.

[2] BAAQMD Compliance & Enforcement Division Policies and Procedures -- Reportable Compliance Activity (RCA) Program (Effective 10/27/2021).

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d. *The breakdown is caused by an excessively recurrent breakdown of the same equipment.*
e. *The breakdown occurs, and the emissions interfere with attainment or maintenance of any federal or California air quality standard.*
f. *The breakdown was reported late (not called in immediately), or the 30-Day Report was not received or received late."*

The event does not meet any of the following conditions as described in the deviation report. Tesla seeks to continue to work transparently and provide full cooperation with the BAAQMD on all items related to air permitting and compliance at the Fremont Factory.

All information contained in this report is the best available at the time of submittal and any new material information ascertained after the date of the letter will be communicated in a supplemental written communication to the BAAQMD. As such, Tesla reserves its right to amend or supplement this report.

If you have any questions or comments regarding this submittal, please contact Hunaid Shakoor at Hshakoor@tesla.com or (408) 329-2463.

Sincerely,

Rob Mccafferty

Director, Environmental, Health and Safety (Tesla)

Cc: Jimmy Dileo, Manager, Environmental Affairs (Tesla)

Subbarao Nagulapaty, Global Air Quality Program Manager (Tesla)

Hari Krishna Bharadwaj, Staff Environmental Engineer (Tesla)

Yesenia Villasenor, Associate General Counsel, EHS (Tesla)

Alyssa Espiritu, Sr. Air Quality Inspector (BAAQMD)

45500 Fremont BLVD., Fremont CA 94578
P 650 681 5100 F 650 681 5101

June 8th 2022

Via email to: compliance@baaqmd.gov

Mr. Jeff Gove
Director of Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: 10-day NOV Response

Subject: 10-day Response for NOV No. A61162
Deviation and RCA Number: RCA #08H52/08H53
Facility Location: Fremont Factory, 45500 Fremont Boulevard, Fremont, CA 94538
Plant Number: 20459/E0459/A1438

Dear Mr. Gove,

On June 1st, 2022, Tesla, Inc. (Tesla) was issued Notice of Violation (NOV) No. A61162 in response to Tesla's 30-day Title V deviation and 30-day Reportable Compliance Activity (RCA) follow-up reports (RCA #08GH52/08H53) for failure to meet Permit Condition #27161 Parts 15 & 19.

On May 11th, 2022, there was an unforeseen breakdown/malfunction event at the South Paint Shop that caused the A-30180, A-30181, and A-30182 to lose temperature (1400 °F) and the dampers to momentarily open. Estimates of VOC emissions during this event are minimal (0.02075 tons) and demonstrate that there were no excess emissions above permitted limits.

Corrective and Preventative Actions

The shutdown was triggered by a fire alarm being set off precipitated by a car door hitting the sprinkler system. There were two main (waterflow) alarms that were triggered with the unexpected event of the car door hitting the system. Upon the activation of the first alarm, the fire safety team performed the necessary emergency response activity to rectify the situation including draining the water and recharging the line. During the line recharge, an additional waterflow alarm of the booth system was triggered as designed since the sprinkler system is connected to the booth system. As a corrective action, Tesla has identified the need for a branch line and the fire safety team will investigate to modify

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the sprinkler line to disconnect the fire alarm with the booth system so that the booth does not get affected by any similar accident going forward.

Estimates of VOC emissions during these events are minimal (0.02075 tons cumulatively) and demonstrate that there were no excess emissions above permitted limits. These emissions were neither above permit limits, neither do they interfere with the attainment or maintenance of any CAAQS or NAAQS nor did they keep persisting beyond 24 hours with the breakdown of abatement equipment.

Per BAAQMD's guidance document[1]:

> *"A breakdown is any unforeseeable failure or malfunction of any air pollution control equipment or operating equipment which causes a violation of any emission standard or limitation prescribed by Air District, California or federal rules, regulations, or laws, where such failure or malfunction:*
>
> - *Is not the result of intent, neglect, or disregard of any air pollution control law, rule or regulation;*
> - *Is not the result of improper maintenance;*
> - *Does not constitute a nuisance;*
> - *Is not an excessively recurrent breakdown of the same equipment."*

Tesla strongly believes this incident meets the requirements of a breakdown report. We respectfully request that the district rescind the NOV (# A61162) and grant breakdown relief for this malfunction event as requested in our submissions to the District.

In addition, the events outlined above qualify for no enforcement action under BAAQMD Regulation 1, Rule 1-113 as detailed below.

- *If excessive emissions resulting from the breakdown of air pollution abatement equipment or operating equipment persist until the end of a production run or up to 24 hours, whichever is sooner, a violation of District regulations shall be deemed to have occurred. – No excess emissions beyond permitted limits occurred during these events; none of these events persisted beyond 24 hours.*

[1] BAAQMD Compliance & Enforcement Division Policies and Procedures -- Reportable Compliance Activity (RCA) Program (Effective 10/27/2021).

- *However, the APCO may elect to take no enforcement action if the person responsible for the emissions shows that appropriate corrective measures have been taken and that emissions are either in compliance or that the equipment has been shut down either before the next production run or within 24 hours, whichever is sooner – All appropriate corrective measures have been taken; the emissions are in compliance.*

In addition, under the district's policy and procedure document[2] around denial of breakdown relief states:

"1. Denial - The Inspector will deny relief if any of the following conditions exist:

a. The breakdown is the result of intent, negligence, or disregard of air pollution control regulations.
b. The breakdown is the result of improper maintenance.
c. The breakdown creates a public nuisance.
d. The breakdown is caused by an excessively recurrent breakdown of the same equipment.
e. The breakdown occurs, and the emissions interfere with attainment or maintenance of any federal or California air quality standard.
f. *The breakdown was reported late (not called in immediately), or the 30-Day Report was not received or received late."*

The event does not meet any of the following conditions as described in the deviation report. Tesla seeks to continue to work transparently and provide full cooperation with the BAAQMD on all items related to air permitting and compliance at the Fremont Factory.

All information contained in this report is the best available at the time of submittal and any new material information ascertained after the date of the letter will be communicated in a supplemental written communication to the BAAQMD. As such, Tesla reserves its right to amend or supplement this report.

If you have any questions or comments regarding this submittal, please contact Hunaid Shakoor at Hshakoor@tesla.com or (408) 329-2463.

[2] BAAQMD Compliance & Enforcement Division Policies and Procedures -- Reportable Compliance Activity (RCA) Program (Effective 10/27/2021).

45500 Fremont BLVD., Fremont CA 94578
P 650 681 5100 **F** 650 681 5101

Sincerely,

Rob Mccafferty

Director, Environmental, Health and Safety (Tesla)

Cc: Jimmy Dileo, Manager, Environmental Affairs (Tesla)

Subbarao Nagulapaty, Global Air Quality Program Manager (Tesla)

Hari Krishna Bharadwaj, Staff Environmental Engineer (Tesla)

Yesenia Villasenor, Associate General Counsel, EHS (Tesla)

Alyssa Espiritu, Sr. Air Quality Inspector (BAAQMD)

1. Can you clarify whether it was the car door hitting the pipes or the Fire Maintenance team recharging the line that created low pressure within the system and caused the fire alarm to go off?

Tesla Response:

Tesla would like to clarify that the fire alarm going off was precipitated by the car door hitting the sprinkler system. There were two main (waterflow) alarms that were triggered with unexpected event of the car door hitting the system. Upon the activation of the alarms, the fire safety team performed the necessary emergency response activity to rectify the situation, drain the water and recharge the line. During the recharge of the line, since the sprinkler systems are connected – an additional waterflow alarm for the booth system was also triggered (as designed).

2. If the latter, would it have been feasible to shut the fire signal off first to prevent the fire alarm from going off before the Fire Maintenance team tended to the issue/recharged the line?

Tesla Response:

At the time of this event, it was certainly not feasible nor anticipated to shut off the additional fire alarm affecting the booths.

3. Can you explain why the 3-wet booth system specifically was affected during this event (vs. other sources/TOs at the SPS)?

Tesla Response:

As denoted by the subsystem identifiers, multiple systems come off one riser. The Anti-chip area (Manual sealer area) sprinklers are connected to the 3 wet booth area.

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June 22nd 2022

Via email to: compliance@baaqmd.gov

Mr. Jeff Gove
Director of Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: 10-day NOV Response

Subject: 10-day Response for NOV No. A61164 (5/13/22 SPS RCA)
Deviation and RCA Number: RCA #08H64/08H65
Facility Location: Fremont Factory, 45500 Fremont Boulevard, Fremont, CA 94538
Plant Number: 20459/E0459/A1438

Dear Mr. Gove,

On June 16th, 2022, Tesla, Inc. (Tesla) was issued Notice of Violation (NOV) No. A61164 in response to Tesla's 30-day Title V deviation and 30-day Reportable Compliance Activity (RCA) follow-up reports (RCA #08H64/08H65, Dev #6980) for failure to meet Permit Condition #27161 Parts 15 & 19.

On May 13th, 2022, there was an unforeseen malfunction at the prime and Clear Coat (CC) oven TO (A-30183) of the 3 wet oven (S-4039) at the South Paint Shop. The TO (A-30183) lost temperature during production, which triggered an emergency shutdown. Estimates of VOC emissions during this event are 0.0187 tons and demonstrated that there were no excess emissions above permitted limits.

Corrective and Preventative Actions

The loss in temperature was caused by a power outage which caused all incinerator burners to fault resulting in a loss of production. Tesla is still currently investigating the root cause of the power outage. Initial review of the power system suggests that the fault was at the shop level as a panel supplying 120v to the shop lost power. However, more information is currently being gathered for further investigation into the actual root cause. Tesla will send an updated letter to BAAQMD upon completion of the investigation.

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Estimates of VOC emissions during these event are minimal (0.0187 tons cumulatively) and demonstrate that there were no excess emissions above permitted limits. These emissions were neither above permit limits, neither do they interfere with the attainment or maintenance of any CAAQS or NAAQS nor did they keep persisting beyond 24 hours with the breakdown of abatement equipment.

Per BAAQMD's guidance document[1]:

> *"A breakdown is any unforeseeable failure or malfunction of any air pollution control equipment or operating equipment which causes a violation of any emission standard or limitation prescribed by Air District, California or federal rules, regulations, or laws, where such failure or malfunction:*
>
> - *Is not the result of intent, neglect, or disregard of any air pollution control law, rule or regulation;*
> - *Is not the result of improper maintenance;*
> - *Does not constitute a nuisance;*
> - *Is not an excessively recurrent breakdown of the same equipment."*

Tesla strongly believes this incident meets the requirements of a breakdown report. Tesla would like to state that this deviation was not caused by faulty or improper operation of the booths, ovens, or abatement devices, rather it was due a momentary power related issue outside the confines of the paint shop's operating equipment. We respectfully request that the district rescind the NOV (# A61164) and grant breakdown relief for this malfunction event as requested in our submissions to the District.

In addition, the event outlined above qualify for no enforcement action under BAAQMD Regulation 1, Rule 1-113 as detailed below.

- *If excessive emissions resulting from the breakdown of air pollution abatement equipment or operating equipment persist until the end of a production run or up to 24 hours, whichever is sooner, a violation of District regulations shall be deemed to have occurred.* – No excess emissions beyond permitted limits occurred during this event; the event did not persist beyond 24 hours.
- *However, the APCO may elect to take no enforcement action if the person responsible for the emissions shows that appropriate corrective measures have been taken and that emissions are*

[1] BAAQMD Compliance & Enforcement Division Policies and Procedures -- Reportable Compliance Activity (RCA) Program (Effective 10/27/2021).

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either in compliance or that the equipment has been shut down either before the next production run or within 24 hours, whichever is sooner – All appropriate corrective measures have been taken; the emissions are in compliance.

Tesla seeks to continue to work transparently and provide full cooperation with the BAAQMD on all items related to air permitting and compliance at the Fremont Factory.

All information contained in this report is the best available at the time of submittal and any new material information ascertained after the date of the letter will be communicated in a supplemental written communication to the BAAQMD. As such, Tesla reserves its right to amend or supplement this report.

If you have any questions or comments regarding this submittal, please contact Hunaid Shakoor at Hshakoor@tesla.com or (408) 329-2463.

Sincerely,

Rob Mccafferty

Director, Environmental, Health and Safety (Tesla)

Cc: Jimmy Dileo, Manager, Environmental Affairs (Tesla)

Subbarao Nagulapaty, Global Air Quality Program Manager (Tesla)

Hari Krishna Bharadwaj, Staff Environmental Engineer (Tesla)

Yesenia Villasenor, Associate General Counsel, EHS (Tesla)

Alyssa Espiritu, Sr. Air Quality Inspector (BAAQMD)

From: Hunaid Shakoor
Sent: Wednesday, July 20, 2022 12:13 PM
To: Alyssa Espiritu
Cc: Jimmy Dileo; Hari Bharadwaj; Qianchao Mao
Subject: RE: 30 Day Title V Deviation and RCA Report - SPS Body line (5/13/2022)

Hi Alyssa,

Tesla's Plant Operations and Paint Shop team looked into the issue. The Plant Ops team checked electrical paneling as well as power/voltage data and could not find any abnormalities. They also could not replicate the issue. The team continued to monitor the system and has not seen anything indicating a systemic issue or a repeat event.

Thanks,
Hunaid Shakoor

Environmental Engineer, Air Quality | Environmental Health & Safety
45500 Fremont Blvd, Fremont CA 94538
E. hshakoor@tesla.com T. 408-329-2463

From: Alyssa Espiritu <aespiritu@baaqmd.gov>
Sent: Tuesday, July 19, 2022 11:01 AM
To: Hunaid Shakoor <hshakoor@tesla.com>
Cc: Jimmy Dileo <jdileo@tesla.com>; Hari Bharadwaj <hbharadwaj@tesla.com>; Qianchao Mao <qiamao@tesla.com>
Subject: RE: 30 Day Title V Deviation and RCA Report - SPS Body line (5/13/2022)

Hi Hunaid,

Does Tesla have any further information to provide for this event? Per 30-Day Deviation Report, "Tesla will send an updated letter to BAAQMD upon completion of the investigation."

Thanks,
Alyssa

From: Alyssa Espiritu
Sent: Thursday, June 30, 2022 1:42 PM
To: Hunaid Shakoor <hshakoor@tesla.com>
Cc: Jimmy Dileo <jdileo@tesla.com>; Hari Bharadwaj <hbharadwaj@tesla.com>; Qianchao Mao <qiamao@tesla.com>
Subject: RE: 30 Day Title V Deviation and RCA Report - SPS Body line (5/13/2022)

Hi Hunaid,

Do you know why it's taking so long to determine the root cause of the 5/13 power outage? What still needs to be done?

Thanks,
Alyssa

From: Hunaid Shakoor <hshakoor@tesla.com>
Sent: Friday, June 17, 2022 8:53 AM
To: Alyssa Espiritu <aespiritu@baaqmd.gov>
Cc: Jimmy Dileo <jdileo@tesla.com>; Hari Bharadwaj <hbharadwaj@tesla.com>; Qianchao Mao <qiamao@tesla.com>
Subject: RE: 30 Day Title V Deviation and RCA Report - SPS Body line (5/13/2022)

Hi Alyssa,

We don't have a timeline but I am working with facilities and the paint team to resolve the investigation. Once a root cause is identified Tesla will begin evaluating preventative actions.

Thanks,

Hunaid Shakoor

Environmental Engineer, Air Quality | Environmental Health & Safety
45500 Fremont Blvd, Fremont CA 94538
E. hshakoor@tesla.com T. 408-329-2463

From: Alyssa Espiritu <aespiritu@baaqmd.gov>
Sent: Thursday, June 16, 2022 5:02 PM
To: Hunaid Shakoor <hshakoor@tesla.com>
Cc: Jimmy Dileo <jdileo@tesla.com>; Hari Bharadwaj <hbharadwaj@tesla.com>; Qianchao Mao <qiamao@tesla.com>
Subject: RE: 30 Day Title V Deviation and RCA Report - SPS Body line (5/13/2022)

Hunaid, following up on this. Do you have any answers to the questions below?

Thanks,
Alyssa

From: Alyssa Espiritu
Sent: Friday, June 10, 2022 2:19 PM
To: Hunaid Shakoor <hshakoor@tesla.com>
Cc: Jimmy Dileo <jdileo@tesla.com>; Hari Bharadwaj <hbharadwaj@tesla.com>; Qianchao Mao <qiamao@tesla.com>
Subject: RE: 30 Day Title V Deviation and RCA Report - SPS Body line (5/13/2022)

Hunaid,

A couple questions regarding this RCA – what is the expected timeframe for completion of the investigation into the root cause? Have any corrective/preventative actions been taken by the facility in the meantime while the cause is being investigated?

Thanks,
Alyssa

From: Hunaid Shakoor <hshakoor@tesla.com>
Sent: Friday, June 10, 2022 12:16 PM
To: RCA Notification <rca@baaqmd.gov>; Alyssa Espiritu <aespiritu@baaqmd.gov>; Compliance <Compliance@baaqmd.gov>
Cc: Jimmy Dileo <jdileo@tesla.com>; Hari Bharadwaj <hbharadwaj@tesla.com>; Yesenia Villasenor <yvillasenor@tesla.com>; Yamini Narasimhan <ynarasimhan@tesla.com>; Qianchao Mao <qiamao@tesla.com>; Subbarao Nagulapaty <snagulapaty@tesla.com>
Subject: 30 Day Title V Deviation and RCA Report - SPS Body line (5/13/2022)

Good Afternoon,

Please find attached the 30 day Title V deviation report/30 day RCA follow-up report pursuant to the event reported below.

Thanks,

Hunaid Shakoor

Environmental Engineer, Air Quality | Environmental Health & Safety
45500 Fremont Blvd, Fremont CA 94538
E. hshakoor@tesla.com T. 408-329-2463

From: RCA Notification <rca@baaqmd.gov>
Sent: Monday, May 16, 2022 8:43 AM
To: Hari Bharadwaj <hbharadwaj@tesla.com>
Subject: RE: RCA Notification - SPS Body line (5/13/2022)

Breakdown 08H64
Excursion 08H65

From: Hari Bharadwaj <hbharadwaj@tesla.com>
Sent: Saturday, May 14, 2022 10:21 PM
To: RCA Notification <rca@baaqmd.gov>; Alyssa Espiritu <aespiritu@baaqmd.gov>
Cc: Kelsea Allenbaugh <kallenbaugh@tesla.com>; Jimmy Dileo <jdileo@tesla.com>; Hunaid Shakoor <hshakoor@tesla.com>; Qianchao Mao <qiamao@tesla.com>; Rob Mccafferty <rmccafferty@tesla.com>
Subject: RCA Notification - SPS Body line (5/13/2022)

Hello,

Attached is the RCA form for an unexpected breakdown/malfunction event at the SPS Body Line on 5/13/2022 (3-wet oven/TO).

Thanks,
Hari

Staff Environmental Engineer – California Manufacturing, EHS
45500 Fremont Boulevard, Fremont, CA 94538
E.Hbharadwaj@tesla.com T. 513.379.6218