

**CONSTRUCTION PERMIT
OFFICE OF AIR MANAGEMENT**

**Mattel, Inc.
3405 Meyer Road
Fort Wayne , Indiana 46803**

is hereby authorized to construct
the equipment listed in the Page 2 of this permit.

This permit is issued to the above mentioned company (herein known as the Permittee) under the provisions of 326 IAC 2-1 and 40 CFR 52.780, with conditions listed on the attached pages.

Construction Permit No.: CP-003-9769-00227	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

- (a) one (1) space heating unit, identified as HV 1, natural gas fired with a rated capacity of 1.2 MMBtu per hour, exhausting to atmosphere,
- (b) two (2) space heating units, identified as HV 2 & HV 3, natural gas fired with a rated capacity of 0.6 MMBtu per hour, each, exhausting to atmosphere,
- (c) two (2) space heating units, identified as HV 4 & HV 5, natural gas fired with a rated capacity of 0.8 MMBtu per hour, each, exhausting to atmosphere,
- (d) four (4) space heating units, identified as HV 6 through HV 9, natural gas fired with a rated capacity of 0.998 MMBtu per hour, each, exhausting to atmosphere,
- (e) fifty eight (58) unit heaters, identified as UH 1 through UH 58, natural gas fired with a rated capacity of 0.4 MMBtu per hour, each, exhausting to atmosphere,
- (f) three (3) unit heaters, not identified, natural gas fired with a rated capacity of 0.05 MMBtu per hour, each, exhausting to atmosphere,
- (g) two (2) unit heaters, not identified, natural gas fired with a rated capacity of 0.075 MMBtu per hour, each, exhausting to atmosphere,
- (h) one (1) unit heater, not identified, natural gas fired with a rated capacity of 0.2 MMBtu per hour, each, exhausting to atmosphere,
- (i) six (6) heating units, identified as HVAC 1 through HVAC 6, natural gas fired with a rated capacity of 0.4 MMBtu per hour, each, exhausting to atmosphere,
- (j) six (6) heating units, identified as HVAC 7 through HVAC 10 and HVAC 13, HVAC 14, natural gas fired with a rated capacity of 0.3 MMBtu per hour, each, exhausting to atmosphere,
- (k) two (2) heating units, identified as HVAC 11 and HVAC 12, natural gas fired with a rated capacity of 0.3 MMBtu per hour, each, exhausting to atmosphere,
- (l) two (2) heating units, identified as ATO 1 and ATO2, natural gas fired with a rated capacity of 5.0 MMBtu per hour, each, exhausting to atmosphere,
- (m) two (2) heating units, identified as HV10 and HV11, natural gas fired with a rated capacity of 5.0 MMBtu per hour, each, exhausting to atmosphere, and
- (n) thirty five (35) injection molding and nine (9) blow molding machines with a total maximum rated capacity of molding plastic toy parts of 12,639 pounds per hour. PM emissions from these machines are controlled by a cartridge filter of 98.0% control efficiency,

- (o) rail car unloading operation with a maximum rated capacity of 12, 639 pounds per hour of polyolefin resin blends. PM emissions from this operation are controlled by a cartridge filter of 98.0% control efficiency, and
- (p) three (3) welding stations with a maximum consumption rate of welding wire of 1.0 pounds per hour

Construction Conditions

General Construction Conditions

1. That the data and information supplied with the application shall be considered part of this permit. Prior to any proposed change in construction which may affect allowable emissions, the change must be approved by the Office of Air Management (OAM).
2. That this permit to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. That pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.
4. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the Commissioner may revoke this permit if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. That notwithstanding Construction Condition No. 6, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

First Time Operation Permit

6. That this document shall also become a first-time operation permit pursuant to 326 IAC 2-1-4 (Operating Permits) when, prior to start of operation, the following requirements are met:
 - (a) The attached affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section, verifying that the facilities were constructed as proposed in the application. The facilities covered in the Construction Permit may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.
 - (b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual phase.
 - (c) Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section and attach it to this document.

- (d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1-7.1(Fees).
- (e) Pursuant to 326 IAC 2-1-4, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. The operation permit issued shall contain as a minimum the conditions in the Operation Conditions section of this permit.

Phase Construction Time Frame

- 6. That pursuant to 326 IAC 2-1-9(b)(Revocation of Permits), the IDEM may revoke this permit to construct if the:
 - (a) Construction of pneumatic conveying system and the molding machines to manufacture plastic toy parts has not begun within eighteen (18) months from the date of the effective date of this permit or if during the construction of pneumatic conveying system and the molding machines is suspended for a continuous period of one (1) year or more.

The OAM may extend such time upon satisfactory showing that an extension, formally requested by the Permittee is justified.

- 7. That when the facility is constructed and placed into operation the following operation conditions shall be met:

Operation Conditions

General Operation Conditions

- 1. That the data and information supplied in the application shall be considered part of this permit. Prior to any change in the operation which may result in an increase in allowable emissions exceeding those specified in 326 IAC 2-1-1 (Construction and Operating Permit Requirements), the change must be approved by the Office of Air Management (OAM).
- 2. That the permittee shall comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder.

Preventive Maintenance Plan

- 3. That pursuant to 326 IAC 1-6-3 (Preventive Maintenance Plans), the Permittee shall prepare and maintain a preventive maintenance plan, including the following information:
 - (a) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices.
 - (b) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions.
 - (c) Identification of the replacement parts which will be maintained in inventory for quick replacement.

The preventive maintenance plan shall be submitted to IDEM, OAM upon request and shall be subject to review and approval.

Transfer of Permit

4. That pursuant to 326 IAC 2-1-6 (Transfer of Permits):

- (a) In the event that ownership of this welding, railcar unloading operations, molding and combustion equipment is changed, the Permittee shall notify OAM, Permit Branch, within thirty (30) days of the change. Notification shall include the date or proposed date of said change.
- (b) The written notification shall be sufficient to transfer the permit from the current owner to the new owner.
- (c) The OAM shall reserve the right to issue a new permit.

Permit Revocation

5. That pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this permit.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.
- (d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.
- (e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of 326 IAC 2-1 (Permit Review Rules).

Availability of Permit

6. That pursuant to 326 IAC 2-1-3(l), the Permittee shall maintain the applicable permit on the premises of this source and shall make this permit available for inspection by the IDEM or other public official having jurisdiction.

Malfunction Condition

7. That pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

- (a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.

- (b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.
- (c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).
- (d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

Opacity Limitations

- 8. That pursuant to 326 IAC 5-1-2 (Visible Emission Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), the visible emissions shall meet the following:
 - (a) visible emissions shall not exceed an average of 40% opacity in 24 consecutive readings.
 - (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.
- 9. That pursuant to 326 IAC 6-3 (Process Operations):
 - (a) The particulate matter (PM) emissions from the rail car unloading operation and the molding machines shall comply with 326 IAC 6-3-2(c) using the following equation:
$$E = 4.10P^{0.67}$$
 where: E = rate of emission in pounds per hour,
P = process weight in tons per hour, if
P is equal to or less than 60,000 lbs/hr (30 tons/hr)
 - (b) Daily inspections shall be performed to verify the placement, integrity and particulate loading of the filters.
 - (c) Additional inspections and preventive measures shall be performed as prescribed in the Preventive Maintenance Plan.

BACT Minor Limitation

- 10. That the input VOC including clean up solvent, delivered to the applicators of the molding machines and the railcar unloading process operation shall be limited to 24 tons per year, rolled on a monthly basis. Therefore, the Best Available control Technology (BACT) requirements of 326 IAC 8-1-6 will not apply.

Record Keeping / Reporting Requirements

11. That a log of information necessary to document compliance with operation permit condition no. (10) shall be maintained. These records shall be kept for at least the past 36 month period and made available upon request to the Office of Air Management (OAM).

- (a) A quarterly summary shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within thirty (30) calendar days after the end of the quarter being reported in the format attached. These reports shall include the usage of Polypropylene in pounds per month, material safety data sheet (MSDS) and the date of use.

**Indiana Department of Environmental Management (IDEM)
Office of Air Management**

Technical Support Document (TSD) for New Construction and Operation

Source Background and Description

Source Name:	Mattel, Inc.
Source Location:	3405 Meyer Road, Fort Wayne, Indiana 46803
County:	Allen
Construction Permit No.:	CP 003-9769-00227
SIC Code:	3944
Permit Reviewer:	Yogesh Parikh

The Office of Air Management (OAM) has reviewed an application from Mattel, Inc. relating to the construction and operation of space heating equipment and pneumatic conveying system and plastic molding machines to manufacture plastic toy parts. The plant consists of the following equipment:

- (a) one (1) space heating unit, identified as HV 1, natural gas fired with a rated capacity of 1.2 MMBtu per hour, exhausting to atmosphere,
- (b) two (2) space heating units, identified as HV 2 & HV 3, natural gas fired with a rated capacity of 0.6 MMBtu per hour, each, exhausting to atmosphere,
- (c) two (2) space heating units, identified as HV 4 & HV 5, natural gas fired with a rated capacity of 0.8 MMBtu per hour, each, exhausting to atmosphere,
- (d) four (4) space heating units, identified as HV 6 through HV 9, natural gas fired with a rated capacity of 0.998 MMBtu per hour, each, exhausting to atmosphere,
- (e) fifty eight (58) unit heaters, identified as UH 1 through UH 58, natural gas fired with a rated capacity of 0.4 MMBtu per hour, each, exhausting to atmosphere,
- (f) three (3) unit heaters, not identified, natural gas fired with a rated capacity of 0.05 MMBtu per hour, each, exhausting to atmosphere,
- (g) two (2) unit heaters, not identified, natural gas fired with a rated capacity of 0.075 MMBtu per hour, each, exhausting to atmosphere,
- (h) one (1) unit heater, not identified, natural gas fired with a rated capacity of 0.2 MMBtu per hour, each, exhausting to atmosphere,
- (i) six (6) heating units, identified as HVAC 1 through HVAC 6, natural gas fired with a rated capacity of 0.4 MMBtu per hour, each, exhausting to atmosphere,

- (j) six (6) heating units, identified as HVAC 7 through HVAC 10 and HVAC 13, HVAC 14, natural gas fired with a rated capacity of 0.3 MMBtu per hour, each, exhausting to atmosphere,
- (k) two (2) heating units, identified as HVAC 11 and HVAC 12, natural gas fired with a rated capacity of 0.3 MMBtu per hour, each, exhausting to atmosphere,
- (l) two (2) heating units, identified as ATO 1 and ATO2, natural gas fired with a rated capacity of 5.0 MMBtu per hour, each, exhausting to atmosphere,
- (m) two (2) heating units, identified as HV10 and HV11, natural gas fired with a rated capacity of 5.0 MMBtu per hour, each, exhausting to atmosphere, and
- (n) thirty five (35) injection molding and nine (9) blow molding machines with a total maximum rated capacity of molding plastic toy parts of 12,639 pounds per hour. PM emissions from these machines are controlled by a cartridge filter of 98.0% control efficiency,
- (o) rail car unloading operation with a maximum rated capacity of 12, 639 pounds per hour of polyolefin resin blends. PM emissions from this operation are controlled by a cartridge filter of 98.0% control efficiency, and
- (p) three (3) welding stations with a maximum consumption rate of welding wire of 1.0 pounds per hour.

Enforcement Issue

IDEM is aware that this plastic toy parts manufacturing source has been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take appropriate action. This proposed permit is intended to satisfy the requirements of the construction permit rules.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Information, unless otherwise stated, used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 12,1998, with additional information received on July 20, 1998.

Emissions Calculations

See Appendix A (Emissions Calculation Spreadsheets) for detailed calculations (5 pages).

Total Potential and Allowable Emissions

Pollutant	Allowable Emissions (tons/year)	Potential Emissions (tons/year)
Particulate Matter (PM)	66.1	11.6
Particulate Matter (PM10)	66.1	11.6
Sulfur Dioxide (SO ₂)	0.10	0.10
Volatile Organic Compounds (VOC)	41.38	41.38
Carbon Monoxide (CO)	20.8	20.8
Nitrogen Oxides (NO _x)	24.71	24.7
Single Hazardous Air Pollutant (HAP)	0.0	0.0
Combination of HAPs	0.0	0.0

- (a) Allowable PM emissions are determined from the applicability of rule 326 IAC 6-3-2. See attached spreadsheets for detailed calculations.
- (b) The allowable emissions of particulate matter (PM) based on the rules cited are more than the potential emissions, therefore, the potential emissions are used for the permitting determination.
- (c) The allowable emissions of volatile organic compounds (VOC) are same as the potential emissions, therefore, the potential emissions are taken as allowable emissions.
- (d) Allowable emissions (as defined in the Indiana Rule) of VOC are greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

County Attainment Status

- (a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Allen County has been classified as attainment or unclassifiable for rest of the criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

New Source Status

New Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity):

Pollutant	Emissions (ton/yr)
PM	11.6
PM10	11.6
SO ₂	0.10
VOC	25.4
CO	20.8
NO _x	24.7
Single HAP	0.0
Combination HAPs	0.0

This new source is not a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to the source.

Federal Rule Applicability

- (a) There are no New Source Performance Standards (326 IAC 12) and 40 CFR Part 60 applicable to this source.
- (b) There are no NESHAP 40 CFR Part 63 applicable to this source.

State Rule Applicability

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), because the source does not emit more than 100 tons/yr of any criteria pollutants.

326 IAC 6-3-2 (Particulate Emissions Limitations)

The particulate matter emissions from the rail car unloading and molding operations are subject to 326 IAC 6-3-2. Pursuant to 326 IAC 6-3-2, the particulate matter emissions from the rail car unloading and the molding operations shall comply with the following equation

$$E = 4.10P^{0.67} \quad \text{where: } E = \text{rate of emission in pounds per hour,} \\ P = \text{process weight in tons per hour, if}$$

P is equal to or less than 60,000 lbs/hr (30 tons/hr)

Based on these calculations, the controlled potential emissions are less than the allowable emissions. Therefore, rail car unloading and molding operations complies with the rule.

326 IAC 5-1-2 (Opacity Limitations: Visible Emissions Limitations)

This source is subject to the provisions of 326 IAC 5-1-2. Pursuant to this rule, visible emissions from a source or facility located in attainment area for particulate matter (PM) shall not exceed

- (a) an average of 40% opacity in 24 consecutive readings.
- (b) visible emissions shall not exceed 60% opacity for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

The potential VOC emissions from the molding and blowing operations of plastic toy parts has the potential VOC emissions of 39.98 tons per year. Since the applicant has accepted the limit of 24.0 tons per year, the potential VOC emissions will be less than 25 tons per year. Therefore, the requirements of the rule 326 IAC 8-1-6 do not apply in this case. There are no other 326 IAC 8 rules that apply to this source.

326 IAC 2-1-3.4 (New Source Toxics Control Rule)

The single and combined HAP emissions are less than 10 and 25 tons per year respectively. Therefore, the rule 326 IAC 2-1-3.4 does not apply to coating and painting operation.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 187 hazardous air pollutants set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

- (a) None of these listed air toxics will be emitted from this proposed construction.
- (b) 326 IAC 2-1-3.4 does not apply to this facility because there are no HAP's emissions.

Conclusion

The construction and operation of this plastic toy manufacturing plant will be subject to the conditions of the attached proposed **construction permit No. CP-003-9769-00227**.

**Indiana Department of Environmental Management
Office of Air Management
Compliance Data Section**

Quarterly Report

Company Name: Mattel, Inc.
 Location: 3405 Meyer Road, Fort Wayne, Indiana 46803
 Permit No.: CP 003-9769-00227
 Source: Molding machines
 Pollutant: Volatile Organic Compounds (VOC)
 Limit: 2 tons per month (24.0 tons per year)

Year: _____

Material	usage gal/month	Density lb/gal	weight%VOC content	Weight% water	VOC emissions tons/month (This month)	VOC emissions tons / yr (Last 12 months)
Total						

Methodology:

$$\text{VOC in tons /month} = \frac{\text{Wgt \% VOC} \times \text{gal/month} \times \text{lb/gal} (1 - \text{wt. \% water})}{2,000 \text{ lbs per ton}}$$

Submitted by :_

Date Submitted : _____

MALFUNCTION REPORT

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967**

**This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6
and to qualify for the exemption under 326 IAC 1-6-4.**

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE: IT HAS POTENTIAL TO EMIT 25 LBS/HR PARTICULATES ? _____, 100 LBS/HR VOC ? _____, 100 LBS/HR SULFUR DIOXIDE ? _____ OR 2000 LBS/HR OF ANY OTHER POLLUTANT ? _____ EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY: Mattel, Inc _____ PHONE NO. (219) 424-1400 _____

LOCATION: (CITY AND COUNTY) Fort Wayne, Allen County _____

PERMIT NO. 003 -9769 _____ AFS PLANT ID: 00227 _____ AFS POINT ID: _____ INSP: Jennifer Schick _____

CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON: _____

DATE/TIME MALFUNCTION STARTED: ____ / ____ / 19 _____ AM / PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE ____ / ____ / 19 _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER: _____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS: _____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES: _____

CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS: _____

CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT: _____

INTERIM CONTROL MEASURES: (IF APPLICABLE) _____

MALFUNCTION REPORTED BY: _____

TITLE: _____

(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY: _____ DATE: _____ TIME: _____

Mattel, Inc
Fort Wayne, Indiana
Reviewer: Yogesh Parikh

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Please note - This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1. The requirements of this rule (326 IAC 1-6) shall apply to the owner or operator of any facility which has the potential to emit twenty-five (25) pounds per hour of particulates, one hundred (100) pounds per hour of volatile organic compounds or SO₂, or two thousand (2,000) pounds per hour of any other pollutant; or to the owner or operator of any facility with emission control equipment which suffers a malfunction that causes emissions in excess of the applicable limitation.

326 IAC 1-2-39 “Malfunction” definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. (Air Pollution Control Board; 326 IAC 1-2-39; filed Mar 10, 1988, 1:20 p.m. : 11 IR 2373)

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

Appendix A**Emissions calculations:****Source Background and Description**

Source Name: Mattel, Inc.
 Source location: 3405 Meyer Road, Fort Wayne, Indiana 46803
 County: Allen
 Construction Permit No.: CP 003-9769- 00227
 SIC Code: 3944
 Permit Reviewer: Yogesh Parikh

Potential PM emissions from the rail car unloading operation :

The particulate matter emissions from the unloading operation of rail car will be controlled by a cartridge filter. The resin will be conveyed pneumatically to molding machines which are also controlled by cartridge filters.

Potential emissions of Particulate Matter from rail car unloading operation:

Collection efficiency of cartridge filters = 98.0%
 Maximum capacity = 110, 721,491 lb/yr
 Maximum rate of unloading = $\frac{110,721,491 \text{ lb/yr}}{8,760 \text{ hr/yr}}$
 = 12,639 lb/hr

The emission factor is based on a mass balance of the material handled and a particle size analysis of the material captured in the dust collection system for the resin handling systems. The SCC number seems to best characterize the emission source or the process operation is SCC 3-08-009-01.

Emission factor = 4.3 E-07 PM/lb resin unloaded

PM/PM10 emissions = Throughput (lb/hr) x emission factor
 = 12,639 (lb/hr) x 4.3-07 PM/lb resin
 = 0.0054 lb- PM/hr
 = 0.013 lb/day
 = (0.0054 lb/hr) x (8,760 hr/yr) x (1 ton/2,000 lb)
 = 0.022 tons/yr.

Potential emissions of Particulate Matter from the molding operation:

Collection efficiency of cartridge filters = 98.0%
 throughput = 12,639 lb/hr.

The emission factor is based on a mass balance of the material handled and a particle size analysis of material captured in the dust collection system for the resin handling systems. The SCC number seems to best characterize the emission source or the process operation is SCC 3-08-010-07.

Emission factor = 0.000174 PM/lb resin molded

$$\begin{aligned}
 \text{PM/PM10 emissions} &= \text{Throughput (lb/hr)} \times \text{emission factor} \\
 &= 12,639 \text{ (lb/hr)} \times 0.000174 \text{ lb/lb resin} \\
 &= 2.19 \text{ lb/hr} \\
 &= 52.78 \text{ lb/day} \\
 &= (2.19 \text{ lb/hr}) \times (8,760 \text{ hr/yr}) \times (1 \text{ ton}/2,000 \text{ lb}) \\
 &= 9.59 \text{ tons/yr.}
 \end{aligned}$$

Allowable PM emissions from the railcar unloading and molding operation :

Max. throughput rate =12,639 lbs/hr.

Based on the total process weight rate, the allowable emission from the loading operation would be

$$\begin{aligned}
 E &= 4.1(P)^{0.67} \text{ where } P \text{ is the process weight in tons/hr} = 12,639/2,000 = 6.32 \text{ tons/hr} \\
 &= 4.1(6.32)^{0.67} \\
 &= 14.1 \text{ lbs/hr.} \\
 &= 338.4 \text{ lbs/day} \\
 &= 61.76 \text{ tons/yr.}
 \end{aligned}$$

Allowable emissions as calculated above are 61.76 tons/yr or 14.1 lb/hour.

$$\begin{aligned}
 \text{Total potential PM emissions from the unloading operation and the molding operation} &= (0.022 + 9.59) \text{ tons/yr.} \\
 &= 9.619 \text{ tons/yr}
 \end{aligned}$$

Since the potential emissions of particulate matter emissions are less than the allowable emissions, the potential emissions are considered for the permitting purpose.

The particulate matter emissions after the controls are less than the allowable emissions. Therefore, the railcar unloading and the molding operations are in compliance with the rule 326 IAC 6-3-2.

VOC emissions from the molding (blowing) operation:

Polyethylene and the Polypropylene are used in the molding operation. The VOC content is 0.17 percent which is verified by the MSDS. The VOC emissions are listed in the following table.

Material	Manufacturer	Potential Usage lb/yr	VOC content % by weight	Maximum VOC emitted tons/yr
Polyethylene	Union Carbide	63, 685,440	nil	0.0
Polypropylene	Amoco	47,036,051.01	0.17	39.98
Totals		110,721,491		39.98

Methodology:
VOC emitted = Potential usage x % VOC content

Combustion emissions:

See attached spread sheet, page 5 of 5, for detailed calculations.

Potential emissions of PM from the welding operation:

MIG Welding:

Maximum hourly consumption of aluminum wire per station = 1.0 lb/hr.

Number of welding station = 1

Total hourly consumption of wire = Number of stations x maximum consumption/station/hour
= 3 x 1.0
= 3.0 lb/hr

The following emission factors were applied from the SARA 313 Reporting Guide.

PM = PM10 = 0.0055 lb PM/lb of electrode
Mn = 0.005 lb Mn/lb of electrode
Ni = 0.0
Cr = 0.0

Since the classification of electrode is not stated in the application, the default values are assumed.

Throughput = $3.0 \frac{\text{lb}}{\text{hr}} \times 8,760 \frac{\text{hr}}{\text{year}} = 26,280 \text{ lb/yr.}$

PM emissions in tons/yr = Throughput $\frac{\text{lb.}}{\text{yr.}}$ x emission factor $\frac{\text{lb. of PM}}{\text{lb. of electrode}}$ x $\frac{1}{2,000} \frac{\text{ton}}{\text{lb.}}$

PM = PM10 = $26,280 \frac{\text{lb.}}{\text{yr.}} \times 0.0055 \frac{\text{lb. of PM}}{\text{lb. of electrode}} \times \frac{1}{2,000} \frac{\text{ton}}{\text{lb.}}$

PM = PM10 = 0.072 tons/yr.

Mn = $26,280 \frac{\text{lb.}}{\text{yr.}} \times 0.005 \frac{\text{lb. of PM}}{\text{lb. of electrode}} \times \frac{1}{2,000} \frac{\text{ton}}{\text{lb.}}$

Mn = 0.066 tons /yr.

Since emission factors for Ni and Cr is zero, there will be no emissions.

In the following table the emissions of particulate matter from all the welding operations are summarized:

Welding operation	Potential PM/PM10 emissions	*Allowable PM/PM10 emissions
Tons/yr	0.072	2.41
Lbs/day	0.395	13.22

* Note: The allowable PM/PM10 emissions are based on the process weight rate of 100 lb per hour from the table listed in the rule 326 IAC 6-3-2.

Potential Emissions Summary:

Operation	PM/PM10 (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NOx (tons/yr)	SO2 (tons/yr)	HAP's (tons/yr)
Welding	0.072	0.0	0.0	0.01	0.0	0.0
Combustion	1.900	1.4	20.8	24.7	0.1	0.0
Unloading rail car	0.022	0.0	0.0	0.00	0.0	0.0
Molding operation	9.59	39.98	0.0	0.0	0.0	0.0
Total	11.6	41.38	20.8	24.71	0.10	0.0

Since the allowable emissions of VOC are greater than 25 tons per year, pursuant to 326 IAC 2-1, a construction permit is required.

**Appendix A: Emission Calculations
 Natural Gas Combustion Only
 MM Btu/hr 0.3 - < 10
 Space heating units**

Company Name: Mattel, Inc
Address City IN Z3405 Meyer Road, Fort Wayne, Indiana 46803
CP: 003-9769
Plt ID: 00227
Reviewer: Yogesh Parikh
Date: July 14, 1998

Heat Input Capacity
MMBtu/hr

Potential Throughput
MMCF/yr

56.5

494.9

Pollutant

	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0	5.5	84.0
Potential Emission in tons/yr	1.9	1.9	0.1	24.7	1.4	20.8

Methodology

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Emission Factors for NOx: uncontrolled = 100, Low Nox Burner = 17, Flue gas recirculation = 36

Emission Factors for CO: uncontrolled = 21, Low NOx Burner = 27, Flue gas recirculation = ND

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-03-006-03

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Mail to: Permit Administration & Development Section
Office Of Air Management
100 North Senate Avenue
P. O. Box 6015
Indianapolis, Indiana 46206-6015

Mattel, Inc.
P.O. Box 6700
Fort Wayne, Indiana 46896-6700

Affidavit of Construction

I, _____, being duly sworn upon my oath, depose and say:
(Name of the Authorized Representative)

1. I live in _____ County, Indiana and being of sound mind and over twenty-one (21) years of age, I am competent to give this affidavit.

2. I hold the position of _____ for _____.
(Title) (Company Name)

3. By virtue of my position with _____, I have personal
(Company Name)
knowledge of the representations contained in this affidavit and am authorized to make these representations on behalf of _____.
(Company Name)

4. I hereby certify that Mattel, Inc. 3405 Meyer Road, Fort Wayne, Indiana 46803, has constructed and operated the following welding, railcar unloading operations, molding and combustion equipment in conformity with the requirements and intent of the construction permit application received by the Office of Air Management on May 12, 1998, and as permitted pursuant to **Construction Permit No. CP-003-9769, Plant ID No. 003-00227** issued on _____

- (a) one (1) space heating unit, identified as HV 1, natural gas fired with a rated capacity of 1.2 MMBtu per hour, exhausting to atmosphere,
- (b) two (2) space heating units, identified as HV 2 & HV 3, natural gas fired with a rated capacity of 0.6 MMBtu per hour, each, exhausting to atmosphere,
- (c) two (2) space heating units, identified as HV 4 & HV 5, natural gas fired with a rated capacity of 0.8 MMBtu per hour, each, exhausting to atmosphere,
- (d) four (4) space heating units, identified as HV 6 through HV 9, natural gas fired with a rated capacity of 0.998 MMBtu per hour, each, exhausting to atmosphere,
- (e) fifty eight (58) unit heaters, identified as UH 1 through UH 58, natural gas fired with a rated capacity of 0.4 MMBtu per hour, each, exhausting to atmosphere,
- (f) three (3) unit heaters, not identified, natural gas fired with a rated capacity of 0.05 MMBtu per hour, each, exhausting to atmosphere,
- (g) two (2) unit heaters, not identified, natural gas fired with a rated capacity of 0.075 MMBtu per hour, each, exhausting to atmosphere,
- (h) one (1) unit heater, not identified, natural gas fired with a rated capacity of 0.2 MMBtu per hour, each, exhausting to atmosphere,
- (i) six (6) heating units, identified as HVAC 1 through HVAC 6, natural gas fired with a rated capacity of

0.4 MMBtu per hour, each, exhausting to atmosphere,

- (j) six (6) heating units, identified as HVAC 7 through HVAC 10 and HVAC 13, HVAC 14, natural gas fired with a rated capacity of 0.3 MMBtu per hour, each, exhausting to atmosphere,
- (k) two (2) heating units, identified as HVAC 11 and HVAC 12, natural gas fired with a rated capacity of 0.3 MMBtu per hour, each, exhausting to atmosphere,
- (l) two (2) heating units, identified as ATO 1 and ATO2, natural gas fired with a rated capacity of 5.0 MMBtu per hour, each, exhausting to atmosphere,
- (m) two (2) heating units, identified as HV10 and HV11, natural gas fired with a rated capacity of 5.0 MMBtu per hour, each, exhausting to atmosphere, and
- (n) thirty five (35) injection molding and nine (9) blow molding machines with a total maximum rated capacity of molding plastic toy parts of 12,639 pounds per hour. PM emissions from these machines are controlled by a cartridge filter of 98.0% control efficiency,
- (o) rail car unloading operation with a maximum rated capacity of 12, 639 pounds per hour of polyolefin resin blends. PM emissions from this operation are controlled by a cartridge filter of 98.0% control efficiency, and
- (p) three (3) welding stations with a maximum consumption rate of welding wire of 1.0 pounds per hour.

Further Affiant said not.

I affirm under penalties of perjury that the representations contained in this affidavit are true, to the best of my information and belief.

Signature

Date

STATE OF INDIANA)
)SS

COUNTY OF _____)

Subscribed and sworn to me, a notary public in and for _____ County and State of
Indiana on this _____ day of _____, 19 _____.

My Commission expires: _____

Signature

Name (typed or printed)