# Royale Play Bariq
# by Berger Paints Emirates Ltd. Co. L.L.C.

SCREENING DATE: 2025-11-25
PUBLISHED DATE: 2025-12-08
EXPIRY DATE: 2028-11-25
PREPARER: Self-Prepared

**Health Product Declaration v3.0**
created via: HPDC Online Builder

**HPD UNIQUE IDENTIFIER:** 67508435968
**HPD UNIQUE PRODUCT ID:** Not provided.
**CLASSIFICATION:** 09 90 00 Painting and Coating
**PRODUCT DESCRIPTION:** A premium quality water based acrylic co-polymer metallic special effects paint that creates a variety of pattern on interior walls. It has excellent scrub resistance and washability. It is resistant to fungus and algae.

## Section 1: Summary

**Nested Method / Product Threshold**

### CONTENT INVENTORY

**Inventory Reporting Format**
→ Nested Materials Method

**Threshold Disclosed Per**
→ Product

**Threshold Level**
→ 100 ppm

**Residuals/Impurities Evaluation**
Completed in **6** of **6** Materials

**Explanation(s) provided for Residuals/Impurities?**
Yes

*For all contents above the threshold, the manufacturer has:*

**Characterized** Yes
*Provided weight and role.*

**Screened** Yes
*Provided screening results using HPDC-approved methods.*

**Identified** Yes
*Provided name and CAS RN or other identifier.*

### CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

**NESTED MATERIAL** | **MATERIAL OR SUBSTANCE** | *RESIDUAL OR IMPURITY*
GREENSCREEN SCORE | HAZARD TYPE

**BINDER [ WATER** BM-4 **METHYL METHACRYLATE** LT-P1 | END | SKI | PHY | EYE | MAM **BUTYL ACRYLATE** LT-UNK | SKI | EYE | MAM | REP | AQU **2-ETHYLHEXYL ACRYLATE** BM-2 | SKI | CAN | MAM | EYE | AQU **] WATER [ WATER** BM-4 **] EXTENDER [ MICA** LT-UNK | MAM *QUARTZ* BM-1 | CAN | MAM | GEN **] ADDITIVE [ PROPYLENE GLYCOL** BM-2 | END | MAM **] BIOCIDE [ KATHON 886** LT-P1 | MUL | SKI | AQU | MAM | EYE **] ANTIMICROBIAL [ DIURON** LT-1 | END | MUL | CAN | AQU | MAM | REP **]**

Number of Greenscreen BM-4/BM3 contents ... 2

Contents highest-concern GreenScreen score(s) (BM-1, LT-1, LT-P1) ... LT-P1, LT-1, BM-1

Nanomaterial ... No

**INVENTORY AND SCREENING NOTES:**

This HPD was produced using primary information from the manufacturer, including CAS numbers and SDS when needed. The manufacturer has made every effort to report the substances in this product to the listed threshold. This is a voluntary, self-reported effort. Any errors or omissions shall be considered a human error and therefore reported to the manufacturer. The manufacturer shall not be liable for omissions. All materials/substances present in the final product were screened at or above 100 ppm, and all potential hazards associated with the product have been disclosed.

### VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): 4 Regulatory (g/l): 50
Does the product contain exempt VOCs: No
Are colorants available that do not increase the VOC content of the base paint when tinted: N/A

### COMPLIANCE *See Section 3 for additional listings.*

VOC emissions: CDPH Standard Method V1.2 (Section 01350/CHPS) - Classroom & Office scenario
VOC content: EPA Method 24 - Volatile Matter Content (EPA 24)

### CONSISTENCY WITH OTHER PROGRAMS

Pre-checked for LEED v4 Option 1.
Pre-checked for LEED v4.1 Option 1.

## Section 2: Content in Descending Order of Quantity

*This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:*

- *Basic Inventory method with Product-level threshold.*
- *Nested Material Inventory method with Product-level threshold*
- *Nested Material Inventory method with individual Material-level thresholds*

*Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 3.0, available on the HPDC website at: www.hpd-collaborative.org/hpd-3-0-standard*

**BINDER** **%: 40.0000 - 50.0000**

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Polymeric Material

RESIDUALS AND IMPURITIES NOTES: The threshold applied to Residuals and Impurities (R/I) is the same as that applied to intentionally added substances, i.e., 100 ppm or 1000 ppm. For this product, no actual material has been tested. Therefore, residuals and impurities are for informational purposes only and are not a guarantee of presence in the actual building material. Pharos and PubChem (formerly TOXNOT) are the main databases for researching potential residuals and impurities. Any R/I above the threshold shall be listed on the HPD; otherwise, if none are listed, then no residuals or impurities are common in that substance above the threshold.

OTHER MATERIAL NOTES: The actual percenatge of composition has been withheld to protect proprietary formulation details and intellectual property rights.

**WATER** ID: **7732-18-5**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:07:11**

%: **50.0000 - 60.0000** GreenScreen: **BM-4** RC: **None** NANO: **No** SUBSTANCE ROLE: **Solvent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| None found | | No warnings found on HPD Priority Hazard Lists |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| EXEMPT | European Union / European Commission (EU EC) | EU - REACH Exemptions<br><br>Exempted from REACH Annex IV listing due to intrinsic safety |

SUBSTANCE NOTES:

**METHYL METHACRYLATE** ID: **80-62-6**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:07:12**

%: **20.0000 - 30.0000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Monomer**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| PHY | EU - GHS (H-Statements) Annex 6 Table 3-1 | H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2] |
| EYE | GHS - New Zealand | Eye irritation category 2 |
| SKI | GHS - Australia | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| SKI | GHS - Japan | H315 - Causes skin irritation [Skin corrosion / irritation - Category 2] |
| SKI | GHS - New Zealand | Skin sensitisation category 1 |
| SKI | GHS - Malaysia | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| PHY | GHS - New Zealand | Flammable liquids category 2 |
| PHY | GHS - Japan | H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2] |
| PHY | GHS - Malaysia | H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2] |
| PHY | GHS - Australia | H225 - Highly flammable liquid and vapour [Flammable liquids - Category 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| RESTRICTED LIST | Perkins+Will (P+W) | P&W - Precautionary List<br><br>Precautionary list of substances recommended for avoidance |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List<br><br>Some Solvents |

SUBSTANCE NOTES: No GreenScreen score or hazard assessment exists for the given CAS RN per the Pharos database. To disclose all potential hazards associated with the polymer, it was analyzed into its likely constituent components. Data gaps were addressed using information sourced from the Pharos database and publicly available PDS/SDS documentation relevant to the material. It's important to note that the composition and ingredient(s) listed are intended for informational and screening purposes only and are not 100% guaranteed to be present in the actual product.

**BUTYL ACRYLATE** ID: **141-32-2**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:07:10**

%: **10.0000 - 15.0000** GreenScreen: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Monomer**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| EYE | EU - GHS (H-Statements) Annex 6 Table 3-1 | H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A] |
| SKI | GHS - New Zealand | Skin irritation category 2 |
| EYE | GHS - New Zealand | Eye irritation category 2 |
| SKI | GHS - Australia | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| EYE | GHS - Australia | H319 - Causes serious eye irritation [Serious eye damage/eye irritation - Category 2A] |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |
| MAM | GHS - Japan | H331 - Toxic if inhaled [Acute toxicity (inhalation: vapor) - Category 3] |
| MAM | GHS - New Zealand | Acute inhalation toxicity category 3 |
| SKI | GHS - Japan | H315 - Causes skin irritation [Skin corrosion / irritation - Category 2] |
| SKI | GHS - New Zealand | Skin sensitisation category 1 |
| REP | GHS - New Zealand | Reproductive toxicity category 2 |
| AQU | GHS - Japan | H401 - Toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 2] |
| MAM | Québec CSST - WHMIS 1988 | Class D1A - Very toxic material causing immediate and serious toxic effects |
| EYE | GHS - Japan | H319 - Causes serious eye irritation [Serious eye damage / eye irritation - Category 2A] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List<br><br>Some Solvents |

SUBSTANCE NOTES: Please refer to the substance notes for methyl methacrylate.

**2-ETHYLHEXYL ACRYLATE** ID: **103-11-7**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:07:10**

%: **1.0000 - 5.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Monomer**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| SKI | MAK | Sensitizing Substance Sh - Danger of skin sensitization |
| CAN | CA EPA - Prop 65 | Carcinogen |
| CAN | IARC | Group 2b - Possibly carcinogenic to humans |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| SKI | GHS - New Zealand | Skin irritation category 2 |
| EYE | GHS - New Zealand | Eye irritation category 2 |
| SKI | GHS - Australia | H315 - Causes skin irritation [Skin corrosion/irritation - Category 2] |
| CAN | GHS - Japan | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| MAM | GHS - New Zealand | Specific target organ toxicity - repeated exposure category 1 |
| SKI | GHS - Japan | H315 - Causes skin irritation [Skin corrosion / irritation - Category 2] |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 3 |
| SKI | GHS - New Zealand | Skin sensitisation category 1 |
| AQU | GHS - Japan | H401 - Toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 2] |
| AQU | GHS - Japan | H411 - Toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Please refer to the substance notes for methyl methacrylate.

**WATER** **%: 20.0000 - 30.0000**

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Other: Water

RESIDUALS AND IMPURITIES NOTES: No residuals or impurities are registered for this chemical per the Pharos database.

OTHER MATERIAL NOTES:

**WATER** ID: **7732-18-5**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:07:09**

%: **100.0000** GreenScreen: **BM-4** RC: **None** NANO: **No** SUBSTANCE ROLE: **Solvent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| None found | | No warnings found on HPD Priority Hazard Lists |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| EXEMPT | European Union / European Commission (EU EC) | EU - REACH Exemptions<br><br>Exempted from REACH Annex IV listing due to intrinsic safety |

SUBSTANCE NOTES:

**EXTENDER** **%: 20.0000 - 30.0000**

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Geologically Derived Material

RESIDUALS AND IMPURITIES NOTES: The threshold applied to Residuals and Impurities (R/I) is the same as that applied to intentionally added substances, i.e., 100 ppm or 1000 ppm. For this product, no actual material has been tested. Therefore, residuals and impurities are for informational purposes only and are not a guarantee of presence in the actual building material. Pharos and PubChem (formerly TOXNOT) are the main databases for researching potential residuals and impurities. Any R/I above the threshold shall be listed on the HPD; otherwise, if none are listed, then no residuals or impurities are common in that substance above the threshold.

OTHER MATERIAL NOTES:

**MICA** ID: **12001-26-2**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:20:43**

%: **99.0000 - 99.9000** GreenScreen: **LT-UNK** RC: **None** NANO: **No** SUBSTANCE ROLE: **Filler**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: "Certain varieties contain traces of iron, titanium, lithium, sodium and fluorine."International Labour Office. Encyclopedia of Occupational Health and Safety. Vols. I&II. Geneva, Switzerland: International Labour Office, 1983., p. 1358 [PubChem]

**QUARTZ** ID: **14808-60-7**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:23:01**

%: **0.1000 - 1.0000** GreenScreen: **BM-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Impurity/Residual**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| CAN | US CDC - Occupational Carcinogens | Occupational Carcinogen |
| CAN | CA EPA - Prop 65 | Carcinogen - specific to chemical form or exposure route |
| CAN | US NIH - Report on Carcinogens | Known to be Human Carcinogen (respirable size - occupational setting) |
| CAN | MAK | Carcinogen Group 1 - Substances that cause cancer in man |
| CAN | IARC | Group 1 - Agent is carcinogenic to humans - inhaled from occupational sources |
| CAN | IARC | Group 1 - Agent is Carcinogenic to humans |
| CAN | US NIH - Report on Carcinogens | Known to be a human Carcinogen |
| CAN | GHS - Japan | H350 - May cause cancer [Carcinogenicity - Category 1A] |
| CAN | GHS - Australia | H350i - May cause cancer by inhalation [Carcinogenicity - Category 1A or 1B] |
| CAN | GHS - New Zealand | Carcinogenicity category 1 |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| GEN | GHS - Japan | H341 - Suspected of causing genetic defects [Germ cell mutagenicity - Category 2] |
| MAM | GHS - Australia | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organ toxicity - repeated exposure - Category 1] |
| MAM | GHS - New Zealand | Specific target organ toxicity - repeated exposure category 1 |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| None found | | No listings found on Additional Hazard Lists |

SUBSTANCE NOTES: Mica, mainly muscovite and phlogopite, contains less than 1% quartz. [Haz-map] - Pharos database

**ADDITIVE** **%: 5.0000 - 10.0000**

PRODUCT THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes

MATERIAL TYPE: Other: Organic compound

RESIDUALS AND IMPURITIES NOTES: The threshold applied to Residuals and Impurities (R/I) is the same as that applied to intentionally added substances, i.e., 100 ppm or 1000 ppm. For this product, no actual material has been tested. Therefore, residuals and impurities are for informational purposes only and are not a guarantee of presence in the actual building material. Pharos and PubChem (formerly TOXNOT) are the main databases for researching potential residuals and impurities. Any R/I above the threshold shall be listed on the HPD; otherwise, if none are listed, then no residuals or impurities are common in that substance above the threshold.

OTHER MATERIAL NOTES:

**PROPYLENE GLYCOL** ID: **57-55-6**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:20:15**

%: **100.0000** GreenScreen: **BM-2** RC: **None** NANO: **No** SUBSTANCE ROLE: **Solvent**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |
| MAM | GHS - Japan | H370 - Causes damage to organs [Specific target organs/systemic toxicity following single exposure - Category 1] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List<br>Antimicrobials |
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List<br>Some Solvents |

SUBSTANCE NOTES: Solvent/freeze-thaw stabilizer for paints and coatings.

**BIOCIDE** **%: 0.0500 - 0.2500**

PRODUCT THRESHOLD: 100 ppm RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes MATERIAL TYPE: Other: Organic compound

RESIDUALS AND IMPURITIES NOTES: The threshold applied to Residuals and Impurities (R/I) is the same as that applied to intentionally added substances, i.e., 100 ppm or 1000 ppm. For this product, no actual material has been tested. Therefore, residuals and impurities are for informational purposes only and are not a guarantee of presence in the actual building material. Pharos and PubChem (formerly TOXNOT) are the main databases for researching potential residuals and impurities. Any R/I above the threshold shall be listed on the HPD; otherwise, if none are listed, then no residuals or impurities are common in that substance above the threshold.

OTHER MATERIAL NOTES:

**KATHON 886** ID: **55965-84-9**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:07:12**

%: **100.0000** GreenScreen: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Antimicrobial Pesticide**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| SKI | EU - GHS (H-Statements) Annex 6 Table 3-1 | H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C] |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1] |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |
| MAM | EU - GHS (H-Statements) Annex 6 Table 3-1 | H301 - Toxic if swallowed [Acute toxicity (oral) - Category 3] |
| EYE | EU - GHS (H-Statements) Annex 6 Table 3-1 | H318 - Causes serious eye damage [Serious eye damage/eye irritation - Category 1] |
| MAM | EU - GHS (H-Statements) Annex 6 Table 3-1 | H330 - Fatal if inhaled [Acute toxicity (inhalation) - Category 1 or 2] |
| MAM | EU - GHS (H-Statements) Annex 6 Table 3-1 | H310 - Fatal in contact with skin [Acute toxicity (dermal) - Category 1 or 2] |
| SKI | GHS - Australia | H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1A or 1B or 1C] |
| AQU | GHS - Australia | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |
| AQU | GHS - Korea | H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1] |
| AQU | GHS - Korea | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |
| SKI | GHS - Korea | H314 - Causes severe skin burns and eye damage [Skin corrosion/irritation - Category 1] |
| MAM | GHS - Korea | H301 - Toxic if swallowed [Acute toxicity (oral) - Category 3] |
| MAM | GHS - Australia | H301 - Toxic if swallowed [Acute toxicity (oral) - Category 3] |
| MAM | GHS - Korea | H330 - Fatal if inhaled [Acute toxicity (inhalation) - Category 2] |
| MAM | GHS - Australia | H330 - Fatal if inhaled [Acute toxicity (inhalation) - Category 1 or 2] |
| MAM | GHS - Korea | H310 - Fatal in contact with skin [Acute toxicity (dermal) - Category 1] |
| MAM | GHS - Australia | H310 - Fatal in contact with skin [Acute toxicity (dermal) - Category 1 or 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List<br><br>Antimicrobials |

SUBSTANCE NOTES: No residuals or impurities are expected to be present at or above 100 ppm.

**ANTIMICROBIAL** **%: 0.1000 - 0.2000**

PRODUCT THRESHOLD: 100 ppm | RESIDUALS AND IMPURITIES EVALUATION COMPLETED: Yes | MATERIAL TYPE: Other: Organic compound

RESIDUALS AND IMPURITIES NOTES: The threshold applied to Residuals and Impurities (R/I) is the same as that applied to intentionally added substances, i.e., 100 ppm or 1000 ppm. For this product, no actual material has been tested. Therefore, residuals and impurities are for informational purposes only and are not a guarantee of presence in the actual building material. Pharos and PubChem (formerly TOXNOT) are the main databases for researching potential residuals and impurities. Any R/I above the threshold shall be listed on the HPD; otherwise, if none are listed, then no residuals or impurities are common in that substance above the threshold.

OTHER MATERIAL NOTES:

**DIURON** ID: **330-54-1**

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2025-11-25 8:21:35**

%: **99.0000 - 100.0000** GreenScreen: **LT-1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Antimicrobial Pesticide**

| HAZARD TYPE | LIST NAME AND SOURCE | WARNINGS |
|---|---|---|
| END | TEDX - Potential Endocrine Disruptors | Potential Endocrine Disruptor |
| MUL | ChemSec - SIN List | CMR - Carcinogen, Mutagen &/or Reproductive Toxicant |
| MUL | German FEA - Substances Hazardous to Waters | Class 3 - Severe Hazard to Waters |
| CAN | CA EPA - Prop 65 | Carcinogen |
| END | EU - Priority Endocrine Disruptors | Category 2 - In vitro evidence of biological activity related to Endocrine Disruption |
| CAN | GHS - Japan | H350 - May cause cancer [Carcinogenicity - Category 1B] |
| CAN | EU - GHS (H-Statements) Annex 6 Table 3-1 | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1] |
| AQU | EU - GHS (H-Statements) Annex 6 Table 3-1 | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |
| MAM | GHS - Japan | H335 - May cause respiratory irritation [Specific target organ toxicity - Single exposure - Category 3] |
| CAN | GHS - New Zealand | Carcinogenicity category 2 |
| MAM | GHS - Japan | H372 - Causes damage to organs through prolonged or repeated exposure [Specific target organs/systemic toxicity following repeated exposure - Category 1] |

| | | |
|---|---|---|
| MAM | GHS - New Zealand | Specific target organ toxicity - repeated exposure category 1 |
| CAN | EU - Annex VI CMRs | Carcinogen Category 2 - Suspected human Carcinogen |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - acute category 1 |
| REP | GHS - New Zealand | Reproductive toxicity category 2 |
| AQU | GHS - Japan | H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1] |
| AQU | GHS - Japan | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |
| AQU | GHS - Australia | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |
| AQU | GHS - New Zealand | Hazardous to the aquatic environment - chronic category 1 |
| CAN | GHS - Malaysia | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |
| AQU | GHS - Malaysia | H410 - Very toxic to aquatic life with long lasting effects [Hazardous to the aquatic environment (chronic) - Category 1] |
| AQU | GHS - Malaysia | H400 - Very toxic to aquatic life [Hazardous to the aquatic environment (acute) - Category 1] |
| CAN | GHS - Australia | H351 - Suspected of causing cancer [Carcinogenicity - Category 2] |

| ADDITIONAL LISTINGS | LIST NAME AND SOURCE | NOTIFICATION |
|---|---|---|
| RESTRICTED LIST | Green Science Policy Institute (GSPI) | GSPI - Six Classes Precautionary List<br><br>Antimicrobials |
| RESTRICTED LIST | Cradle to Cradle Products Innovation Institute (C2CPII) | C2C Certified v4.1 Product Standard Restricted Substances - Effective July 1, 2025<br><br>Cosmetics and Personal Care Products |

SUBSTANCE NOTES: No residuals or impurities are expected to be present at or above 100 ppm.

## Section 3: Compliance

*This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.*

| VOC EMISSIONS | CDPH Standard Method V1.2 (Section 01350/CHPS) - Classroom & Office scenario | |
|---|---|---|
| **COMPLIANCE TYPE:** Third Party<br>**CERTIFIER/VERIFIER/TESTING LAB/AUDITOR:** Middle East Testing Services L.L.C.<br>**COMPLIANCE DETAILS:**<br>**COMPLIANCE SCOPE:** Product<br>**APPLICABLE FACILITIES:** Berger Paints Emirates Ltd. Co. L.L.C. P.O. Box 27524, Al Qouz 1, Dubai, U.A.E.<br>**COMPLIANCE URL:** https://metslab.com/<br>**COMPLIANCE NOTES:** Report # MR-240725-224. The report does not explicitly list the expiry date; the entered date was only to satisfy the filed requirement. | **ISSUE DATE:** 2025-08-08 | **EXPIRY DATE:** 2028-08-08 |

| VOC CONTENT | EPA Method 24 - Volatile Matter Content (EPA 24) | |
|---|---|---|
| **COMPLIANCE TYPE:** Third-party certification<br>**CERTIFIER/VERIFIER/TESTING LAB/AUDITOR:** Wimpey Laboratories LLC<br>**COMPLIANCE DETAILS:**<br>**COMPLIANCE SCOPE:** Product<br>**APPLICABLE FACILITIES:** Berger Paints Emirates Ltd. Co. L.L.C. P.O. Box 27524, Al Qouz 1, Dubai, U.A.E.<br>**COMPLIANCE URL:** https://wimpeylab.com/en<br>**COMPLIANCE NOTES:** Report No.: WD-R-250724-0464. The report does not explicitly list the expiry date; the entered date was only to satisfy the filed requirement. | **ISSUE DATE:** 2025-08-01 | **EXPIRY DATE:** 2028-08-01 |

## Section 4: Accessories

*This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.*

No accessories are required for this product.

## Section 5: General Notes

Recommended Areas Of Application:
Area of Use: Interior
Subtract: Concrete, Plaster, Masonry, Gypsum & Timber (with appropriate undercoat)

Sheen Variants: Metallic, Smooth

Method of application: Trowel, Designer tools, Brush or Roller application.
Thinner: Sweet water
Thinning ratio (by vol.): Use 10%-20% for ease of application depending on the method of application.

For more information, please refer to the product data sheet.

# Section 6: References

**MANUFACTURER INFORMATION**


MANUFACTURER: **Berger Paints Emirates Ltd. Co. L.L.C.**
ADDRESS: **P.O. Box 27524, Al Qouz 1, Dubai, U.A.E.**
**Dubai, Dubai 27524**
COUNTRY: **United Arab Emirates**

WEBSITE: **https://www.asianpaints.com/**
CONTACT NAME: **Shirouz Sharafuddeen**
TITLE: **Officer - Technology**
PHONE: **00971-43391000**
EMAIL: **shirouz.sharafuddeen@asianpaints.com**


*The listed contact is responsible for the validity of this HPD and attests that it is accurate and complete to the best of his or her knowledge.*

**KEY**

**Hazard Types**

**AQU** Aquatic toxicity
**CAN** Cancer
**DEV** Developmental toxicity
**END** Endocrine activity
**EYE** Eye irritation/corrosivity
**GEN** Gene mutation
**GLO** Global warming
**LAN** Land toxicity
**MAM** Mammalian/systemic/organ toxicity
**MUL** Multiple
**NEU** Neurotoxicity
**NF** Not found on Priority Hazard Lists
**OZO** Ozone depletion
**PBT** Persistent, bioaccumulative, and toxic
**PHY** Physical hazard (flammable or reactive)
**REP** Reproductive
**RES** Respiratory sensitization
**SKI** Skin sensitization/irritation/corrosivity
**UNK** Unknown

**GreenScreen (GS)**

**BM-4** Benchmark 4 (prefer-safer chemical)
**BM-3** Benchmark 3 (use but still opportunity for improvement)
**BM-2** Benchmark 2 (use but search for safer substitutes)
**BM-1** Benchmark 1 (avoid - chemical of high concern)
**BM-U** Benchmark Unspecified (due to insufficient data)
**LT-P1** List Translator Possible 1 (Possible Benchmark-1)
**LT-1** List Translator 1 (Likely Benchmark-1)
**LT-UNK** List Translator Benchmark Unknown
**NoGS** No GreenScreen.

GreenScreen Benchmark scores sometimes also carry subscripts, which provide more context for how the score was determined. These are DG (data gap), TP (transformation product), and CoHC (chemical of high concern). For more information, see 2.2.2.4 GreenScreen® for Safer Chemicals, www.greenscreenchemicals.org, and Best Practices for Hazard Screening on the HPDC website (hpd-collaborative.org).

**Recycled Types**

**PreC** Pre-consumer recycled content
**PostC** Post-consumer recycled content
**UNK** Inclusion of recycled content is unknown
**None** Does not include recycled content

**Other Terms:**

**GHS SDS** Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

**Inventory Methods:**

**Nested Method** / **Material Threshold** Substances listed within each material per threshold indicated per material
**Nested Method** / **Product Threshold** Substances listed within each material per threshold indicated per product
**Basic Method** / **Product Threshold** Substances listed individually per threshold indicated per product

**Nano** Composed of nano scale particles or nanotechnology
**Third Party Verified** Verification by independent certifier approved by HPDC
**Preparer** Third party preparer, if not self-prepared by manufacturer
**Applicable facilities** Manufacturing sites to which testing applies

*The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:*

- *a method for the assessment of exposure or risk associated with product handling or use,*
- *a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.*

*Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.*

*The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.*

*The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.*

# Test Report

**Customer Details**

Report No. WD-R-250724-0464

**BERGER PAINTS EMIRATES LTD CO (L.L.C.)**
P.O Box No: 27524 Al Qouz, Dubai, UAE CAF24 - 133

Request No. : WD-Q-250724-0101 Received Date : 24/07/2025 Sample No. : WD-S-250724-0958

| | | | |
|---|---|---|---|
| Sampling Date | : 24/07/2025 | Report Date. | : 01/08/2025 |
| Analysis Start Date. | : 24/07/2025 | Analysis End Date. | : 01/08/2025 |
| Sample Location. | : Berger Paints Emirates Ltd Co LLC, Al Quoz - Dubai, UAE | Sampled By | : RISHAD |
| Sample Description | : Royale Play Bariq | Sample Identification | : Royale Play Bariq |
| Source | : Berger Paints Emirates Ltd Co LLC, Al Quoz - Dubai, UAE | Samplerrefno | : SP/C |
| Sampling Time | : 09:05 AM | | |

| Parameters | Test Methods | Units | Results |
|---|---|---|---|
| VOC content | USEPA 24 | g/L | 4 |

| Analyst | Reviewed By | Method Variation |
|---|---|---|
| CB | AY | None |

**Signed for and on behalf of Wimpey Laboratories**

WIMPEY LABORATORIES L.L.C. P.O.BOX: 123279, DUBAI, UAE

**Anandu VS**
Section In-charge – Chemistry (Specialty)

Test results relate only to the samples tested.This report shall not be reproduced except in full, without the written approval of the Laboratory. This is a LIMS software generated document with E Signature.

Form No: WRF1-P-002 Issue No.:01 Rev No:00 Issued Date:20-05-2020

- End of Text -

STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL (VOC) EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS VERSION 1.2-CALIFORNIA DEPARTMENT OF PUBLIC HEALTH (CDPH)

(Emission testing method for California Specification 01350)

**Laboratory Report**

## 1. Introduction

Middle East Testing Laboratory L.L.C (METS) were contacted by Berger Paints Emirates Ltd Co (LLC) and requested to perform 14 days emission test as per CDPH Method.

| | |
|---|---|
| Client | : Berger Paints Emirates Ltd Co (LLC)<br>Al Qouz Indl Area-1, Opp TCTI factory,<br>P O Box: 27524 - Dubai,UAE |
| Report No | : MR-240725-224 |
| Reporting Date | : 08/08/2025 |
| Tested by | : SH |
| Date of Analysis | : 24/07/2025-08/08/2025 |
| Issue No | : 01 (Re-Issue Date: NA) |

## 2. Sample Information

| | |
|---|---|
| Sample Description | : Royale Play Bariq |

## 3. Brief Evaluation of the Results:

| | TVOC and Individual VOC's of Concern | | Formaldehyde | |
|---|---|---|---|---|
| | Criterion | Compliance | Criterion | Compliance |
| **MS-240725-224** | TVOC: <0.5 mg/m$^3$ | **PASS** | ≤9.0µg/m$^3$ | **PASS** |
| | Individual VOC: < Limit | **PASS** | | |

Details furnished in following pages

**Prepared by**

**Team Head**
**Material Science Division (MSD)**
**Employee Code: METS AJ EC 220**

**Verified by**

**Supervisor**
**Fire & Material Science Division**
**Employee Code: METS AJ EC 110**



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**Report No.: MR-240725-224**

## 4. Test Method

Standard Method for the Testing and Evaluation of VOC Emissions from Indoor Sources using Environmental Chambers, version 1.2 of January 2017 by the California Department of Public Health (CDPH Method).

For evaluation of test results the principle of shared risk is applied, i.e., for a max limit, a result Less than or equal to the limit complies and a result Greater than the limit does not comply.

## 5. Sample Preparation

The Royale Play Bariq was mixed vigorously until it is fully homogenous and coated on a steel plate which has an area of 0.36 $m^2$

## 6. Test Procedure

Principle: To determine the specific emission rates of VOC's emitted from the tested specimen. The test was conducted in a small-scale environmental chamber at specified constant conditions of temperature, relative humidity, ventilation rate and product loading factor. The chamber is considered to be a constantly stirred tank reactor. As the air in the chamber is fully mixed, VOC concentrations measured at the chamber exhaust represents the air concentrations in the chamber. From the airflow rate into the chamber, the VOC concentration, and the exposed surface area of the specimen, an area-specific emission rate or emission factor is calculated using the steady-state form of the mass-balance model.

The specimens were placed in a separate conditioning container in a room with controlled climate conditions of temperature 23 ± 1°C and 50 ± 4 % RH. After 10 days ± 5 h of conditioning the specimens were placed in a 1 $m^3$ emission chamber of stainless steel. Air samplings, minimum duplicates, were carried out after 24, 48 and 96 hours in the chamber.

**Conditions in the emission chamber**

| | |
|---|---|
| Chamber volume | : 1.0 $m^3$, stainless steel |
| Temperature | : 23 ± 1°C |
| Relative humidity | : 50 ± 4 % RH |
| Area of test specimen | : 0.36 $m^2$ |
| Area specific air flow rate | : 2.0 $m^3/m^2$ h |
| Air exchange rate | : 1.0 $h^{-1}$ |
| Air velocity at specimen surface | : 0.1 – 0.3 m/s |

The air samples from the chamber were collected into a collection vessel containing sorbent materials. VOCs are determined by GC comparing the chromatographic retention time and mass spectrum of the unknown to the corresponding parameters for the pure compound analyzed on the same. Matching retention times and mass spectra provide positive, confirmed identifications.

The capillary column used is RXi-624 Sil MS – 30m x 0.32mm x 1.8µm. The mass/charge ratio is used for compound identification. The total volatile organic compounds (TVOC) mean compounds eluting between and including n-hexane to hexadecane, having boiling points in the range of about 60-250 °C. The emission rate of TVOC is quantified with known equivalent standard and includes all compounds ca ≥ 1 µg/m3 in the chamber. Minimum duplicate air samples were taken and the results are mean values. Sampled volumes are 3 to 8 L.

The samplings of formaldehyde and acetaldehyde were carried out with DNPH samplers. The samplers were analyzed similar to ISO 16000-3:2011(Indoor air--Part 3: Determination of formaldehyde and other carbonyl compounds – Active sampling method). This means analysis on a liquid chromatograph with absorbance detector. Duplicate air samples were taken and the results are mean values. Sampled volumes were 60 to 80 L.



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## 7. Results

The results in Table 1, 2 and 3 are expressed as concentrations in the test chamber and as area specific emission rates. Calculation of emission rate from chamber concentration:

$$SER_{I} = \frac{Conc\ X\ n}{L}$$

$SER_I$ = area specific emission rate, in µg/m²h

Conc = concentration of a VOC in the chamber, in µg/m³

n = air exchange rate, in changes per hour

L = loading factor, in m²/m³ (area of sample/volume of chamber)

**Test results of TVOC and formaldehyde after 24 hours and 48 hours**

**Table 1**
Test results of Royale Play Bariq, after 24 h

| **Volatile organic compound** | **CAS number** | **Retention time** (min) | **Concentration in the chamber** (µg/m3) | **Emission rate** (µg/m2h) |
|---|---|---|---|---|
| **After 24 h**: | | | | |
| TVOC (C6 – C16) | -- | 5.9-40.1 | < 20 | < 50 |
| Formaldehyde | 50-00-0 | -- | < 1 | < 1 |

**Table 2**
Test results of Royale Play Bariq, after 48 h

| **Volatile organic compound** | **CAS number** | **Retention time** (min) | **Concentration in the chamber** (µg/m3) | **Emission rate** (µg/m2h) |
|---|---|---|---|---|
| **After 48 h**: | | | | |
| TVOC (C6 – C16) | -- | 5.9-40.1 | < 20 | < 50 |
| Formaldehyde | 50-00-0 | -- | < 1 | < 1 |



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**Test results of TVOC and VOCs after 96 hours**

**Table 3**
Test results of Royale Play Bariq, after 96 h

| Volatile organic compound | CAS number | Retention time (min) | Concentration in the chamber (µg/m3) | Emission rate (µg/m2h) |
|---|---|---|---|---|
| TVOC (C6 – C16) | -- | 5.9-40.1 | < 20 | < 50 |
| **Identified substances:** | | | | |
| No substances identified | -- | -- | < 2 | < 4 |
| **Volatile Carcinogens** 1 | | 5.9-40.1 | | |
| No substances identified | -- | -- | < 1 | < 1 |
| **Substances outside TVOC**: | | | | |
| **VVOC** ( < C6) | | 4.5 – 6.2 | | |
| No substances identified | -- | -- | < 2 | < 4 |
| **SVOC** (C16 – C22) | | 37.9 - 50.0 | | |
| No substances identified | -- | -- | < 2 | < 4 |
| Formaldehyde | 50-00-0 | -- | < 1 | < 1 |
| Acetaldehyde | 75-07-0 | -- | < 1 | < 1 |

[1)] Volatile carcinogens = VOCs according to EU Regulation No 1272/2008 Annex VI, cat 1A and 1B

The emission results in Table 4 are expressed as area emission rates (in µg/m2h) and as concentrations in a standard private office and in a standard school classroom (in µg/m3). Calculation of concentration of VOC in the standard private office from emission rate:

$$C = (SER \times A) \div (n \times V)$$

C = concentration of VOC in the private office, in µg/m$^3$
SERa= area specific emission rate of the tested product, in µg/m$^2$h
A = surface area of the tested product, in m, here 33.4 m, (wall area)
n = air ventilation rate, in changes per hour, here 0.68 h-1
V = volume of a private office in m3, here 30.6 m3

In the standard private office, the floor area is 11.1 m2, the wall area is 33.4 m2, door & other millwork 1.89 m2 and wall base area 1.27 m2. In a standard school classroom, the floor area is 89.2 m2, the wall area is 94.6 m2, wall base area 9.68 m2, air ventilation rate 0.82 h-1 and the volume of the room is 231 m3. Wall area is used for the calculations



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**Test results of the estimated concentrations in a standard private office and a standard school classroom scenario according to the target VOCs according to one-half of the CREL list (compound 1-35) and non-listed compounds:**

**Table 4**
Estimated concentrations in a standard private office and a standard school classroom

| No | Volatile organic compound | CAS number | Emission rate (µg/m2h) | Concentration in private office (µg/m3) | Concentration in school classroom (µg/m3) |
|---|---|---|---|---|---|
| 1. | Acetaldehyde | 75-07-0 | ND | < 3 | < 1 |
| 2. | Benzene | 71-43-2 | ND | <0.3 | <0.3 |
| 3. | Carbon disulfide | 75-15-0 | ND | < 3 | < 1 |
| 4. | Carbon tetrachloride | 56-23-5 | ND | < 3 | < 1 |
| 5. | Chlorobenzene | 108-90-7 | ND | < 3 | < 1 |
| 6. | Chloroform | 67-66-3 | ND | < 3 | < 1 |
| 7. | Dichlorobenzene (1,4-) | 106-46-7 | ND | < 3 | < 1 |
| 8. | Dichloroethylene (1,1) | 75-35-4 | ND | < 3 | < 1 |
| 9. | Dimethylformamide (N, N-) | 68-12-2 | ND | < 3 | < 1 |
| 10. | Dioxane (1,4-) | 123-91-1 | ND | < 3 | < 1 |
| 11. | Epichlorohydrin | 106-89-8 | ND | < 3 | < 1 |
| 12. | Ethylbenzene | 100-41-4 | ND | < 3 | < 1 |
| 13. | Ethylene glycol | 107-21-1 | ND | < 3 | < 1 |
| 14. | Ethylene glycol mono ethyl ether | 110-80-5 | ND | < 3 | < 1 |
| 15. | Ethylene glycol mono ethyl ether | 111-15-9 | ND | < 3 | < 1 |
| 16. | Ethylene glycol monomethyl ether | 109-86-4 | ND | < 3 | < 1 |
| 17. | Ethylene glycol monomethyl ether | 110-49-6 | ND | < 3 | < 1 |
| 18. | Formaldehyde | 50-00-0 | ND | < 3 | < 1 |
| 19. | n-Hexane | 110-54-3 | ND | < 3 | < 1 |
| 20. | Iso-phorone | 78-59-1 | ND | < 3 | < 1 |
| 21. | Isopropanol | 67-63-0 | ND | < 3 | < 1 |
| 22. | Methyl chloroform | 71-55-6 | ND | < 3 | < 1 |
| 23. | Methylene chloride | 75-09-2 | ND | < 3 | < 1 |
| 24. | Methyl t-butyl ether | 1634-04-4 | ND | < 3 | < 1 |
| 25. | Naphthalene | 91-20-3 | ND | < 3 | < 1 |



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Table 4 Cont.

| No | Volatile organic compound | CAS number | Emission rate (µg/m2h) | Concentration in private office (µg/m3) | Concentration in school classroom (µg/m3) |
|---|---|---|---|---|---|
| 26. | Phenol | 108-95-2 | ND | **< 3** | **< 1** |
| 27. | Propylene glycol monomethyl ether | 107-98-2 | ND | **< 3** | **< 1** |
| 28. | Styrene | 100-42-5 | ND | **< 3** | **< 1** |
| 29. | Tetrachloroethylene | 127-18-4 | ND | **< 3** | **< 1** |
| 30. | Toluene | 108-88-3 | ND | **< 3** | **< 1** |
| 31. | Trichloroethylene | 79-01-6 | ND | **< 3** | **< 1** |
| 32. | Vinyl acetate | 108-05-4 | ND | **< 3** | **< 1** |
| 33-35 | Xylenes (m-, o-, p-) | 108-38-3, 95-47-6, 106-42-3 | ND | **< 3** | **< 1** |
| | TVOC (C6 – C16) | - | < 20 | < 30 | < 10 |
| | SVOC (C16 – C22) | - | <2 | <3 | <1 |

ND = not detected (detection limit is approx. 2 µg/m2h)

**Evaluation of the test results**

The tested product Royale Play Bariq complies with the requirements of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers, version 1.2, 2017, by the California Department of Public Health.

The test results can be used to evaluate compliance with the indoor air emission requirements of LEED v4.1 and BREEAM International (2016 & 2021), see Table 5 and 6. The sample is evaluated as wall product.



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**Table 5.**
**Standard private office**: Compliance with LEED v4.1 and BREEAM International (2016 & 2021)

| | **Concentration in private office** (mg/m3) | **Maximum allowable conc.** (mg/m3) | **PASS / FAIL** |
|---|---|---|---|
| **LEED v4.1** | | | |
| TVOC | **<0.010** | 0.5 mg/m3 or less | **PASS** |
| | | between 0.5 and 5.0 mg/m3 | - |
| | | 5.0 mg/m3 or more | - |
| Acetaldehyde | **< 0.003** | 0.070 | **PASS** |
| Formaldehyde | **< 0.003** | 0.009 | **PASS** |
| Single VOC compounds found with defined CREL: | ND | According to list of CREL (see App 3) | **PASS** |
| **BREEAM International (2016 & 2021)** | | | |
| TVOC | **<0.010** | 1.0 (emission criteria) | **PASS** |
| | | 0.3 (exemplary level emission criteria) | **PASS** |
| SVOC | **< 0.003** | 0.1 (exemplary level emission criteria) | **PASS** |
| Carc cat 1A+1B | **< 0.001** | 0.001 | **PASS** |
| Formaldehyde | **< 0.003** | 0.06 (emission criteria) | **PASS** |
| | | 0.01 (exemplary level emission criteria) | **PASS** |

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**Table 6.**
**Standard school classroom**: Compliance with LEED v4.1 and BREEAM International (2016 & 2021)

| | **Concentration in private office** (mg/m3) | **Maximum allowable conc.** (mg/m3) | **PASS / FAIL** |
|---|---|---|---|
| **LEED v4.1** | | | |
| TVOC | **<0.010** | 0.5 mg/m3 or less | **PASS** |
| | | between 0.5 and 5.0 mg/m3 | - |
| | | 5.0 mg/m3 or more | **-** |
| Acetaldehyde | **< 0.001** | 0.070 | **PASS** |
| Formaldehyde | **< 0.001** | 0.009 | **PASS** |
| Single VOC compounds found with defined CREL: | ND | According to list of CREL (see App 3) | **PASS** |
| **BREEAM International (2016 & 2021)** | | | |
| TVOC | **<0.010** | 1.0 (emission criteria) | **PASS** |
| | | 0.3 (exemplary level emission criteria) | **PASS** |
| SVOC | **<0.001** | 0.1 (exemplary level emission criteria) | **PASS** |
| Carc cat 1A+1B | **< 0.001** | 0.001 | **PASS** |
| Formaldehyde | **< 0.001** | 0.06 (emission criteria) | **PASS** |

**Appendices:**

1. Target CREL VOCs and their maximum allowable concentrations



For further clarification of reports, please contact qc@metslab.com

Report No.: MR-240725-224

## APPENDIX I

| Sl. No | Volatile organic compound | CAS number | Maximum allowable conc. (µg/m3) |
|---|---|---|---|
| 1. | Acetaldehyde | 75-07-0 | **70** |
| 2. | Benzene | 71-43-2 | **0.3** |
| 3. | Carbon disulfide | 75-15-0 | **400** |
| 4. | Carbon tetrachloride | 56-23-5 | **20** |
| 5. | Chlorobenzene | 108-90-7 | **500** |
| 6. | Chloroform | 67-66-3 | **150** |
| 7. | Dichlorobenzene (1,4-) | 106-46-7 | **400** |
| 8. | Dichloroethylene (1,1) | 75-35-4 | **35** |
| 9. | Dimethylformamide (N, N-) | 68-12-2 | **40** |
| 10. | Dioxane (1,4-) | 123-91-1 | **1 500** |
| 11. | Epichlorohydrin | 106-89-8 | **1.5** |
| 12. | Ethylbenzene | 100-41-4 | **1 000** |
| 13. | Ethylene glycol | 107-21-1 | **200** |
| 14. | Ethylene glycol mono ethyl ether | 110-80-5 | **35** |
| 15. | Ethylene glycol mono ethyl ether acetate | 111-15-9 | **150** |
| 16. | Ethylene glycol monomethyl ether | 109-86-4 | **30** |
| 17. | Ethylene glycol monomethyl ether acetate | 110-49-6 | **45** |
| 18. | Formaldehyde | 50-00-0 | **9** |
| 19. | n-Hexane | 110-54-3 | **3 500** |
| 20. | Iso-phorone | 78-59-1 | **1 000** |
| 21. | Isopropanol | 67-63-0 | **3 500** |
| 22. | Methyl chloroform | 71-55-6 | **500** |
| 23. | Methylene chloride | 75-09-2 | **200** |
| 24. | Methyl t-butyl ether | 1634-04-4 | **4 000** |
| 25. | Naphthalene | 91-20-3 | **4.5** |
| 26. | Phenol | 108-95-2 | **100** |
| 27. | Propylene glycol monomethyl ether | 107-98-2 | **3 500** |
| 28. | Styrene | 100-42-5 | **450** |
| 29. | Tetrachloroethylene | 127-18-4 | **17.5** |
| 30. | Toluene | 108-88-3 | **150** |
| 31. | Trichloroethylene | 79-01-6 | **300** |
| 32. | Vinyl acetate | 108-05-4 | **100** |
| 33-35 | Xylenes (m-, o-, p-) | 108-38-3, 95-47-6, 106-42-3 | **350** |

Target CREL VOCs and their maximum allowable concentrations.

**Remarks:** Traceability details of the sample not provided by client.

**Test Location:** Ajman

-End of Report-



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