CRADLE TO CRADLE PRODUCTS INNOVATION INSTITUTE

Material Health GOLD

AVITERA® SE & NOVACRON® EC / S

ISSUED TO Huntsman(Singapore) Pte. Ltd, Huntsman International LLC, Huntsman Advanced Materials (Switzerland) GmbH

STANDARD 3.1 **EXPIRES** 21 November 2019

LEAD ASSESSMENT BODY
EPEA GmbH

ASSESSED APPLICATIONS
manufacturing, use, recycling, incineration, composting, landfilling

PRODUCTS COVERED
AVITERA BLACK SE, AVITERA BRILLIANT YELLOW SE, AVITERA DEEP BLUE SE, AVITERA DEEP SEA SE, AVITERA GOLD SE, AVITERA LIGHT RED SE, NOVACRON BLACK NN, NOVACRON BRILLIANT BLUE W-BR, NOVACRON NAVY EC-BN, NOVACRON NAVY S-G, NOVACRON NAVY S-GI, NOVACRON ORANGE EC-3R, NOVACRON RED EC-2BL, NOVACRON RED S-B, NOVACRON RUBY S-3B, NOVACRON YELLOW EC-2R, NOVACRON YELLOW S-3R

PRODUCT OPTIMIZATION SUMMARY

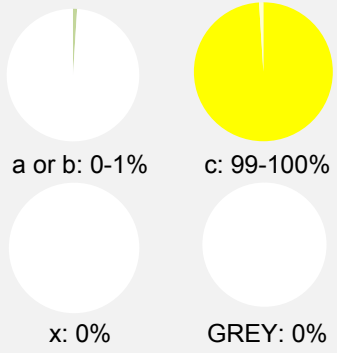
- ☑ *Cradle to Cradle Certified*™ Banned List compliant
- ☑ Material Health optimization strategy not required
- ☑ No exposure from carcinogens, mutagens, or reproductive toxicants
- ☑ VOC emissions testing not required for this product type
- ☑ Product is fully optimized - does not contain any GREY or x-assessed chemicals
- ☐ Process chemicals have been identified and none are GREY or x-assessed

PERCENTAGE OF CHEMICAL SUBSTANCES ASSESSED BY WEIGHT

100%

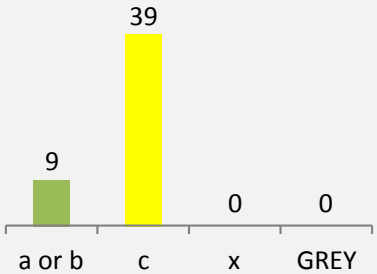
Inventory threshold for chemicals in each material = 100 ppm

ASSESSMENT RATINGS BY WEIGHT



% CHEMICAL SUBSTANCES

PRODUCT OPTIMIZATION



48 CHEMICAL SUBSTANCES

Material Health Certificate Guide

The Material Health Certificate is awarded to products assessed against the requirements in the Material Health category of the *Cradle to Cradle Certified*™ Product Standard. The Material Health achievement level (Basic, Bronze, Silver, Gold, or Platinum) is shown in the certificate's upper right corner. A Material Health Certificate does not indicate that a product is *Cradle to Cradle Certified*™, which requires assessment against all five Standard categories.

The *Cradle to Cradle Certified*™ Material Health Assessment Methodology is a contextual assessment based on chemical hazard identification and qualitative exposure considerations during a product's final manufacture, use, and end-of-use. The exposure assessment is highly simplified and more conservative compared to a conventional, quantitative risk assessment.

Definitions of Administrative Fields

Field	Definition
Issued To	Company that sells the assessed product(s).
Assessed By	Accredited Assessment Body responsible for conducting the product assessment.
Expires	Date the certificate expires. Certificate renewal is required biennially.
Standard	Version of the Standard (Material Health subsection only) the product was assessed against.
Assessed Scenarios	Use and end-of-use scenarios that the assessor considered in the exposure portion of the Material Health assessment. Assessment results are only valid for these scenarios.
Products Covered	Products included in the scope of the certificate. Certificates may cover multiple product variations.

Definitions of Product Optimization Summary Fields

***Cradle to Cradle Certified*™ Banned List compliant**

The product's materials are not known to contain chemicals on the Banned Lists of Chemicals above permitted thresholds.

Material Health optimization strategy developed

Plan developed to phase out x assessed chemicals and assess GREY content.

No exposure from carcinogens, mutagens, or reproductive toxicants

Assessed materials do not contain carcinogens, mutagens, or reproductive toxicants with plausible exposure routes.

Meets VOC emissions testing requirements

The product meets the volatile organic compound (VOC) emissions testing requirements described in the Standard.

Does not contain any GREY or x-assessed chemicals; product is fully optimized

The product's materials contain chemicals with only a, b, or c risk ratings (no GREY or x). (Note: In the *Cradle to Cradle Certified*™ Material Health Assessment Methodology, chemicals in each material are assigned a, b, c, x, or GREY risk ratings. Each material is then assigned an A, B, C, X, or GREY final assessment rating based on the risk ratings of its constituent chemicals. The following table explains the rating system.)

a or b (A or B)	Optimal
c (C)	Moderately problematic, but acceptable for use
x (X)	Highly problematic; targeted for phase out
GREY	Considered unassessed due to unknown identity or lack of toxicity information

Process chemicals have been identified and none are GREY or x-assessed

All process chemicals have been assessed and received an a, b, or c risk rating (no x-assessed or GREY).

Percentage Assessed by Weight

For single-material products, the cumulative percentage of assessed chemicals (a, b, c, and x). For other products, the cumulative percentage of assessed materials (A, B, C, and X). When a certificate represents a group of products, a percent range is shown.

Assessment Ratings by Weight

For single-material products, the percentage of a or b (shown in green), c (shown in yellow), and x (shown in red) assessed chemicals. For other products, the percentage of A or B (shown in green), C (shown in yellow), and X (shown in red) assessed materials. When a certificate represents a group of products, percent ranges are shown.

Product Optimization

Number of materials (or chemical substances for single-material products and multi-material product groups with uncountable color variations) assigned each assessment rating.

Cradle to Cradle Certified™ is a trademark licensed by the Cradle to Cradle Products Innovation Institute

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