THE SMARTER FLOORING SYSTEM

FLOWSTONE

LUXURY FLOORING SYSTEMS

Built to Perform. Engineered to Last.

FlowStone Flooring is a next-generation seamless surface engineered for multi-family, mixed-use, and commercial projects that demand **speed, durability, and visual appeal**. Developers choose FlowStone to keep projects on schedule, reduce lifetime maintenance costs, and deliver a finish that increases long-term asset value.

WHY DEVELOPERS & OWNERS CHOOSE FLOWSTONE

1

Stay on Schedule

Fast installation keeps construction timelines intact, no waiting on multiple trades or extended cure times. Install at almost any build stage.

2

Lower Lifetime Costs

Eliminate grout joints, cracks, and replacement planks. FlowStone's seamless surface reduces maintenance for the building's lifetime.

3

Faster Turnovers

When tenants move out, floors need minimal cleanup and no replacement, saving days between leases and boosting annual NOI.

4

Higher Resale Value

FlowStone delivers a timeless, architectural aesthetic that elevates interiors and enhances long-term property value.

FIREPROOF CLASS A | WATERPROOF SURFACE | PET FRIENDLY | SUSTAINABLE | CODE COMPLIANT | FAST INSTALL

ENGINEERED FOR MULTIFAMILY EFFICIENCY

TECHNICAL SPECIFICATIONS

- Compatible with MgO (ex. EXACOR™), Gypsum, and Concrete substrates
- Installation speed: 3x faster than tile or vinyl plank
- Finish options: Matte, satin, or polished stone
- Designed for multiple occupancy cycles
- Zero VOC and low emissions certified
- Completely Seamless Surface

IDEAL APPLICATIONS

- Multifamily & Apartment Projects
- Student & Senior Housing
- Mixed-Use Developments
- Renovation & Conversion Projects
- Hospitality & Commercial Spaces
- High-Traffic Common Areas

DEVELOPER ADVANTAGE AT A GLANCE

FEATURE	FLOWSTONE ADVANTAGE	TRADITIONAL FLOORING	DEVELOPER BENEFIT
Installation Time	**2-3 days per unit**	5-7 days per unit	✓ 60% Time Savings
Unit Turnover	**Clean & go**	Replace damaged sections	✓ 90% Less Downtime
Maintenance	**$0.15/sq ft annually**	$0.85/sq ft annually	✓ 82% Cost Reduction
Lifespan	**20+ years**	7-10 years	✓ 3x Longer Life
Water Damage	**100% Waterproof Surface**	Requires replacement	✓ Zero Water Claims
Acoustic Rating	**IIC 55-73**	IIC 45-55	✓ Superior Acoustics

SCHEDULE A DEVELOPER CONSULTATION

See how FlowStone can accelerate your next project while improving longterm ROI

flowstoneflooring.com info@flowstonefloor.com (949) 709-3986

FLOWSTONE FLOORING - BUILT TO PERFORM - ENGINEERED TO LAST

FLOWSTONE
LUXURY FLOORING SYSTEMS

SYSTEM TECHNICAL DATA SHEET

PRODUCT DESCRIPTION

Flowstone™ is a complete proprietary luxury decorative flooring assembly that delivers the appearance of high-end polished concrete or natural stone at a fraction of the cost and installation time. The system is engineered as an integrated finished floor, not a collection of separate materials. It provides exceptional durability, seamless aesthetics, low maintenance, and superior stain/chemical resistance. For use over existing concrete, gypsum concrete, or approved wood subfloors with magnesium cement board underlayment.

SUBSTRATE REQUIREMENTS

Approved Substrates:

- Concrete (properly prepared)
- Magnesium Cement Board underlayment systems
- Gypsum concrete (with proper surface preparation)

Substrate Preparation:

All substrates must be structurally sound, clean, and free of contaminants. Surface profiling is required to ensure proper mechanical bonding. Substrate moisture levels must be within manufacturer specifications prior to installation.

LIMITATIONS & AMBIENT CONDITIONS

- Do not install if substrate or ambient temperature is below 40°F (4°C) or above 100°F (38°C).
- Maintain 40–100°F for 48 hours before, during, and 48 hours after installation.
- Do not apply if rain or freezing temperatures are expected within 24 hours.
- Not for exterior use or areas of constant water submersion.
- Minimum concrete age: 28 days. Substrate must be structurally sound and free of curing compounds, sealers, or contaminants.

TYPICAL INSTALLATION TIMELINE

Standard apartment unit (800–1,500 sq ft)

DAY 1	DAY 2	DAY 3
Surface preparation and Crust application	Crust finish and Color application	Clear application and final inspection

Light foot traffic: 24 hours after final sealer | Full occupancy: 72 hours after final sealer

(Note: Lower temperatures and higher humidity will extend cure times significantly.)

INSTALLATION BY SUBSTRATE TYPE

A. PREPARED CONCRETE OR GYPSUM CONCRETE SUBSTRATE (Most Common)

Surface Preparation

Mechanically grind entire floor (including perimeters and corners) with HEPA-filtered equipment to achieve CSP 2–3 profile. Remove all dust, oils, and contaminants. Floor must be clean, dry, and structurally sound.

Crust Application

Apply proprietary Flowstone Crust with magic trowel in one continuous operation. Lightly mist substrate with water immediately prior to application (no puddling) to extend working time.

Color Development

After overnight cure, lightly abrade imperfections. Apply Flowstone Color reactive stain via fine mist in multiple passes until desired depth is achieved.

Clear Protection

Apply high-performance Flowstone Clear in one pass using shed-resistant roller. Back-roll once for uniform finish.

B. WOOD SUBFLOOR OR PLYWOOD (with Magnesium Cement Board Underlayment)

Underlayment Installation

Install ½" magnesium cement board (rough side UP) minimum per manufacturer guidelines using corrosion-resistant screws on 6" centers at seams and field as required to eliminate movement. All panels must be fully supported and squeak-free.

Surface Preparation

Grind entire surface including seams with HEPA equipment and 50–60 grit hybrids until perfectly flat and clean. Vacuum thoroughly, including all walls and edges.

Seam Reinforcement

Apply self-adhesive fiberglass mesh tape centered over all panel joints.

Crust (Base) Application

Embed mesh and level floor with proprietary Flowstone Crust using magic trowel. Feather edges tight to walls and obstructions.

Crust (Final Body)

After overnight cure, re-grind floor flat. Apply second pass of Flowstone Crust with magic trowel, alternating directions for signature artisanal texture.

Color & Clear

Same as Concrete/Gypsum steps 3 and 4 above.

PROTECTION & CLEANUP

Protect adjacent surfaces with tape and plastic throughout installation. After Clear has cured overnight, remove installation protection and perform final cleanup. Immediately cover the entire finished Flowstone floor with heavy-duty breathable surface protection (such as RamBoard, masonite, or reinforced kraft paper) before allowing appliance delivery, cabinet installation, or any other trades on the floor. This protection must remain in place until all construction is complete to prevent scratches, dents, and gouges. Minor touch-ups may be performed within 24 hours of clear application without additional preparation.

MAINTENANCE REQUIREMENTS

Routine Cleaning:

Sweep or vacuum regularly to remove loose debris. Damp mop with pH-neutral cleaner as needed. Avoid harsh chemicals, abrasive cleaners, or acidic solutions.

Long-Term Care:

FlowStone systems require no waxing, stripping, or refinishing. The seamless surface eliminates grout lines and gaps where dirt and bacteria can accumulate. Standard turnover cleaning is all that's required between tenants.

WARRANTY INFORMATION

FlowStone Luxury Flooring Systems are backed by comprehensive warranties when installed by certified applicators. Warranty terms vary based on specific system configuration and application. Contact FlowStone for complete warranty details and certification requirements.

TECHNICAL SUPPORT

Available exclusively to certified installers. Contact Flowstone Technical Department for project-specific recommendations, mock-ups, or troubleshooting.

FLOWSTONE
LUXURY FLOORING SYSTEMS

TEST RESULTS

ADHESION PERFORMANCE (ASTM C297)

Substrate	Bond Strength	Failure Mode	Status
Portland Cement Concrete	**2,250 psi**	95% adhesive / 5% concrete	PASS
Magnesium Board 1/2"	**765 psi**	100% cohesive in board	PASS
Fiberglass Mesh	**1,830 psi**	100% adhesive at interface	PASS
Lightweight Gypsum (3/4")	**145 psi**	exceeded substrate strength	PASS

PHYSICAL PROPERTIES

Tensile Strength - (ASTM D638)	**4,100 psi**	✓
Elongation - (ASTM D638)	**14%**	✓
Hardness - (ASTM D2240)	**75 Shore D**	✓
Abrasion - (ASTM D4060)	**22 mg loss**	✓
Impact - (ASTM D2794)	**160+ in-lb**	✓
Water Absorption - (ASTM D4060)	**0.029%**	✓
Pull Test – (ASTM C1583)	**Exceeds Standards**	✓

PERFORMANCE TEST NG

Crack Bridging - (AC308 Appendix A)	**3/32"**	✓
Flame Spread - (ASTM E84)	**0**	✓
Smoke Developed - (ASTM E84)	**0**	✓
VOC (TVOC) - (CDPH v1.2)	**<0.04 mg/m³**	✓
Slip Dry/Wet - (ANSI A326.3)	**0.70/0.65**	✓
Fire Rating - (ASTM E84)	**Class A**	✓

CHEMICAL RESISTANCE (ASTM D1308)

Household Bleach	Vinegar	Motor Oil	Gasoline	MEK
NO EFFECT	NO EFFECT	NO EFFECT	NO EFFECT	FULL RECOVERY

INTERIOR FLOORING COMPLIANCE STANDARDS SUMMARY

11/11 TESTS PASSED	Class A FIRE RATING	0.6% WATER ABSORPTION
2,250 psi MAX BOND STRENGTH	4,100 psi MAX TENSILE STRENGTH	160+ in-lb IMPACT RESISTANT

FLOWSTONE
LUXURY FLOORING SYSTEMS

ACOUSTIC PERFORMANCE TEST RESULTS

IMPACT INSULATION CLASS (IIC) PERFORMANCE

Substrate Configuration	Base Lab IIC	Base Field IIC	FlowStone IIC	Code Status	+Insulation
Wood + 0.5" MGO	52-56	47-51	**50-54**	PASS	55-59
Wood + 0.75" MGO	54-58	49-53	**52-56**	PASS	57-61
Wood + ¾" Gyp-Crete (bare)	55-59	50-54	**53-57**	PASS	58-62
Wood + ¾" Gyp-Crete + ⅛" mat	65-69	59-63	**63-67**	LUXURY	68-72
Wood + ¾" Gyp-Crete + ⅜" mat	69-73	63-67	**67-71**	ULTRA	72-76
Wood + 1" Gyp-Crete (bare)	57-61	52-56	**55-59**	PASS	60-64
Wood + 1" Gyp-Crete + ⅛" mat	67-71	61-65	**65-69**	LUXURY	70-74
Wood + 1" Gyp-Crete + ⅜" mat	71-75	65-69	**69-73**	ULTRA	74-78
Bare Concrete 7-8" (High-Rise)	47-52	43-48	**50-55**	PASS	54-59

KEY FINDINGS

- FlowStone provides **-2 IIC** on wood frame
- FlowStone provides **+3 IIC** on bare concrete.
- All wood frame configurations **meet IIC 50**
- **code** ⅛" mat adds **+10 IIC points** (Luxury)
- ⅜" mat adds **+14 IIC points** (Ultra)
- Ceiling insulation adds **+5 IIC points**

CODE COMPLIANCE

IIC 50-59	Standard Code	✓ PASS
IIC 60-69	Luxury Rating	✓ LUXURY
IIC 70+	Ultra Rating	✓ ULTRA

Note:
Most building codes require minimum IIC 50 (Field IIC 45)

ACOUSTIC PERFORMANCE SUMMARY

IIC 73 MAX RATING	9/9 CONFIGS PASS	+3 IIC CONCRETE GAIN
IIC 50+ CODE MET	-2 IIC WOOD FRAME	+14 IIC MAX W/ MAT

FLOWSTONE
LUXURY FLOORING SYSTEMS

ICC-ES AC-39 DECK-COATING COMPLIANCE TEST RESULTS

RAMTECH LABORATORIES

10073 Valley View Street, CA 90630 | Test Report No. 4501-A Summary | Date: Feb 20, 2025

WEATHERING & DURABILITY TESTING

Test	Procedure	Requirement	Result	Status
1. Weatherometer (2000 Hours)				
Exposure Testing	ASTM G-23	No Cracking/Crazing	No Defects	PASS
2. Tensile & Elongation				
Control Samples	ASTM D-638	> 500 psi	1,725 psi	PASS
Weatherometer Samples	ASTM D-638	> 90% of Control	1,656 psi (96%)	PASS

ADHESION & BOND STRENGTH

Substrate	Test Method	Minimum Required	Actual Result	Status
Magnesium Board	ASTM C-297	10 psi	765 psi	PASS
Concrete	ASTM C-297	10 psi	2,250 psi	PASS
Fiberglass Mesh	ASTM C-297	10 psi	1,830 psi	PASS

PHYSICAL PROPERTIES

Abrasion	< 40 mil	**14 mil**	✓
Percolation	No Water	**Pass**	✓
Water Absorption	< 5%	**0.029%**	✓
Freeze-Thaw	< 1% Loss	**0.019%**	✓

SAFETY & PERFORMANCE

Low Temp Flex	No Cracking	**Pass**	✓
Concentrated Load	No Penetration	**Pass**	✓
Surface Burning	Class A	**Class A**	✓
Coefficient of Friction	ADA Compliant	**0.85**	✓

TEST PERFORMANCE SUMMARY

12/12 TESTS PASSED	2,250 psi MAX BOND	0.029% WATER ABSORPTION
Class A FIRE RATING	0.85 COF (ADA)	2000 hrs WEATHER TEST

FLOWSTONE
LUXURY FLOORING SYSTEMS

TEST RESULTS

COMPREHENSIVE CHEMICAL RESISTANCE TESTING (ASTM D-2229)

Chemical Agent	Test Method	Acceptance Criteria	Result
Industrial Detergent Solution	ASTM D-2229	No Cracking, Softening	PASS
Ammonia Solution	ASTM D-2229	No Cracking, Softening	PASS
Salt Solution	ASTM D-2229	No Cracking, Softening	PASS
Muriatic Acid	ASTM D-2229	No Cracking, Softening	PASS
Chlorine Solution	ASTM D-2229	No Cracking, Softening	PASS
Ethylene Glycol	ASTM D-2229	No Cracking, Softening	PASS
Kerosene	ASTM D-2229	No Cracking, Softening	PASS
Turpentine	ASTM D-2229	No Cracking, Softening	PASS
Paint Thinner	ASTM D-2229	No Cracking, Softening	PASS

PERFORMANCE HIGHLIGHTS

COMPLIANCE STANDARD

ICC-ES AC-39	✓ COMPLIANT
ASTM E-84	✓ CLASS A
ADA Requirements	✓ COMPLIANT
MIL-D-24613	✓ COMPLIANT
Chemical Resistance	✓ 9/9 PASS

COMPARATIVE ANALYSIS

Property	AC-39 Minimum	Multicoat Result	Performance Margin
Tensile Strength	500 psi	1,725 psi	+245%
Water Absorption	< 5%	0.029%	99.4% Better
Abrasion Loss	< 40 mil	14 mil	65% Better
Freeze-Thaw Loss	< 1%	0.019%	98% Better
Weathering Retention	> 90%	96%	+6%

FLOWSTONE
LUXURY FLOORING SYSTEMS

Multi-Family Living

ORIGINS COLLECTIONS

THE QUARRY

"Where the earth's natural beauty meets timeless design, inspired by the majestic stone formations shaped by millions of years of geological processes."


Kanawha Clay


Golden Wheeling


Canaan Cocoa


Bluestone Chisel


Emerald Hollow


Charleston-Grey


Appalachian Oak


Rhododendron Mist

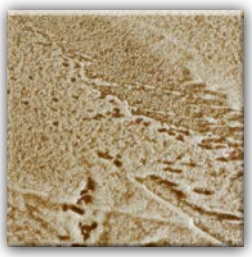

New River Tide


Midnight Coal


Deep Seam


Shenandoah Glow


Ravenel Pine


Valley Soil

more colors available

Designed to Look Natural. Built to Last.

Crafted for high-performance living, this seamless flooring solution offers a warm, organic look that resonates with today's tenants. Resistant to staining, cracking, and wear, it supports both comfort and longevity. Its textured surface enhances slip resistance and echoes natural stone aesthetics without the maintenance burden. Ideal for both interior living spaces and amenity areas where visual appeal and resilience are non-negotiable.

THE PESTLE

"A tribute to the art of color creation, where each solid color is a result of meticulous blending and grinding, reminiscent of the tradition created by artists and craftsmen."

Eastern Sky

Boulder Dust

Pearl Ground

Slate Mix

Clay Burn

Hazel Mash

Valley Brown

Tawny Blend

Ochre Grain

more colors available

Performance Underfoot. Simplicity Above All.

This seamless flooring system is engineered for durability and ease of care in high-density environments. With a smooth matte finish and consistent coloration, it's a perfect fit for design-forward developments. Its resistance to scratches, spills, and wear ensures that units remain pristine — even in high-turnover communities. The refined surface complements a wide range of architectural palettes while offering long-term value to owners and low maintenance demand for staff.

NOTE: The appearance of the colors on these charts are for reference only. Colors may be affected by the type and quality of the light and the angle from which it is viewed. We strongly recommend creating a job site sample panel before applying.

"Crafted from the heart of the forge, where liquid metal transforms into striking colors. These radiant shades, tempered by fire, elevate spaces with bold, everlasting elegance."


Soft-Radiance


Shimmer-Veil


Warm-Patina


Tempest-Veil


Blue-Dusk


Burnished-Dawn


Darkened-Core


Deep-Glaze


Rich-Roast


Cool-Tint


Night-Pulse


Aluminus


Faint-Bloom


Hard-Shine

more colors available

When Floor Becomes Feature.

This radiant seamless system adds depth and brilliance to any space. With rich visual movement and nuanced highlights, it transforms corridors, lobbies, and units into modern showcases. While delivering luxurious style, the surface remains practical: easy to clean, highly durable, and fully compliant with ADA and fire safety codes. It's a statement of prestige that requires little more than admiration.

www.flowstoneflooring.com

(949) 709-3986

ENGINEERED
FOR LIVING

Flooring built to withstand the demands of living.

FlowStone's cutting-edge flooring technology helps eliminate unit turnover maintenance, while combining fire-rated strength, scratch resistance, and ADA compliance for unmatched durability.

Fr fire-rated	**Sp** stain-proof
Sr scratch resistant	**Ac** ADA compliant

Designed for timeless style and everyday life.

Sv style versatile	**Pf** pet friendly
Oc organic colors	**Nt** natural textures

FlowStone blends seamlessly into every design vision. Its high-gloss finish enhances natural colors and organic textures, while standing tough against pets, spills, and daily life.

LUXURY
FOR LIFE

STRENGTHS AND CAPABILITIES

ENGINEERED | Seamless flooring designed for application ease, long-lasting durability and zero maintenance.

LUXURY | The balance between natural textures and organic color shading fits tenant expectations for design - forward, sustainable living finishes.

1

PROPERTY DEVELOPMENT

OWNER BENEFITS

- Fire Rated
- ADA Compliant
- No Long Term Maintenance
- Pet Friendly
- Luxurious & Versatile Design
- FS Developer Partnership Program

2

PROPERTY CONSTRUCTION

CONTRACTOR BENEFITS

- Flexible Install Scheduling
- Streamlined Application Process
- Low Odor / VOC Compliant
- Green Friendly / Minimal Waste
- Seamless Flooring System
- FS Certified Applicator Program

3

PROPERTY MANAGEMENT

MAINTENANCE BENEFITS

- No Turnover Reflooring Needed
- Easy to Clean / Stain Resistant
- High Strength / Scratch Resistant
- Zero Water Absorption
- Little to No Maintenance Required
- Durable / High Traffic Use

+1 (949) 709-3986 | www.flowstoneflooring.com

FLOWSTONE
LUXURY FLOORING SYSTEMS

RECENT MULTI-FAMILY PROJECTS

substrate: **CONCRETE**
color: **CHARLESTON GREY**

250,000+ SQFT

1 BUILDING - 17 STORIES

350,000+ SQFT

10 BUILDINGS - 3 STORIES

substrate: **WOOD**
color: **CHARLESTON GREY**

substrate: **WOOD**
color: **CHARLESTON GREY**

260,000+ SQFT

4 BUILDINGS - 3 STORIES

FLOWSTONE
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SECTION 09 67 00 - FLUID-APPLIED FLOORING

PART 1 - GENERAL

1.01 SUMMARY

A. Section includes a fluid-applied flooring overlay system over a cementitious topping [and magnesium oxide underlayment board].

B. Related Requirements:
1. Contracting Requirements of Div. 00 Documents apply to, and are a part of, this Section.
2. General Requirements of Div. 01 Specification Sections apply to, and are a part of, this Section.

1.02 ADMINISTRATIVE REQUIREMENTS

A. Preinstallation Meetings: Conduct at [Project site] minimum [one week] [before commencing work of this Section.] [before purchasing materials for mock-up.]

1.03 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For [each type] [and] [color] of surfaces and components for [initial selection and] [again for] [verification].
1. Sample Size: 5 x 5 inches.

1.04 INFORMATIONAL SUBMITTALS

A. Product certificates.
1. Material certificates.

B. Sample warranties.

C. Maintenance data.

D. Executed warranties.

1.05 QUALITY ASSURANCE

A. Qualifications:
1. Manufacturer Qualifications: Minimum [5] years experience [under current organizational structure] [regularly engaged] in the manufacturer and supply of products specified in this Section.
2. Applicator Qualifications: An employer of workers and supervisors trained and certified by manufacturer for installation of Products specified in this Section.
a. Staff: [Employ a competent foreman to supervise Work of this Section.] [Foreman shall be present whenever Work is in progress.]

Field Samples are full-size installations or physical assemblies constructed on-site, or at designated off-site location, in advance of final work as a benchmark to allow the Architect an opportunity to view and approve qualities of materials and execution and establish the standard by which the Work will be judged.

Retain characteristics below as required to suit products involved.

B. Field Samples: Per Div. 01 Section "[FIELD SAMPLES] [QUALITY REQUIREMENTS] ["] [" and as follows:]
1. Install samples for each type [, color,] [and] [pattern] of coating specified[, including accessories].
2. Size: Provide samples of at least [100] sq. ft.

Retain below for multiple substrates if requiring sample application to each type of substrate.

3. [Apply coating sample to each substrate required.]
4. Approved samples may become part of the completed Work if undisturbed at time of Substantial Completion.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver, store, and handle products from moisture in accordance with manufacturer's instructions.

B. Deliver materials in manufacturer's unopened containers, identified with brand, type, grade, class and other qualifying information.

C. Store off the ground and covered and within temperature limits recommended by manufacturer.

D. Ensure products and containers are maintained clean, dry, and free of damage.

1.07 FIELD CONDITIONS

A. Ambient Conditions:
1. Minimum Conditions: Do not install products if substrate temperature is below 40 degrees F or above 100 degrees F, or if ambient temperature is below 40 degrees F above 100 degrees F.
2. Do not apply if precipitation is expected within a 24hour period.
3. Maintain ambient temperatures within range recommended by manufacturer, but not less than 40 deg F or more than 100 deg F, in spaces to receive work of this Section during the following time periods:
a. 48 hours before installation.
b. During installation.
c. 48 hours after installation.

1.08 WARRANTY

A. Standard Warranty: Furnish manufacturer's standard 5 year warranty providing coverage against failures in materials or workmanship. Failures include, but are not limited to, the following:
1. Delamination from substrate.
2. Failure of system to meet performance requirements.
3. Deterioration of finish beyond normal use or weathering.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design Manufacturer: FLOWSTONE, http://www.flowstonefloor.com/

B. System Source Limitations: Obtain primary flooring materials from a single source from a single manufacturer.

1. Obtain secondary and incidental components from same manufacturer as primary flooring materials or manufacturer approved by primary flooring materials manufacturer.

2.02 PERFORMANCE CRITERIA

A. Surface-Burning Characteristics: ASTM E84; Class A.

B. Dynamic Coefficient of Friction (DCOF): For products installed on level, interior walkway surfaces expected to be walked upon when wet, provide products with DCOF of not less than 0.42 as determined by testing identical products per method specified in paragraph 9.6 of ANSI A137.1.

C. Co-efficient of Friction: ADA compliant when tested to MIL-D24613.

D. Chemical Resistance: When tested to ASTM D2229.
1. Industrial Detergent Solution: No Effect.
2. Ammonia Solution: No Effect.
3. Salt Solution: No Effect.
4. Muriatic Acid: No Effect.
5. Chlorine Solution: No Effect.
6. Ethylene Glycol: No Effect.
7. Kerosene: No Effect.
8. Turpentine: No Effect.
9. Paint Thinner: No Effect.

2.03 SYSTEMS / ASSEMBLIES

A. [Concrete] [Gypsum] Substrate System:

Retain below for concrete with asbestos content requiring encapsulation.

1. Fluid-Applied Encapsulation Membrane & Decorative Flooring System:
a. Primer: Elastomeric asbestos encapsulation membrane.
b. Base Coat: Cement Overlay.
c. Texture Coat: Cement Overlay.
d. Color Coat: [Color] [To be selected from manufacturer's full color range.]
e. Top Coat: Clear sealer.
f. Overall System Thickness: Nominal thickness 1/8-inch.
g. Finish: [Semi-gloss] [High gloss].

2. Fluid-Applied Decorative Flooring System:
a. Base Coat: Cement Overlay.
b. Texture Coat: Cement Overlay.
c. Color Coat: [Color] [To be selected from manufacturer's full color range.]
d. Top Coat: Clear sealer.
e. Overall System Thickness: Nominal thickness 1/16-inch.
f. Finish: [Semi-gloss] [High gloss].

B. Wood Substrate System:
1. Fluid-Applied Decorative Flooring:
a. Base Coat: Cement Overlay.
b. Texture Coat: Cement Overlay.
c. Color Coat: [Color] [To be selected from manufacturer's full color range.]
d. Top Coat: Clear sealer.
e. Finish: [Semi-gloss] [High gloss].

f. Overall Decorative Floor System Thickness: Minimum thickness of 1/8.
g. Underlayment Board: 3/4-inch thickness.

2.04 COMPONENTS AND MATERIALS

Retain below primer for concrete with asbestos content requiring encapsulation.

A. Primer: Elastomeric asbestos encapsulation membrane, latex acrylic water-based coating which forms an elastomeric waterproof membrane.
1. Basis of Design Product: Covercoat by Flowstone.
2. Properties:
a. Tensile Bond Adhesion: 162psi (cohesive) when tested to ASTM C297.
b. Tensile Strength, psi: 99 when tested to ASTM D412.
c. Elongation: 1,086psi when tested to ASTM D2370.
d. Low Temperature Flexibility: ½" Room Temp Pass when tested to ASTM D522.
1) (Mandrel Bend) 1" @ -5F Pass ½" @ -5F Pass
e. Static Hydrostatic Pressure Test: Pass, >45psi when tested to ASTM C1306.
f. Hydrostatic Head: 12" Water/Film @ 40mil Pass 96 hour/no effect.

B. Cement Overlay: Proprietary modified cementitious material designed to protect, re-store, & beautify.
1. Basis of Design Product: Crust Coat by Flowstone.
2. Properties:
a. Concentrated Load: Pass – No penetration when tested to when tested to AC-39 (Section 4.11)
b. Weatherometer: No cracking or crazing when tested to ASTM G23.
c. Freeze-Thaw: Pass - 0.02% loss when tested to ASTM C67.
d. Low-Temperature Flexibility: Pass - No crazing or cracking when tested to AC-39 (Section 4.11)
e. Flexural Strength: 770 psi (Modulus of Rupture) when tested to ASTM-D790.
f. Tensile Strength: 457 psi (ASTM-C190)
g. Tensile & Elongation: 1,700psi when tested to ASTM 638.
h. Abrasion Test: 39 mil loss 1000cyc-1000gms (ASTM-1242A)
i. Bond Strength:
1) Magnesium Board: 750psi when tested to ASTM C297.
2) Concrete: 2,200 psi, when tested to ASTM C297.
3) Fiberglass Mesh: 1,800 psi, when tested to ASTM C297.

C. Color Coat: Semi-translucent colored proprietary modified primer used to create an aesthetic natural color shading/marbling effect prior to sealing.
1. Basis of Design Product: Color Coat by Flowstone.

D. Clear Sealer: Clear, gloss, two-component aliphatic polyaspartic ester sealer.
1. Basis of Design Product: Clear Coat by Flowstone.
2. Properties:
a. VOC Content: 0 gm/g/Liter
b. Freeze-Thaw: Pass - 0.02% loss when tested to ASTM C67.
c. Weatherometer: No cracking or crazing when tested to ASTM G23.
d. VOC Content: 0 gm/g/Liter
e. Tensile Strength: 6,500 psi when tested to ASTM D2370.
f. Elongation: 26 percent when tested to ASTM D2370.
g. Hardness (Pencil / Sword): 2H / 70, when tested to ASTM D3363.
h. Water Absorption: Pass – Less than 0.03 percent when tested to ASTM D570.
i. Abrasion Resistance: Less than 15 ml loss when tested to ASTM D1242.
j. Percolation: Pass – no visible water droplets when tested to AC-39 (Section 4.7)

k. Impact Resistance (Direct / Reverse): 140 lbs / 140 lbs per ASTM D2794.
l. QUV Weatherometer (Alclad aluminum): 1,000 hours per ASTM G53
1) Oxidation: no effect
2) Loss of Gloss: Slight
3) Blistering: No Effect
4) Yellowing: No Effect

E. Reinforcing Fabric: Stitch-bonded heat-set polyester high-performance reinforcement fabric.
1. Basis of Design Product: Stitch Bond Polyester Fabric by Multicoat Corp.
2. Properties:
a. Tensile Strength: 57-74 lbs per ASTM D-1682
b. Trapezoidal Tear Strength: 16 lbs per ASTM D-1117)
c. Elongation: 61-63 percent per ASTM D-1682)
d. Mullen Burst (Ball) 176 lbs per ASTM D-3786)
e. Weight of Fabric: 3 oz. / sq yard
f. Thread Count/Gauge: 12 threads per inch (14 gauge)
g. Color: White to off-white with printed alignment stripe.
h. Maximum VOC Content: 0 gm/liter

Wood Substrates: Retain optional underlayment product and its below accessories.

F. Underlayment Board: Fire-resistant, mold-resistant, vapor-permeable, dimensionally stable magnesium oxide board.
1. Basis of Design Product: Exacor Underlayment by Huber Engineered Woods, LLC., Subfloor by US Mgo.
2. Properties:
a. Thickness: Minimum 1/2-inch.
b. Panel Size: 48 by 96 inches.
c. Edge profile: Straight (square)
3. Underlayment Fasteners: Size and type complying with the manufacturer's written instructions for Project conditions and requirements of authorities having jurisdiction.
a. Nails: Deformed shank nails with a shank diameter of 0.113 inches by 1.5 inches long, minimum
1) Corrosion Resistant: Class D, ASTM A153 Hot-Dipped Galvanized or better
4. Underlayment Panel Adhesive: Polyurethane- or solvent-based product complying with ASTM D3498 or APA AFG-01.
5. Joint Reinforcement for Seams: Self-adhesive 10-by-10 glass mesh, 2-inch wide, 2.2 oz. Fiberglass mesh tape as recommended by the manufacturer.
6. Primer: HydroBed or manufacturer-approved.

G. Water: Potable.

PART 3 - EXECUTION

3.01 EXAMINATION AND PREPARATION

Retain option below if requiring the installer to be present and/or a report to be issued.

A. Verification of Conditions:
1. Examine substrates, areas, and conditions[, with installer present,] for compliance with requirements for installation and conditions affecting performance of the Work.
2. [Ensure new concrete has cured for a minimum 28 days.]
3. Ensure concrete is free of curing compounds, release agents, water repellent materials, and contaminants that may prevent proper bonding.

4. Prepare a written report, endorsed by the installer, listing conditions detrimental to performance.
5. Proceed with installation only after unsatisfactory conditions have been corrected.

B. Surface Preparation: Comply with the manufacturer's written instructions.

3.02 MAGNESIUM OXIDE BOARD UNDERLAYMENT INSTALLATION

Retain this optional Article if desired to create a smooth substrate to receive the coating system.

A. Underlayment Installation, General:
1. Install underlayment boards in accordance with manufacturer's written instructions, requirements of applicable [evaluation reports;] [fire-resistant assembly;] and requirements of authorities having jurisdiction.
2. Fully support underlayment panels on [existing floor substrate] [wood structural panel subflooring].
3. Maintain designed expansion joints through underlayment. Do not bridge designed expansion joints in the structural panel subfloor.

B. Underlayment Installation:
1. Glue and nail to wood structural subflooring.
2. Apply adhesive in accordance with the manufacturer's instructions.
a. Place the underlayment with the rough side exposed. Butt underlayment tight to adjacent panels.
b. Offset underlayment edges a minimum of 4 inches from structural subflooring edges.
c. Ensure full contact between the underlayment and structural subflooring.
3. Mechanically fasten the underlayment board.
a. Space Fasteners: 6 inches on center at all edges and 12 inches on center in the field.
b. Locate fasteners 1/2 inches from board edges and 2 inches from panel corners.
c. Fasten underlayment to the subfloor.
d. Ensure fasteners sit flush or slightly below the panel surface,

3.03 APPLICATION

A. Comply with the manufacturer's written installation instructions, recommendations, and approved submittals.

B. Primer: Apply by roller, brush, or spray at a coverage rate of 40-50 sq. ft. per gallon in two coats. Allow to dry thoroughly between coats.
1. Install reinforcing fabric at potential leak areas, such as parapets, drains, coves, flashing, posts, and protrusions.
2. Embed reinforcing fabric immediately during the application of the first coat.
3. Apply an additional elastomeric membrane on top of the fabric to ensure encapsulation of the fabric.
4. Broadcast silica sand to the refuse, remove excess.

C. Cement Overlay: Apply by roller, trowel, or squeegee in [one coat plus texture coat] [or] [two or more coats plus texture coat], depending on surface condition.
1. Thickness: As recommended by the manufacturer.
2. [Textured Finish: Apply using a hopper gun and knock down with a trowel while the material is curing. Match approved sample.]
3. Allow to cure for [24] [48] hours before applying sealer.

D. Color Coat: Apply in accordance with the manufacturer’s instructions.

E. Top Coat: Apply by roller or squeegee in one coat to a nominal thickness of 8 to 10 mils.

3.04 REPAIR

A. Repairing Damaged Finishes: Immediately after installation, repair areas where coatings or finishes are marred, abraded, deteriorated, or otherwise damaged.
1. Replace flooring that cannot be repaired to the Architect's and Owner's] satisfaction.

3.05 CLEANING

A. Clean according to the product manufacturer's written instructions in a manner that leaves an undamaged and uniform finish matching the approved sample.

END OF SECTION 12 34 56

SAFETY DATA SHEET

Section 1: Identification

Product Name: CL Clear Coat A
Product Number: CL-A
Company: FlowStone
Address: 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688
Business Phone: +1 (949) 709-3986
Emergency Phone: Chemtrec US (800) 424-9300
Date of Current Revision: May 09, 2025

Section 2: Hazard(s) Identification

Classification (GHS-US) Label Elements
GHS-US Labeling
GLOBALLY HARMONIZED SYSTEM (GHS) CLASSIFICATION:
FLAMMABLE LIQUIDS: CATEGORY 3
ACUTE TOXICITY: CATEGORY 4 (INHALATION-MIST)
RESPIRATORY SENSITIZATION: CATEGORY 1
SKIN SENSITIZATION: CATEGORY 1
ACUTE AQUATIC TOXICITY: CATEGORY 2 CHRONIC AQUATIC TOXICITY: CATEGORY 3
GHS LABEL ELEMENTS

2.1 HAZARD PICTOGRAMS Signal word DANGER!

2.2 b Hazard Statements
H226: FLAMMABLE LIQUID AND VAPOR H332: HARMFUL IF INHALED
H334: MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED H317: MAY CAUSE AN ALLERGIC SKIN REACTION
H304: MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAY H335: MAY CAUSE RESPIRATORY IRRITATION
H402: HARMFUL TO AQUATIC LIFE
PRECAUTIONARY STATEMENTS:
PREVENTION
P280: WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION P271: USE ONLY OUTDOORS OR IN WELL VENTILATED AREA
P261: AVOID BREATHING MIST/VAPORS
P210: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAMES, AND HOT SURFACES. NO SMOKING P273: AVOID RELEASE TO THE ENVIRONMENT
P284: (IN CASE OF INADEQUATE VENTILATION) WEAR RESPIRATORY PROTECTION. P240: GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT
P241: USE EXPLOSION-PROOF ELECTRICAL, VENTILATING AND LIGHTING EQUIPMENT P242: USE ONLY NON-SPARKING TOOLS
P243: TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE
P272: CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE
RESPONSE
P303+P361+353: IF ON SKIN (OR HAIR): REMOVE/TAKE

OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
RINSE SKIN WITH WATER/SHOWER
P333+P311: IF SKIN IRRITATION OR RASH OCCURS: CALL
A POISON CENTER OR DOCTOR/PHYSICIAN
P304+P340: IF INHALED: REMOVE PERSON TO FRESH AIR
AND KEEP COMFORTABLE FOR BREATHING
P362+P364: TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE.
P370+P378: IN CASE OF FIRE: USE DRY CHEMICAL,
CARBON DIOXIDE (CO2), FOAM, OR WATER SPRAY (FOR
LARGE FIRES) TO EXTINGUISH
STORAGE
P403+P235: STORE IN A WELL-VENTILATED PLACE. KEEP
COOL P233: KEEP CONTAINER TIGHTLY CLOSED
DISPOSAL
P501: DISPOSE OF CONTENTS/CONTAINER TO AN
APPROVED WASTE DISPOSAL PLANT
OTHER HAZARDS
NO DATA AVAILABLE
EMERGENCY OVERVIEW:
DANGER!
HARMFUL IF INHALED
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN
IRRITATION CONTAINS MATERIAL WHICH CAUSES
DAMAGE TO THE FOLLOWING ORGANS: BLOOD,
KIDNEYS, LIVER, GASTROINTESTINAL TRACT,
RESPIRATORY TRACT, SKIN, NERVOUS SYSTEM, EYE,
LENS OR CORNEA FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE

Section 3: Composition/ Information on Ingredients

Hazardous Ingredients	Wt. %	Cas Number
Aspartic Ester	60-100	136210-32-7
Parachlorobenzotrifluoride	1-100	000098-56-6
Modified Carbonate Bis-Oxazolidine	1-5	045899-78-1

Section 4: First-Aid Measures

4.1 Description of the first-aid measures General information:

General: remove person from affected area and make comfortable. Treat symptomatically.
Eyes: flush with water for 15 minutes. Get medical attention.
Skin: remove product and flush affected area with water for 15 minutes. If irritation persists get medical attention.
Inhalation: move to fresh air. Give assisted respiration if breathing has stopped or is labored (call a physician).
Ingestion: give 3 – 4 glasses of water or milk if person conscious. Do not induce vomiting! Obtain medical care and treatment..

Section 5: Fire-Fighting Measures

Flash point: 46.6°c (116°f) tcc (pcbtf) **Conditions of flammability:** na
Flammable limits: lel: 0.9% **uel:** 10.5% **auto ignition temp.:** nd
Osha class: flammable liquid, packing group iii
Hazardous combustion products: co, co2, aldehydes, acids
Sensitivity to impact: nd
Sensitivity to static discharge: nd
Extinguishing media: ignition may give rise to a class b fire. In case of fire use: water fog, carbon dioxide, dry chemical, alcohol foam.
Special fire fighting procedures: wear self-contained breathing apparatus and protective clothing. Water spray is useful in cooling fire-exposed vessels and in dispersing vapors.

Unusual fire and explosive hazards: may generate toxic or irritating combustion products. Sudden reaction and fire may result if product is mixed with an oxidizing agent. Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source.

Section 6: Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Shut Off Sources Of Ignition. Cover Spills With Absorbent. Place In Metal Containers For Recovery Or Disposal. Prevent Entry Into Sewers, Storm Drains, And Waterways. Other information: Refer to protective measures listed in Sections 7 and 8.

Section 7: Handling and Storage

General: store in cool, well ventilated areas. Keep away from heat and open flames. Avoid prolonged inhalation of heated vapors or mists. Avoid prolonged skin contact. Use non-sparking tools and grounding cables when transferring. Containers may be hazardous when empty.

Storage: avoid temperature extremes. Store away from excessive heat, from sources of ignition and from reactive materials. Material can burn; limit indoor storage to areas equipped with automatic sprinklers. Store out of direct sunlight in a cool place. Keep containers tightly closed. Ground all metal containers during storage and handling.

Section 8: Exposure Controls/Personal Protection

EXPOSURE LIMITS (ppm)

INGREDIENTS (CAS)	OSHA TWA STEL	ACGIH TWA STEL	OTHER
136210-32-7	NE NE	NE NE	
000098-56-6	NE NE	NE NE	
045899-78-1	NE NE	NE NE	

Legend: (m) max. Exposure limit; (s) occupational exp. Limit; (r) suppliers rec. Limit, (+) percutaneous risk note 1: values meaningful only when hardened product is abraded, ground, etc.

Engineering controls: exhaust ventilation sufficient to keep airborne concentration of the solvents below their respective tlv's. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.
Protective gloves: nitrile rubber
Eye protection: splash-proof goggles or chemical safety glasses
Respiratory protection: none required in adequately ventilated areas. If vapor concentration exceeds 20ppm for longer than 15 minutes, a niosh approved respirator for organic vapors is recommended.
Other protective equipment: long sleeved shirts and trousers. Emergency showers and eye wash stations should be readily accessible.

Section 9: Physical and Chemical Properties

BOILING POINT: >79.6°C (175°F)
VAPOR PRESSURE: 3.7mmhg @ 20°C (68°F)
VAPOR DENSITY: 2.4 (AIR = 1)
SOLUBILITY IN WATER: INSOLUBLE
COEFFICIENT of WATER/OIL DISTRIBUTION: ND
SPECIFIC GRAVITY: 1.2-1.3
MELTING POINT: ND
EVAPORATION RATE: >1 (BUTYL ACETATE = 1)
ph: NA
ODOR THRESHOLD: ND
APPEARANCE AND ODOR: HAZY LIQUID, SWEET SOLVENT ODOR
% VOLATILES BY VOLUME: 32% %
SOLIDS BY WEIGHT: 65%
Solubility in / Miscibility with Water: Insoluble
VOC content: 0 g/L VOC

Section 10: Stability and Reactivity

Stability: stable;
Conditions to avoid: not applicable (material is stable)
Incompatibility (material to avoid): oxidizing agents (perchlorates, nitrates), strong acids, hypochlorites, peroxides.
Hazardous decomposition products: co, co2
Hazardous polymerization (reactivity): will not occur.

Section 11: Toxicological Information

Eyes:
Acute – Liquid, aerosols, or vapors are severely irritating and can cause pain, tearing, reddening, and swelling. If left untreated, corneal damage can occur, and injury is slow to heal. However, damage is usually reversible.
Chronic – Prolonged vapor contact may cause conjunctivitis
Skin contact:
Acute – repeated or prolonged skin contact can result in dry, defatted and cracked skin causing increased susceptibility to infection. In addition irritation may develop into Dermatitis. Solvents can penetrate the skin and may cause effects similar to those identified under acute inhalation symptoms.
Chronic – may cause effects similar to those identified under chronic inhalation effects.
Skin absorption:
Acute – nd chronic – inhalation:
Acute – solvent vapors are irritating to the eyes nose and throat. Symptoms of irritation may include red, itchy eyes, dryness of the throat and a feeling of tightness in the chest. Other possible symptoms of overexposure include: headache, dizziness, nausea, narcosis fatigue and loss of appetite.
Chronic – chronic exposure to organic solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include loss of memory, loss of intellectual ability and loss of coordination. Ingestion:
Acute – can result in irritation of the digestive tract. Symptoms can include sore throat abdominal pain nausea, vomiting and diarrhea. Vomiting may cause aspiration of solvent resulting in chemical pneumonitis
Chronic – nd
Conditions aggravated by exposure: skin disorders and allergies.
Acute toxicity: no data on the product itself **acute oral** toxicity- components aspartic ester ld50: >5000 mg/kg species: rat
Parachlorobenzotriflouride ld50: 13000 mg/kg species: rat
Modified carbonate bis-oxazolidine ld50: >2000 mg/kg species: rat

Acute dermal toxicity- components aspartic ester ld50: >2000 mg/kg species: rat
Parachlorobenzotriflouride ld50: 2700 mg/kg species: rabbit
Modified carbonate bis-oxazolidine ld50: >2000 mg/kg species: rat
Acute inhalation toxicity- components oecd test guidline 403
Aspartic ester lc50: 4.224 mg/l
Parachlorobenzotriflouride lc50: 4470 ppm

Skin corrosion/irritation slightly to moderately irritating serious eye
damage/eye irritation slightly to moderately irritating sensitization
Dermal: positive (guinea pig, magnusson/klingman (maximization test)) specific target
organ systemic toxicity (single exposure) category 3 (irritating to the respiratory system)
Specific target organ systemic toxicity (repeated exposure)
Nd
Carcinogenic data: ntp: none
osha: none
iarc: none teratogenicity: no
mutagenicity: no
Embryotoxicity: no
synergistic material: no

Section 12: Ecological Information (non-mandatory)

Likely routes of exposure include eye contact, skin contact, inhalation, and ingestion.

Eyes:

Acute – Liquid, aerosols, or vapors are severely irritating and can cause pain, tearing, reddening, and swelling. If left untreated, corneal damage can occur, and injury is slow to heal. However, damage is usually reversible.

Chronic – Prolonged vapor contact may cause conjunctivitis

Skin contact:

Acute – repeated or prolonged skin contact can result in dry, defatted and cracked skin causing increased susceptibility to infection. In addition irritation may develop into Dermatitis. Solvents can penetrate the skin and may cause effects similar to those identified under acute inhalation symptoms.

Chronic – may cause effects similar to those identified under chronic inhalation effects.

Skin absorption:

Acute – nd chronic –

inhalation:

Acute – solvent vapors are irritating to the eyes nose and throat. Symptoms of irritation may include red, itchy eyes, dryness of the throat and a feeling of tightness in the chest. Other possible symptoms of overexposure include: headache, dizziness, nausea, narcosis fatigue and loss of appetite.

Chronic – chronic exposure to organic solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include loss of memory, loss of intellectual ability and loss of coordination.

Ingestion:

Acute – can result in irritation of the digestive tract. Symptoms can include sore throat abdominal pain nausea, vomiting and diarrhea. Vomiting may cause aspiration of solvent resulting in chemical pneumonitis

Chronic – nd

Conditions aggravated by exposure: skin disorders and allergies.

Acute toxicity: no data on the product itself **acute oral**
Toxicity- components aspartic ester ld50: >5000 mg/kg species: rat
Parachlorobenzotriflouride ld50: 13000 mg/kg species: rat
Modified carbonate bis-oxazolidine ld50: >2000 mg/kg species: rat

Acute dermal toxicity- components aspartic ester ld50: >2000 mg/kg species: rat
Parachlorobenzotriflouride ld50: 2700 mg/kg species: rabbit
Modified carbonate bis-oxazolidine ld50: >2000 mg/kg species: rat

Acute inhalation toxicity- components oecd test guidline 403
Aspartic ester lc50: 4.224 mg/l
Parachlorobenzotriflouride lc50: 4470 ppm

Skin corrosion/irritation
slightly to moderately irritating
serious eye damage/eye irritation slightly to moderately irritating **sensitization**
Dermal: positive (guinea pig, magnusson/klingman (maximization test))
specific target organ systemic toxicity (single exposure) category 3 (irritating to respiratory system)
Specific target organ systemic toxicity (repeated exposure) Nd

Carcinogenic data:
ntp: none
osha: none
iarc: none teratogenicity: no
mutagenicity: no
Embryotoxicity: no
synergistic material: no

Toxicity
Acute toxicity to aquatic invertebrates: components

Aspartic ester ec50 (24 hrs): >100 mg/l species: daphnia magna parachlorobenzotriflouride ec50 (48 hrs): 15 mg/l species: daphnia magna
Modified carbonate bis-oxazolidine ec50 (48 hrs): 6.14 mg/l species: daphnia magna
Acute toxicity to algae/aquatic plants: components
Nd

Toxicity to bacteria: components
Nd

Chronic aquatic toxicity
Chronic toxicity to aquatic invertebrates
Long lasting adverse effects to aquatic organisms

Persistance and degradability
Biodegradability: not readily biodegradable (by oecd criteria)

Bioaccumulative
potential bioaccumulation: nd
mobility in soil: nd

Section 13: Disposal Considerations (non-mandatory)

13.1 Waste Disposal Method
The packaging and material may be landfilled; however, the material should be covered to minimize the generation of airborne dust. This product is not classified as hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state, and federal regulations.
13.2 Other disposal considerations Uncleaned packaging
Recommendation: Disposal must be made by local, state, and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

Section 14: Transport Information (non-mandatory)

DOT PROPER SHIPPING NAME: UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III **PACKAGING GROUP:** III
DOT PRODUCT RQ LBS (KGS): 5000 LBS. (2272.7 KGS)
HAZARD LABEL: FLAMMABLE LIQUID HAZARD **PLACARD:** FLAMMABLE LIQUID
IMO SHIPPING DATA: UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III **ICAO/IATA SHIPPING DATA:** UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III
PASSENGER AIR MAX QUANTITY: 60L **PASSENGER PACKING INSTRUCTION:** 309 **CARGO AIR- MAX QUANTITY:** 220L **CARGO AIR INSTRUCTION NUMBER:** 310

Section 15: Regulatory Information (non-mandatory)

VOC: COMPONENT: 0 grams/Liter **AS APPLIED:** 0 grams/Liter (PART OF MULTI-COMPONENT SYSTEM) **TSCA (TOXIC SUBSTANCE CONTROL ACT):** ALL COMPONENTS ARE LISTED IN THE TSCA CHEMICAL SUBSTANCE INVENTORY.
CERCLA (COMPREHENSIVE RESPONSE COMPENSATION and LIABILITY ACT): NA
SARA TITLE III
SECTION 312 HAZARD CLASS: IMMEDIATE (ACUTE) HEALTH HAZARD, DELAYED HEALTH HAZARD; FIRE HAZARD.
SECTION 313 LISTED INGREDIENTS: NONE
CALIFORNIA PROPOSITION 65: The below list of compounds is known to the State of California to cause cancer, birth defects or other reproductive harm: NONE

Section 16: Other Information

Last Updated: May 12, 2025
NOTE: The information and recommendations contained herein are based upon data believed to be

correct. However, no guarantee or warranty of any kind, express or implied, is made concerning the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by exposure to silica contained in our products.

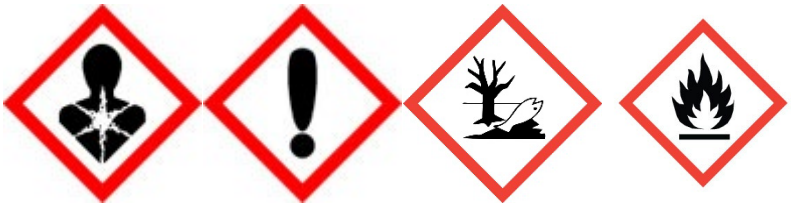
SAFETY DATA SHEET

Section 1: Identification

Product Name: CL Clear Coat B
Product Number: CL-B
Company: FlowStone
Address: 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688
Business Phone: +1 (949) 709-3986
Emergency Phone: Chemtrec US (800) 424-9300
Date of Current Revision: May 09, 2025

Section 2: Hazard(s) Identification

Classification (GHS-US) Label Elements
GHS-US Labeling
GLOBALLY HARMONIZED SYSTEM (GHS) CLASSIFICATION:
FLAMMABLE LIQUIDS: CATEGORY 2
ACUTE TOXICITY: CATEGORY 4 (INHALATION-MIST)
RESPIRATORY SENSITIZATION: CATEGORY 1
SKIN SENSITIZATION: CATEGORY 1
ACUTE AQUATIC TOXICITY: CATEGORY 2
CHRONIC AQUATIC TOXICITY: CATEGORY 3
GHS LABEL ELEMENTS



2.1 HAZARD PICTOGRAMS Signal word DANGER!

2.2 b Hazard Statements
H226: FLAMMABLE LIQUID AND VAPOR H332: HARMFUL IF H226: FLAMMABLE LIQUID AND VAPOR H319: CAUSES SERIOUS EYE IRRITATION
H334: MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED H317: MAY CAUSE AN ALLERGIC SKIN REACTION
H335: MAY CAUSE RESPIRATORY IRRITATION H315: CAUSES SKIN IRRITATION
H411: TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS
PRECAUTIONARY STATEMENTS:
PREVENTION
P280: WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION P271: USE ONLY OUTDOORS OR IN WELL VENTILATED AREA
P261: AVOID BREATHING MIST/VAPORS
P210: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAMES, AND HOT SURFACES. NO SMOKING P273: AVOID RELEASE TO THE ENVIRONMENT
P284: (IN CASE OF INADEQUATE VENTILATION) WEAR RESPIRATORY PROTECTION. P240: GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT
P241: USE EXPLOSION-PROOF ELECTRICAL, VENTILATING AND LIGHTING EQUIPMENT P242: USE ONLY NON-SPARKING TOOLS
P243: TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE
P272: CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE

RESPONSE
P303+P361+353: IF ON SKIN (OR HAIR): REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER
P333+P311: IF SKIN IRRITATION OR RASH OCCURS: CALL A POISON CENTER OR DOCTOR/PHYSICIAN P305+P351+P338: IF IN EYES: RINSE CAUTIOUSLY WITH

WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO SO. CONTINUE RINSING.
P337+P313: IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION
P304+P340: IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING
P362+P364: TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE.
P370+P378: IN CASE OF FIRE: USE DRY CHEMICAL, CARBON DIOXIDE (CO2), FOAM, OR WATER SPRAY (FOR LARGE FIRES) TO EXTINGUISH

STORAGE

P403+P235: STORE IN A WELL-VENTILATED PLACE. KEEP COOL P233: KEEP CONTAINER TIGHTLY CLOSED

DISPOSAL

P501: DISPOSE OF CONTENTS/CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT

OTHER HAZARDS

NO DATA AVAILABLE

EMERGENCY OVERVIEW:

DANGER!

HARMFUL IF INHALED RESPIRATORY SENSITIZER
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LIVER, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, NERVOUS SYSTEM, EYE, LENS OR CORNEA FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE SKIN SENSITIZER

Section 3: Composition/ Information on Ingredients

Hazardous ingredients	Wt. %	Cas number
Homopolymer of hexamethylene diisocyanate	60-100	028182-81-2
Parachlorobenzotriflouride	15-40	000098-56-6
Hexamethylene-1,6- diisocyanate	0.1-1.0	000822-06-0

Section 4: First-Aid Measures

4.1 Description of the first-aid measures General information:

General: remove person from affected area and make comfortable. Treat symptomatically.
Eyes: flush with water for 15 minutes. Get medical attention.
Skin: remove product and flush affected area with water for 15 minutes. If irritation persists get medical attention.
Inhalation: move to fresh air. Give assisted respiration if breathing has stopped or is labored (call a physician).
Ingestion: give 3 – 4 glasses of water or milk if person conscious. Do not induce vomiting! Obtain medical care and treatment.

Notes to physician:
Eyes: stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.
Skin: this compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.
Ingestion: treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.
Inhalation: treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any isocyanate.

Section 5: Fire-Fighting Measures

Flash point: 46.6°c (116°f) tcc (pcbtf) **conditions of flammability:** na
Flammable limits: lel: 0.9% **uel:** 10.5% **auto ignition temp.:** nd
Osha class: flammable liquid, packing group iii
Hazardous combustion products: co, co2, aldehydes, acids
Sensitivity to impact: nd
Sensitivity to static discharge: nd
Extinguishing media: ignition may give rise to a class b fire. In case of fire use: water fog, carbon dioxide, dry chemical, alcohol foam.
Special fire fighting procedures: wear self-contained breathing apparatus and protective clothing. Water spray is useful in cooling fire-exposed vessels and in dispersing vapors.
Unusual fire and explosive hazards: may generate toxic or irritating combustion products. Sudden reaction and fire may result if product is mixed with an oxidizing agent. Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source.

Section 6: Accidental Release Measures

Steps to be taken in case material is released or spilled: evacuate non- essential personnel. Shut off sources of ignition. Put on personal protective equipment. Control source of leak. Ventilate. Contain the spill to prevent spread to drains, sewers, water supplies, or soil. Pour decontamination solution over spill and allow to react for at least 15 minutes. Collect material in open containers with further amounts of decontamination solution. Wash down spill area with decontamination solution. Decontamination solutions: colorimetric laboratories inc. (cli) decontamination solution or 20% non-ionic surfactant (tergitol tmn-10) with 80% water. Other information: refer to protective measures listed in sections 7 and 8.

Section 7: Handling and Storage

General: store in cool, well ventilated areas. Keep away from heat and open flames. Avoid prolonged inhalation of heated vapors or mists. Avoid prolonged skin contact. Use non-sparking tools and grounding cables when transferring. Containers may be hazardous when empty.

Storage: avoid temperature extremes. Store away from excessive heat, from sources of ignition and from reactive materials. Material can burn; limit indoor storage to areas equipped with automatic sprinklers. Store out of direct sunlight in a cool place. Keep containers tightly closed. Ground all metal containers during storage and handling.

Section 8: Exposure Controls/Personal Protection

EXPOSURE LIMITS (ppm)

INGREDIENTS (CAS)	OSHA TWA STEL	ACGIH TWA STEL	OTHER
136210-32-7	NE NE	NE NE	
000098-56-6	NE NE	NE NE	
045899-78-1	NE NE	NE NE	

LEGEND: (M) MAX. EXPOSURE LIMIT; (S) OCCUPATIONAL EXP. LIMIT; (R) SUPPLIERS REC. LIMIT, (+) PERCUTANEOUS RISK NOTE 1:
VALUES MEANINGFUL ONLY WHEN HARDENED PRODUCT IS ABRADED, GROUND, ETC.
ENGINEERING CONTROLS: EXHAUST VENTILATION SUFFICIENT TO KEEP AIRBORNE CONCENTRATION OF THE SOLVENTS BELOW THEIR RESPECTIVE TLV'S. EXHAUST AIR MAY NEED TO BE CLEANED BY SCRUBBERS OR FILTERS TO REDUCE ENVIRONMENTAL CONTAMINATION.
PROTECTIVE GLOVES: NITRILE RUBBER

Section 9: Physical and Chemical Properties

BOILING POINT: >139°C (283°F)
SPECIFIC GRAVITY: 1.10-1.20
VAPOR PRESSURE: 1.01kPa @ 25°C (77°F)
MELTING POINT: ND
VAPOR DENSITY: 6.24 (AIR = 1)
EVAPORATION RATE: 0.9 (PCBTF) (BUTYL ACETATE = 1)
SOLUBILITY IN WATER: INSOLUBLE, REACTS SLOWLY WITH WATER TO LIBERATE CO2 GAS
pH: NA
COEFFICIENT of WATER/OIL DISTRIBUTION: ND
ODOR THRESHOLD: ND

APPEARANCE AND ODOR: CLEAR LIQUID, AROMATIC SOLVENT ODOR
% VOLATILES BY VOLUME: 40% SOLIDS BY WEIGHT: 57%

Section 10: Stability and Reactivity

Stability: stable; however may form peroxides of unknown stability
Conditions to avoid: not applicable (material is stable).
Incompatibility (materials to avoid)- water, amines, strong bases, alcohols, metal compounds and surface active materials.
Hazardous decomposition products: by high heat and fire; co, co2, oxides of nitrogen, hcn, hdi**.**
Hazardous polymerization (reactivity): may occur. Contact with moisture or other materials that react with isocyanates or temperatures over 400f (204c) may cause polymerization

Section 11: Toxicological Information

LIKELY ROUTES OF EXPOSURE: EYE CONTACT, SKIN CONTACT, INHALATION, INGESTION.
EYES:
ACUTE – VAPORS ARE IRRITATING AND CAN CAUSE PAIN, TEARING, REDDENING AND SWELLING. IF LEFT UNTREATED, CORNEAL DAMAGE CAN OCCUR AND INJURY IS SLOW TO HEAL. HOWEVER DAMAGE IS USUALLY REVERSIBLE
CHRONIC – MAY RESULT IN CORNEAL OPACITY. PROLONGED VAPOR CONTACT MAY CAUSE CONJUNCTIVITIS.
SKIN CONTACT:

ACUTE – ISOCYANATES REACT WITH SKIN PROTEIN AND MOISTURE AND CAN CAUSE IRRITATION. SYMPTOMS OF SKIN IRRITATION MAY BE REDDENING, SWELLING, RASH, SCALING OR BLISTERING. SOME PERSONS MAY DEVELOP SKIN SENSITIZATION FROM SKIN CONTACT. CURED MATERIAL IS DIFFICULT TO REMOVE. REPEATED OR PROLONGED SKIN CONTACT WITH SOLVENTS CAN RESULT IN DRY, DEFATTED AND CRACKED SKIN CAUSING INCREASED SUSCEPTIBILITY TO INFECTION. IN ADDITION IRRITATION MAY DEVELOP INTO DERMATITIS. SOLVENTS CAN PENETRATE THE SKIN AND MAY CAUSE EFFECTS SIMILAR TO THOSE IDENTIFIED UNDER ACUTE INHALATION SYMPTOMS.
CHRONIC – PROLONGED CONTACT WITH ISOCYANATES CAN CAUSE REDDENING, SWELLING, RASH, SCALING OR BLISTERING. IN THOSE WHO HAVE DEVELOPED A SKIN SENSITIZATION, THESE SYMPTOMS CAN DEVELOP AS A RESULT OF CONTACT WITH VERY SMALL AMOUNTS OF LIQUID OR EVEN AS A RESULT OF VAPOR-ONLY EXPOSURE. SOLVENTS CAN PENETRATE THE SKIN AND MAY CAUSE SYSTEMIC EFFECTS SIMILAR TO THOSE IDENTIFIED UNDER CHRONIC INHALATION EFFECTS.
SKIN ABSORPTION:

ACUTE – ND **CHRONIC –** ND **INHALATION:**
ACUTE – HDI AEROSOLS OR VAPORS AT CONCENTRATIONS ABOVE THE APPLICABLE EXPOSURE LIMITS CAN IRRITATE THE MUCOUS MEMBRANES IN THE RESPIRATORY TRACT CAUSING RUNNY NOSE, SORE THROAT, COUGHING, CHEST DISCOMFORT, SHORTNESS OF BREATH AND REDUCED LUNG FUNCTION. PERSONS WITH PRE-EXISTING NONSPECIFIC BRONCHIAL HYPER REACTIVITY CAN RESPOND TO CONCENTRATIONS BELOW THE EXPOSURE LIMITS WITH SIMILAR SYMPTOMS AS WELL AS AN ASTHMA ATTACK. EXPOSURE WELL ABOVE THE EXPOSURE LIMITS MAY LEAD TO BRONCHITIS, BRONCHIAL SPASM AND PULMONARY EDEMA. CHEMICAL OR HYPERSENSITIVE PNEUMONITIS HAS ALSO BEEN REPORTED. SOLVENT VAPORS ARE IRRITATING TO THE EYES NOSE AND THROAT. SYMPTOMS OF IRRITATION MAY INCLUDE RED, ITCHY EYES, DRYNESS OF THE THROAT AND A FEELING OF TIGHTNESS IN THE CHEST. OTHER POSSIBLE SYMPTOMS OF OVEREXPOSURE INCLUDE: HEADACHE, DIZZINESS, NAUSEA, NARCOSIS,
FATIGUE AND LOSS OF APPETITE.

CHRONIC – AS A RESULT OF PREVIOUS REPEATED OVEREXPOSURES OR A SINGLE LARGE DOSE, CERTAIN INDIVIDUALS WILL DEVELOP ISOCYANTE SENSITIZATION (CHEMICAL ASTHMA) WHICH WILL CAUSE THEM TO REACT TO A LATER EXPOSURE TO ISOCYANATES AT LEVELS WELL BELOW APPLICABLE EXPOSURE LIMITS. THESE SYMPTOMS, WHICH INCLUDE CHEST TIGHTNESS, WHEEZING, COUGH,
SHORTNESS OF BREATH OR ASTHMATIC ATTACK, COULD BE IMMEDIATE OR DELAYED UP TO SEVERAL HOURS AFTER EXPOSURE. SIMILAR TO MANY NON-SPECIFIC ASTHMATIC RESPONSES, THERE ARE REPORTS THAT ONCE SENSITIZED AN INDIVIDUAL CAN EXPERIENCE THESE

SYMPTOMS UPON EXPOSURE TO DUST, COLD AIR OR OTHER IRRITANTS. THIS INCREASED LUNG SENSITIVITY CAN PERSIST FOR WEEKS AND IN SEVERE CASES FOR SEVERAL YEARS. CHRONIC OVEREXPOSURE TO ISOCYANTES HAS ALSO BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING DECREASE IN LUNG FUNCTION, WHICH MAY BE PERMANENT. SENSITIZATION MAY BE EITHER TEMPORARY OR PERMANENT. CHRONIC EXPOSURE TO ORGANIC SOLVENTS HAS BEEN ASSOCIATED WITH VARIOUS NEUROTOXIC EFFECTS INCLUDING PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. SYMPTOMS INCLUDE LOSS OF MEMORY, LOSS OF INTELLECTUAL ABILITY AND LOSS OF COORDINATION. **INGESTION:**
ACUTE – CAN RESULT IN IRRITATION AND POSSIBLE CORROSIVE ACTION IN THE MOUTH, STOMACH TISSUE AND DIGESTIVE TRACT. SYMPTOMS CAN INCLUDE SORE THROAT, ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA. VOMITING MAY CAUSE ASPIRATION OF SOLVENT RESULTING IN CHEMICAL PNEUMONITIS
CHRONIC – ND
CONDITIONS AGGRAVATED BY EXPOSURE: ASTHMA AND OTHER RESPIRATORY DISORDERS, SKIN ALLERGIES, ECZEMA

ACUTE TOXICITY: NO DATA ON THE PRODUCT ITSELF
ACUTE ORAL TOXICITY- COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE LD50: >2500mg/kg SPECIES: RAT
PARACHLOROBENZOTRIFLOURIDE LD50: 13000 mg/kg SPECIES: RAT

ACUTE DERMAL TOXICITY- COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE LD50: >2000 mg/kg SPECIES: RAT
PARACHLOROBENZOTRIFLOURIDE LD50: 2700 mg/kg SPECIES: RABBIT
ACUTE INHALATION TOXICITY- COMPONENTS OECD TEST GUIDLINE 403 HEXAMETHYLENE-1,6-DIISOCYANATE LC50: 0.467 mg/l PARACHLOROBENZOTRIFLOURIDE LC50: 4470 ppm
OECD TEST GUIDLINE 403

SKIN CORROSION/IRRITATION SLIGHTLY TO MODERATELY IRRITATING **SERIOUS EYE DAMAGE/EYE IRRITATION** SLIGHTLY TO MODERATELY IRRITATING **SENSITIZATION** PULMONARY AND DERMAL SENSITIZER IN ANIMALS AND HUMANS. EVIDENCE EXISTS THAT CROSS SENSITIZATION BETWEEN HDI AND OTHER ISOCYANATES, PARTICULARLY HYDROGENATED MDI AND TDI, CAN OCCUR.
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)
CATEGORY 3 (IRRITATING TO RESPIRATORY SYSTEM)
CARCINOGENIC DATA: NTP: NONE **OSHA:** NONE **IARC:** NONE
TERATOGENICITY: NO
MUTAGENICITY: NO
EMBRYOTOXICITY: NO

Section 12: Ecological Information (non-mandatory)

TOXICITY
AQUATIC TOXICITY: NO DATA ON THE PRODUCT ITSELF. BASED ON THE COMPONENTS THE PRODUCT IS ACUTELY HARMFUL FOR AQUATIC ORGANISMS.

ACUTE TOXICITY TO FISH- COMPONENTS
HEXAMETHYLENE-1,6-DIISOCYANATE LC50 (96 HRS): 100 mg/l SPECIES: FATHEAD MINNOW
PARACHLOROBENZOTRIFLOURIDE LC50 (96 HRS): 5.6 mg/l SPECIES: FATHEAD MINNOW

ACUTE TOXICITY TO AQUATIC INVERTEBRATES: COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE EC50 (48 HRS): 127 mg/l SPECIES: DAPHNIA MAGNA
PARACHLOROBENZOTRIFLOURIDE EC50 (48 HRS): 15 mg/l SPECIES: DAPHNIA MAGNA

ACUTE TOXICITY TO ALGAE/AQUATIC PLANTS: COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE EC50 (72 HRS): >1000 mg/l SPECIES: GREEN ALGAEPARACHLOROBENZOTRIFLOURIDE ND

TOXICITY TO BACTERIA: COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE EC50: > 880mg/l ACTIVATED SLUDGE
PARACHLOROBENZOTRIFLOURIDE ND

CHRONIC AQUATIC TOXICITY
CHRONIC TOXICITY TO AQUATIC INVERTEBRATES
LONG LASTING ADVERSE EFFECTS TO AQUATIC ORGANISMS

PERSISTANCE AND DEGRADABILITY
BIODEGRADABILITY: NOT READILY BIODEGRADABLE (BY OECD CRITERIA)

BIOACCUMULATI
VE POTENTIAL
BIOACCUMULATI
ON: ND
PARTITION COEFFECIENT: N-OCTANOL/WATER(LOG POW): ND

MOBILITY IN SOIL: ND

Section 13: Disposal Considerations (non-mandatory)

13.1 Waste Disposal Method
The packaging and material may be landfilled; however, the material should be covered to minimize the generation of airborne dust. This product is not classified as hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state, and federal regulations.
13.2 Other disposal considerations Uncleaned packaging
Recommendation: Disposal must be made by local, state, and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

Section 14: Transport Information (non-mandatory)

DOT PROPER SHIPPING NAME: UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III **PACKAGING GROUP:** III
DOT PRODUCT RQ LBS (KGS): 5000 LBS. (2272.7 KGS)
HAZARD LABEL: FLAMMABLE LIQUID HAZARD **PLACARD:** FLAMMABLE LIQUID
IMO SHIPPING DATA: UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III **ICAO/IATA SHIPPING DATA:** UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III
PASSENGER AIR MAX QUANTITY: 60L **PASSENGER PACKING INSTRUCTION:** 309 **CARGO AIR- MAX QUANTITY:** 220L **CARGO AIR INSTRUCTION NUMBER:** 310

Section 15: Regulatory Information (non-mandatory)

VOC: COMPONENT: 0 grams/Liter AS APPLIED: 0 grams/Liter (PART OF MULTI-COMPONENT SYSTEM)
TSCA (TOXIC SUBSTANCE CONTROL ACT): ALL COMPONENTS ARE LISTED IN THE TSCA CHEMICAL SUBSTANCE INVENTORY.
CERCLA (COMPREHENSIVE RESPONSE COMPENSATION and LIABILITY ACT): NA
SARA TITLE III
SECTION 312 HAZARD CLASS: IMMEDIATE (ACUTE) HEALTH HAZARD, DELAYED HEALTH HAZARD; FIRE HAZARD.
SECTION 313 LISTED INGREDIENTS: CAS# 822-06-0 HEXAMETHYLENE DIISOCYANATE
CALIFORNIA PROPOSITION 65: The below list of compounds is known to the State of California to cause cancer, birth defects or other reproductive harm: NONE

Section 16: Other Information

Last Updated: May 12, 2025
NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made concerning the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by exposure to silica contained in our products.
HAZARD RATING
HMIS: HEALTH 2 FLAMMABILITY 1 REACTIVITY 1

LEGEND

ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

STEL: SHORT TERM EXPOSURE LIMIT TWA: TIME WEIGHTED AVERAGE PEL: PERMISSIBLE **EXPOSURE LIMIT TLV:** THRESHOLD LIMIT VALUE

NA: NOT APPLICABLE

NE: NOT ESTABLISHED

ND: NO DATA

SAFETY DATA SHEET

Section 1: Identification

Product Name: CL+ Clear Coat A
Product Number: CL+-A
Company: FlowStone
Address: 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688
Business Phone: +1 (949) 709-3986
Emergency Phone: Chemtrec US (800) 424-9300
Date of Current Revision: May 09, 2025

Section 2: Hazard(s) Identification

Classification (GHS-US) Label Elements
GHS-US Labeling
GLOBALLY HARMONIZED SYSTEM (GHS) CLASSIFICATION:
FLAMMABLE LIQUIDS: CATEGORY 3
ACUTE TOXICITY: CATEGORY 4 (INHALATION-MIST)
RESPIRATORY SENSITIZATION: CATEGORY 1
SKIN SENSITIZATION: CATEGORY 1
ACUTE AQUATIC TOXICITY: CATEGORY 2 CHRONIC AQUATIC TOXICITY: CATEGORY 3
GHS LABEL ELEMENTS

2.1 HAZARD PICTOGRAMS Signal word DANGER!

2.2 b Hazard Statements
H226: FLAMMABLE LIQUID AND VAPOR H332: HARMFUL IF INHALED
H334: MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED H317: MAY CAUSE AN ALLERGIC SKIN REACTION
H304: MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAY H335: MAY CAUSE RESPIRATORY IRRITATION
H402: HARMFUL TO AQUATIC LIFE
PRECAUTIONARY STATEMENTS:
PREVENTION
P280: WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION P271: USE ONLY OUTDOORS OR IN WELL VENTILATED AREA
P261: AVOID BREATHING MIST/VAPORS
P210: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAMES, AND HOT SURFACES. NO SMOKING P273: AVOID RELEASE TO THE ENVIRONMENT
P284: (IN CASE OF INADEQUATE VENTILATION) WEAR RESPIRATORY PROTECTION. P240: GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT
P241: USE EXPLOSION-PROOF ELECTRICAL, VENTILATING AND LIGHTING EQUIPMENT P242: USE ONLY NON-SPARKING TOOLS
P243: TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE
P272: CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE
RESPONSE
P303+P361+353: IF ON SKIN (OR HAIR): REMOVE/TAKE

OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
RINSE SKIN WITH WATER/SHOWER
P333+P311: IF SKIN IRRITATION OR RASH OCCURS: CALL
A POISON CENTER OR DOCTOR/PHYSICIAN
P304+P340: IF INHALED: REMOVE PERSON TO FRESH AIR
AND KEEP COMFORTABLE FOR BREATHING
P362+P364: TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE.
P370+P378: IN CASE OF FIRE: USE DRY CHEMICAL,
CARBON DIOXIDE (CO2), FOAM, OR WATER SPRAY (FOR
LARGE FIRES) TO EXTINGUISH
STORAGE
P403+P235: STORE IN A WELL-VENTILATED PLACE. KEEP
COOL P233: KEEP CONTAINER TIGHTLY CLOSED
DISPOSAL
P501: DISPOSE OF CONTENTS/CONTAINER TO AN
APPROVED WASTE DISPOSAL PLANT
OTHER HAZARDS
NO DATA AVAILABLE
EMERGENCY OVERVIEW:
DANGER!
HARMFUL IF INHALED
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN
IRRITATION CONTAINS MATERIAL WHICH CAUSES
DAMAGE TO THE FOLLOWING ORGANS: BLOOD,
KIDNEYS, LIVER, GASTROINTESTINAL TRACT,
RESPIRATORY TRACT, SKIN, NERVOUS SYSTEM, EYE,
LENS OR CORNEA FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE

Section 3: Composition/ Information on Ingredients

Hazardous Ingredients	Wt. %	Cas Number
Aspartic Ester	60-100	136210-32-7
Parachlorobenzotrifluoride	1-100	000098-56-6
Modified Carbonate Bis-Oxazolidine	1-5	045899-78-1

Section 4: First-Aid Measures

4.1 Description of the first-aid measures General information:

General: remove person from affected area and make comfortable. Treat symptomatically.
Eyes: flush with water for 15 minutes. Get medical attention.
Skin: remove product and flush affected area with water for 15 minutes. If irritation persists get medical attention.
Inhalation: move to fresh air. Give assisted respiration if breathing has stopped or is labored (call a physician).
Ingestion: give 3 – 4 glasses of water or milk if person conscious. Do not induce vomiting! Obtain medical care and treatment..

Section 5: Fire-Fighting Measures

Flash point: 46.6°c (116°f) tcc (pcbtf) **Conditions of flammability:** na
Flammable limits: lel: 0.9% **uel:** 10.5% **auto ignition temp.:** nd
Osha class: flammable liquid, packing group iii
Hazardous combustion products: co, co2, aldehydes, acids
Sensitivity to impact: nd
Sensitivity to static discharge: nd
Extinguishing media: ignition may give rise to a class b fire. In case of fire use: water fog, carbon dioxide, dry chemical, alcohol foam.
Special fire fighting procedures: wear self-contained breathing apparatus and protective clothing. Water spray is useful in cooling fire-exposed vessels and in dispersing vapors.

Unusual fire and explosive hazards: may generate toxic or irritating combustion products. Sudden reaction and fire may result if product is mixed with an oxidizing agent. Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source.

Section 6: Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled: Shut Off Sources Of Ignition. Cover Spills With Absorbent. Place In Metal Containers For Recovery Or Disposal. Prevent Entry Into Sewers, Storm Drains, And Waterways. Other information: Refer to protective measures listed in Sections 7 and 8.

Section 7: Handling and Storage

General: store in cool, well ventilated areas. Keep away from heat and open flames. Avoid prolonged inhalation of heated vapors or mists. Avoid prolonged skin contact. Use non-sparking tools and grounding cables when transferring. Containers may be hazardous when empty.

Storage: avoid temperature extremes. Store away from excessive heat, from sources of ignition and from reactive materials. Material can burn; limit indoor storage to areas equipped with automatic sprinklers. Store out of direct sunlight in a cool place. Keep containers tightly closed. Ground all metal containers during storage and handling.

Section 8: Exposure Controls/Personal Protection

EXPOSURE LIMITS (ppm)

INGREDIENTS (CAS)	OSHA TWA STEL	ACGIH TWA STEL	OTHER
136210-32-7	NE NE	NE NE	
000098-56-6	NE NE	NE NE	
045899-78-1	NE NE	NE NE	

Legend: (m) max. Exposure limit; (s) occupational exp. Limit; (r) suppliers rec. Limit, (+) percutaneous risk note 1: values meaningful only when hardened product is abraded, ground, etc.

Engineering controls: exhaust ventilation sufficient to keep airborne concentration of the solvents below their respective tlv's. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination.
Protective gloves: nitrile rubber
Eye protection: splash-proof goggles or chemical safety glasses
Respiratory protection: none required in adequately ventilated areas. If vapor concentration exceeds 20ppm for longer than 15 minutes, a niosh approved respirator for organic vapors is recommended.
Other protective equipment: long sleeved shirts and trousers. Emergency showers and eye wash stations should be readily accessible.

Section 9: Physical and Chemical Properties

BOILING POINT: >79.6°C (175°F)
VAPOR PRESSURE: 3.7mmhg @ 20°C (68°F)
VAPOR DENSITY: 2.4 (AIR = 1)
SOLUBILITY IN WATER: INSOLUBLE
COEFFICIENT of WATER/OIL DISTRIBUTION: ND
SPECIFIC GRAVITY: 1.2-1.3
MELTING POINT: ND
EVAPORATION RATE: >1 (BUTYL ACETATE = 1)
ph: NA
ODOR THRESHOLD: ND
APPEARANCE AND ODOR: HAZY LIQUID, SWEET SOLVENT ODOR
% VOLATILES BY VOLUME: 32% %
SOLIDS BY WEIGHT: 65%
Solubility in / Miscibility with Water: Insoluble
VOC content: 0 g/L VOC

Section 10: Stability and Reactivity

Stability: stable;
Conditions to avoid: not applicable (material is stable)
Incompatibility (material to avoid): oxidizing agents (perchlorates, nitrates), strong acids, hypochlorites, peroxides.
Hazardous decomposition products: co, co2
Hazardous polymerization (reactivity): will not occur.

Section 11: Toxicological Information

Eyes:
Acute – Liquid, aerosols, or vapors are severely irritating and can cause pain, tearing, reddening, and swelling. If left untreated, corneal damage can occur, and injury is slow to heal. However, damage is usually reversible.
Chronic – Prolonged vapor contact may cause conjunctivitis
Skin contact:
Acute – repeated or prolonged skin contact can result in dry, defatted and cracked skin causing increased susceptibility to infection. In addition irritation may develop into Dermatitis. Solvents can penetrate the skin and may cause effects similar to those identified under acute inhalation symptoms.
Chronic – may cause effects similar to those identified under chronic inhalation effects.
Skin absorption:
Acute – nd chronic – inhalation:
Acute – solvent vapors are irritating to the eyes nose and throat. Symptoms of irritation may include red, itchy eyes, dryness of the throat and a feeling of tightness in the chest. Other possible symptoms of overexposure include: headache, dizziness, nausea, narcosis fatigue and loss of appetite.
Chronic – chronic exposure to organic solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include loss of memory, loss of intellectual ability and loss of coordination. Ingestion:
Acute – can result in irritation of the digestive tract. Symptoms can include sore throat abdominal pain nausea, vomiting and diarrhea. Vomiting may cause aspiration of solvent resulting in chemical pneumonitis
Chronic – nd
Conditions aggravated by exposure: skin disorders and allergies.
Acute toxicity: no data on the product itself **acute oral** toxicity- components aspartic ester ld50: >5000 mg/kg species: rat
Parachlorobenzotriflouride ld50: 13000 mg/kg species: rat
Modified carbonate bis-oxazolidine ld50: >2000 mg/kg species: rat

Acute dermal toxicity- components aspartic ester ld50: >2000 mg/kg species: rat
Parachlorobenzotriflouride ld50: 2700 mg/kg species: rabbit
Modified carbonate bis-oxazolidine ld50: >2000 mg/kg species: rat
Acute inhalation toxicity- components oecd test guidline 403
Aspartic ester lc50: 4.224 mg/l
Parachlorobenzotriflouride lc50: 4470 ppm

Skin corrosion/irritation slightly to moderately irritating serious eye
damage/eye irritation slightly to moderately irritating sensitization
Dermal: positive (guinea pig, magnusson/klingman (maximization test)) specific target
organ systemic toxicity (single exposure) category 3 (irritating to the respiratory system)
Specific target organ systemic toxicity (repeated exposure)
Nd
Carcinogenic data: ntp: none
osha: none
iarc: none teratogenicity: no
mutagenicity: no
Embryotoxicity: no
synergistic material: no

Section 12: Ecological Information (non-mandatory)

Likely routes of exposure include eye contact, skin contact, inhalation, and ingestion.

Eyes:

Acute – Liquid, aerosols, or vapors are severely irritating and can cause pain, tearing, reddening, and swelling. If left untreated, corneal damage can occur, and injury is slow to heal. However, damage is usually reversible.

Chronic – Prolonged vapor contact may cause conjunctivitis

Skin contact:

Acute – repeated or prolonged skin contact can result in dry, defatted and cracked skin causing increased susceptibility to infection. In addition irritation may develop into Dermatitis. Solvents can penetrate the skin and may cause effects similar to those identified under acute inhalation symptoms.

Chronic – may cause effects similar to those identified under chronic inhalation effects.

Skin absorption:

Acute – nd chronic –

inhalation:

Acute – solvent vapors are irritating to the eyes nose and throat. Symptoms of irritation may include red, itchy eyes, dryness of the throat and a feeling of tightness in the chest. Other possible symptoms of overexposure include: headache, dizziness, nausea, narcosis fatigue and loss of appetite.

Chronic – chronic exposure to organic solvents has been associated with various neurotoxic effects including permanent brain and nervous system damage. Symptoms include loss of memory, loss of intellectual ability and loss of coordination.

Ingestion:

Acute – can result in irritation of the digestive tract. Symptoms can include sore throat abdominal pain nausea, vomiting and diarrhea. Vomiting may cause aspiration of solvent resulting in chemical pneumonitis

Chronic – nd

Conditions aggravated by exposure: skin disorders and allergies.

Acute toxicity: no data on the product itself **acute oral**
Toxicity- components aspartic ester ld50: >5000 mg/kg species: rat
Parachlorobenzotriflouride ld50: 13000 mg/kg species: rat
Modified carbonate bis-oxazolidine ld50: >2000 mg/kg species: rat

Acute dermal toxicity- components aspartic ester ld50: >2000 mg/kg species: rat
Parachlorobenzotriflouride ld50: 2700 mg/kg species: rabbit
Modified carbonate bis-oxazolidine ld50: >2000 mg/kg species: rat

Acute inhalation toxicity- components oecd test guidline 403
Aspartic ester lc50: 4.224 mg/l
Parachlorobenzotriflouride lc50: 4470 ppm

Skin corrosion/irritation
slightly to moderately irritating
serious eye damage/eye irritation slightly to moderately irritating **sensitization**
Dermal: positive (guinea pig, magnusson/klingman (maximization test))
specific target organ systemic toxicity (single exposure) category 3 (irritating to respiratory system)
Specific target organ systemic toxicity (repeated exposure) Nd

Carcinogenic data:
ntp: none
osha: none
iarc: none teratogenicity: no
mutagenicity: no
Embryotoxicity: no
synergistic material: no

Toxicity
Acute toxicity to aquatic invertebrates: components

Aspartic ester ec50 (24 hrs): >100 mg/l species: daphnia magna parachlorobenzotriflouride ec50 (48 hrs): 15 mg/l species: daphnia magna
Modified carbonate bis-oxazolidine ec50 (48 hrs): 6.14 mg/l species: daphnia magna
Acute toxicity to algae/aquatic plants: components
Nd

Toxicity to bacteria: components
Nd

Chronic aquatic toxicity
Chronic toxicity to aquatic invertebrates
Long lasting adverse effects to aquatic organisms

Persistance and degradability
Biodegradability: not readily biodegradable (by oecd criteria)

Bioaccumulative
potential bioaccumulation: nd
mobility in soil: nd

Section 13: Disposal Considerations (non-mandatory)

13.1 Waste Disposal Method
The packaging and material may be landfilled; however, the material should be covered to minimize the generation of airborne dust. This product is not classified as hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state, and federal regulations.
13.2 Other disposal considerations Uncleaned packaging
Recommendation: Disposal must be made by local, state, and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

Section 14: Transport Information (non-mandatory)

DOT PROPER SHIPPING NAME: UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III **PACKAGING GROUP:** III
DOT PRODUCT RQ LBS (KGS): 5000 LBS. (2272.7 KGS)
HAZARD LABEL: FLAMMABLE LIQUID HAZARD **PLACARD:** FLAMMABLE LIQUID
IMO SHIPPING DATA: UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III **ICAO/IATA SHIPPING DATA:** UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III
PASSENGER AIR MAX QUANTITY: 60L **PASSENGER PACKING INSTRUCTION:** 309 **CARGO AIR- MAX QUANTITY:** 220L **CARGO AIR INSTRUCTION NUMBER:** 310

Section 15: Regulatory Information (non-mandatory)

VOC: COMPONENT: 0 grams/Liter **AS APPLIED:** 0 grams/Liter (PART OF MULTI-COMPONENT SYSTEM) **TSCA (TOXIC SUBSTANCE CONTROL ACT):** ALL COMPONENTS ARE LISTED IN THE TSCA CHEMICAL SUBSTANCE INVENTORY.
CERCLA (COMPREHENSIVE RESPONSE COMPENSATION and LIABILITY ACT): NA
SARA TITLE III
SECTION 312 HAZARD CLASS: IMMEDIATE (ACUTE) HEALTH HAZARD, DELAYED HEALTH HAZARD; FIRE HAZARD.
SECTION 313 LISTED INGREDIENTS: NONE
CALIFORNIA PROPOSITION 65: The below list of compounds is known to the State of California to cause cancer, birth defects or other reproductive harm: NONE

Section 16: Other Information

Last Updated: May 12, 2025
NOTE: The information and recommendations contained herein are based upon data believed to be

correct. However, no guarantee or warranty of any kind, express or implied, is made concerning the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by exposure to silica contained in our products.

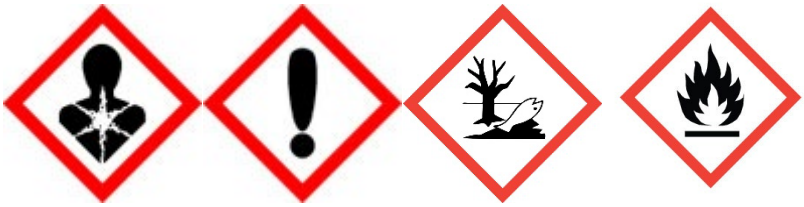
SAFETY DATA SHEET

Section 1: Identification

Product Name: CL+ Clear Coat B
Product Number: CL+-B
Company: FlowStone
Address: 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688
Business Phone: +1 (949) 709-3986
Emergency Phone: Chemtrec US (800) 424-9300
Date of Current Revision: May 09, 2025

Section 2: Hazard(s) Identification

Classification (GHS-US) Label Elements
GHS-US Labeling
GLOBALLY HARMONIZED SYSTEM (GHS) CLASSIFICATION:
FLAMMABLE LIQUIDS: CATEGORY 2
ACUTE TOXICITY: CATEGORY 4 (INHALATION-MIST)
RESPIRATORY SENSITIZATION: CATEGORY 1
SKIN SENSITIZATION: CATEGORY 1
ACUTE AQUATIC TOXICITY: CATEGORY 2
CHRONIC AQUATIC TOXICITY: CATEGORY 3
GHS LABEL ELEMENTS



2.1 HAZARD PICTOGRAMS Signal word DANGER!

2.2 b Hazard Statements
H226: FLAMMABLE LIQUID AND VAPOR H332: HARMFUL IF H226: FLAMMABLE LIQUID AND VAPOR H319: CAUSES SERIOUS EYE IRRITATION
H334: MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED H317: MAY CAUSE AN ALLERGIC SKIN REACTION
H335: MAY CAUSE RESPIRATORY IRRITATION H315: CAUSES SKIN IRRITATION
H411: TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS
PRECAUTIONARY STATEMENTS:
PREVENTION
P280: WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION P271: USE ONLY OUTDOORS OR IN WELL VENTILATED AREA
P261: AVOID BREATHING MIST/VAPORS
P210: KEEP AWAY FROM HEAT, SPARKS, OPEN FLAMES, AND HOT SURFACES. NO SMOKING P273: AVOID RELEASE TO THE ENVIRONMENT
P284: (IN CASE OF INADEQUATE VENTILATION) WEAR RESPIRATORY PROTECTION. P240: GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT
P241: USE EXPLOSION-PROOF ELECTRICAL, VENTILATING AND LIGHTING EQUIPMENT P242: USE ONLY NON-SPARKING TOOLS
P243: TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE
P272: CONTAMINATED WORK CLOTHING SHOULD NOT BE ALLOWED OUT OF THE WORKPLACE

RESPONSE
P303+P361+353: IF ON SKIN (OR HAIR): REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER
P333+P311: IF SKIN IRRITATION OR RASH OCCURS: CALL A POISON CENTER OR DOCTOR/PHYSICIAN P305+P351+P338: IF IN EYES: RINSE CAUTIOUSLY WITH

WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO SO. CONTINUE RINSING.
P337+P313: IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION
P304+P340: IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING
P362+P364: TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE.
P370+P378: IN CASE OF FIRE: USE DRY CHEMICAL, CARBON DIOXIDE (CO2), FOAM, OR WATER SPRAY (FOR LARGE FIRES) TO EXTINGUISH

STORAGE

P403+P235: STORE IN A WELL-VENTILATED PLACE. KEEP COOL P233: KEEP CONTAINER TIGHTLY CLOSED

DISPOSAL

P501: DISPOSE OF CONTENTS/CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT

OTHER HAZARDS

NO DATA AVAILABLE

EMERGENCY OVERVIEW:

DANGER!

HARMFUL IF INHALED RESPIRATORY SENSITIZER
MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LIVER, GASTROINTESTINAL TRACT, RESPIRATORY TRACT, SKIN, NERVOUS SYSTEM, EYE, LENS OR CORNEA FLAMMABLE LIQUID AND VAPOR
VAPOR MAY CAUSE FLASH FIRE SKIN SENSITIZER

Section 3: Composition/ Information on Ingredients

Hazardous ingredients	Wt. %	Cas number
Homopolymer of hexamethylene diisocyanate	60-100	028182-81-2
Parachlorobenzotriflouride	15-40	000098-56-6
Hexamethylene-1,6- diisocyanate	0.1-1.0	000822-06-0

Section 4: First-Aid Measures

4.1 Description of the first-aid measures General information:

General: remove person from affected area and make comfortable. Treat symptomatically.
Eyes: flush with water for 15 minutes. Get medical attention.
Skin: remove product and flush affected area with water for 15 minutes. If irritation persists get medical attention.
Inhalation: move to fresh air. Give assisted respiration if breathing has stopped or is labored (call a physician).
Ingestion: give 3 – 4 glasses of water or milk if person conscious. Do not induce vomiting! Obtain medical care and treatment.

Notes to physician:
Eyes: stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.
Skin: this compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.
Ingestion: treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.
Inhalation: treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any isocyanate.

Section 5: Fire-Fighting Measures

Flash point: 46.6°c (116°f) tcc (pcbtf) **conditions of flammability:** na
Flammable limits: lel: 0.9% **uel:** 10.5% **auto ignition temp.:** nd
Osha class: flammable liquid, packing group iii
Hazardous combustion products: co, co2, aldehydes, acids
Sensitivity to impact: nd
Sensitivity to static discharge: nd
Extinguishing media: ignition may give rise to a class b fire. In case of fire use: water fog, carbon dioxide, dry chemical, alcohol foam.
Special fire fighting procedures: wear self-contained breathing apparatus and protective clothing. Water spray is useful in cooling fire-exposed vessels and in dispersing vapors.
Unusual fire and explosive hazards: may generate toxic or irritating combustion products. Sudden reaction and fire may result if product is mixed with an oxidizing agent. Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source.

Section 6: Accidental Release Measures

Steps to be taken in case material is released or spilled: evacuate non- essential personnel. Shut off sources of ignition. Put on personal protective equipment. Control source of leak. Ventilate. Contain the spill to prevent spread to drains, sewers, water supplies, or soil. Pour decontamination solution over spill and allow to react for at least 15 minutes. Collect material in open containers with further amounts of decontamination solution. Wash down spill area with decontamination solution. Decontamination solutions: colorimetric laboratories inc. (cli) decontamination solution or 20% non-ionic surfactant (tergitol tmn-10) with 80% water. Other information: refer to protective measures listed in sections 7 and 8.

Section 7: Handling and Storage

General: store in cool, well ventilated areas. Keep away from heat and open flames. Avoid prolonged inhalation of heated vapors or mists. Avoid prolonged skin contact. Use non-sparking tools and grounding cables when transferring. Containers may be hazardous when empty.

Storage: avoid temperature extremes. Store away from excessive heat, from sources of ignition and from reactive materials. Material can burn; limit indoor storage to areas equipped with automatic sprinklers. Store out of direct sunlight in a cool place. Keep containers tightly closed. Ground all metal containers during storage and handling.

Section 8: Exposure Controls/Personal Protection

EXPOSURE LIMITS (ppm)

INGREDIENTS (CAS)	OSHA TWA STEL	ACGIH TWA STEL	OTHER
136210-32-7	NE NE	NE NE	
000098-56-6	NE NE	NE NE	
045899-78-1	NE NE	NE NE	

LEGEND: (M) MAX. EXPOSURE LIMIT; (S) OCCUPATIONAL EXP. LIMIT; (R) SUPPLIERS REC. LIMIT, (+) PERCUTANEOUS RISK NOTE 1:
VALUES MEANINGFUL ONLY WHEN HARDENED PRODUCT IS ABRADED, GROUND, ETC.
ENGINEERING CONTROLS: EXHAUST VENTILATION SUFFICIENT TO KEEP AIRBORNE CONCENTRATION OF THE SOLVENTS BELOW THEIR RESPECTIVE TLV'S. EXHAUST AIR MAY NEED TO BE CLEANED BY SCRUBBERS OR FILTERS TO REDUCE ENVIRONMENTAL CONTAMINATION.
PROTECTIVE GLOVES: NITRILE RUBBER

Section 9: Physical and Chemical Properties

BOILING POINT: >139°C (283°F)
SPECIFIC GRAVITY: 1.10-1.20
VAPOR PRESSURE: 1.01kPa @ 25°C (77°F)
MELTING POINT: ND
VAPOR DENSITY: 6.24 (AIR = 1)
EVAPORATION RATE: 0.9 (PCBTF) (BUTYL ACETATE = 1)
SOLUBILITY IN WATER: INSOLUBLE, REACTS SLOWLY WITH WATER TO LIBERATE CO2 GAS
pH: NA
COEFFICIENT of WATER/OIL DISTRIBUTION: ND
ODOR THRESHOLD: ND

APPEARANCE AND ODOR: CLEAR LIQUID, AROMATIC SOLVENT ODOR
% VOLATILES BY VOLUME: 40% SOLIDS BY WEIGHT: 57%

Section 10: Stability and Reactivity

Stability: stable; however may form peroxides of unknown stability
Conditions to avoid: not applicable (material is stable).
Incompatibility (materials to avoid)- water, amines, strong bases, alcohols, metal compounds and surface active materials.
Hazardous decomposition products: by high heat and fire; co, co2, oxides of nitrogen, hcn, hdi**.**
Hazardous polymerization (reactivity): may occur. Contact with moisture or other materials that react with isocyanates or temperatures over 400f (204c) may cause polymerization

Section 11: Toxicological Information

LIKELY ROUTES OF EXPOSURE: EYE CONTACT, SKIN CONTACT, INHALATION, INGESTION.
EYES:
ACUTE – VAPORS ARE IRRITATING AND CAN CAUSE PAIN, TEARING, REDDENING AND SWELLING. IF LEFT UNTREATED, CORNEAL DAMAGE CAN OCCUR AND INJURY IS SLOW TO HEAL. HOWEVER DAMAGE IS USUALLY REVERSIBLE
CHRONIC – MAY RESULT IN CORNEAL OPACITY. PROLONGED VAPOR CONTACT MAY CAUSE CONJUNCTIVITIS.
SKIN CONTACT:

ACUTE – ISOCYANATES REACT WITH SKIN PROTEIN AND MOISTURE AND CAN CAUSE IRRITATION. SYMPTOMS OF SKIN IRRITATION MAY BE REDDENING, SWELLING, RASH, SCALING OR BLISTERING. SOME PERSONS MAY DEVELOP SKIN SENSITIZATION FROM SKIN CONTACT. CURED MATERIAL IS DIFFICULT TO REMOVE. REPEATED OR PROLONGED SKIN CONTACT WITH SOLVENTS CAN RESULT IN DRY, DEFATTED AND CRACKED SKIN CAUSING INCREASED SUSCEPTIBILITY TO INFECTION. IN ADDITION IRRITATION MAY DEVELOP INTO DERMATITIS. SOLVENTS CAN PENETRATE THE SKIN AND MAY CAUSE EFFECTS SIMILAR TO THOSE IDENTIFIED UNDER ACUTE INHALATION SYMPTOMS.
CHRONIC – PROLONGED CONTACT WITH ISOCYANATES CAN CAUSE REDDENING, SWELLING, RASH, SCALING OR BLISTERING. IN THOSE WHO HAVE DEVELOPED A SKIN SENSITIZATION, THESE SYMPTOMS CAN DEVELOP AS A RESULT OF CONTACT WITH VERY SMALL AMOUNTS OF LIQUID OR EVEN AS A RESULT OF VAPOR-ONLY EXPOSURE. SOLVENTS CAN PENETRATE THE SKIN AND MAY CAUSE SYSTEMIC EFFECTS SIMILAR TO THOSE IDENTIFIED UNDER CHRONIC INHALATION EFFECTS.
SKIN ABSORPTION:

ACUTE – ND **CHRONIC –** ND **INHALATION:**
ACUTE – HDI AEROSOLS OR VAPORS AT CONCENTRATIONS ABOVE THE APPLICABLE EXPOSURE LIMITS CAN IRRITATE THE MUCOUS MEMBRANES IN THE RESPIRATORY TRACT CAUSING RUNNY NOSE, SORE THROAT, COUGHING, CHEST DISCOMFORT, SHORTNESS OF BREATH AND REDUCED LUNG FUNCTION. PERSONS WITH PRE-EXISTING NONSPECIFIC BRONCHIAL HYPER REACTIVITY CAN RESPOND TO CONCENTRATIONS BELOW THE EXPOSURE LIMITS WITH SIMILAR SYMPTOMS AS WELL AS AN ASTHMA ATTACK. EXPOSURE WELL ABOVE THE EXPOSURE LIMITS MAY LEAD TO BRONCHITIS, BRONCHIAL SPASM AND PULMONARY EDEMA. CHEMICAL OR HYPERSENSITIVE PNEUMONITIS HAS ALSO BEEN REPORTED. SOLVENT VAPORS ARE IRRITATING TO THE EYES NOSE AND THROAT. SYMPTOMS OF IRRITATION MAY INCLUDE RED, ITCHY EYES, DRYNESS OF THE THROAT AND A FEELING OF TIGHTNESS IN THE CHEST. OTHER POSSIBLE SYMPTOMS OF OVEREXPOSURE INCLUDE: HEADACHE, DIZZINESS, NAUSEA, NARCOSIS,
FATIGUE AND LOSS OF APPETITE.

CHRONIC – AS A RESULT OF PREVIOUS REPEATED OVEREXPOSURES OR A SINGLE LARGE DOSE, CERTAIN INDIVIDUALS WILL DEVELOP ISOCYANTE SENSITIZATION (CHEMICAL ASTHMA) WHICH WILL CAUSE THEM TO REACT TO A LATER EXPOSURE TO ISOCYANATES AT LEVELS WELL BELOW APPLICABLE EXPOSURE LIMITS. THESE SYMPTOMS, WHICH INCLUDE CHEST TIGHTNESS, WHEEZING, COUGH,
SHORTNESS OF BREATH OR ASTHMATIC ATTACK, COULD BE IMMEDIATE OR DELAYED UP TO SEVERAL HOURS AFTER EXPOSURE. SIMILAR TO MANY NON-SPECIFIC ASTHMATIC RESPONSES, THERE ARE REPORTS THAT ONCE SENSITIZED AN INDIVIDUAL CAN EXPERIENCE THESE

SYMPTOMS UPON EXPOSURE TO DUST, COLD AIR OR OTHER IRRITANTS. THIS INCREASED LUNG SENSITIVITY CAN PERSIST FOR WEEKS AND IN SEVERE CASES FOR SEVERAL YEARS. CHRONIC OVEREXPOSURE TO ISOCYANTES HAS ALSO BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING DECREASE IN LUNG FUNCTION, WHICH MAY BE PERMANENT. SENSITIZATION MAY BE EITHER TEMPORARY OR PERMANENT. CHRONIC EXPOSURE TO ORGANIC SOLVENTS HAS BEEN ASSOCIATED WITH VARIOUS NEUROTOXIC EFFECTS INCLUDING PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. SYMPTOMS INCLUDE LOSS OF MEMORY, LOSS OF INTELLECTUAL ABILITY AND LOSS OF COORDINATION. **INGESTION:**
ACUTE – CAN RESULT IN IRRITATION AND POSSIBLE CORROSIVE ACTION IN THE MOUTH, STOMACH TISSUE AND DIGESTIVE TRACT. SYMPTOMS CAN INCLUDE SORE THROAT, ABDOMINAL PAIN, NAUSEA, VOMITING AND DIARRHEA. VOMITING MAY CAUSE ASPIRATION OF SOLVENT RESULTING IN CHEMICAL PNEUMONITIS
CHRONIC – ND
CONDITIONS AGGRAVATED BY EXPOSURE: ASTHMA AND OTHER RESPIRATORY DISORDERS, SKIN ALLERGIES, ECZEMA

ACUTE TOXICITY: NO DATA ON THE PRODUCT ITSELF
ACUTE ORAL TOXICITY- COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE LD50: >2500mg/kg SPECIES: RAT
PARACHLOROBENZOTRIFLOURIDE LD50: 13000 mg/kg SPECIES: RAT

ACUTE DERMAL TOXICITY- COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE LD50: >2000 mg/kg SPECIES: RAT
PARACHLOROBENZOTRIFLOURIDE LD50: 2700 mg/kg SPECIES: RABBIT
ACUTE INHALATION TOXICITY- COMPONENTS OECD TEST GUIDLINE 403 HEXAMETHYLENE-1,6-DIISOCYANATE LC50: 0.467 mg/l PARACHLOROBENZOTRIFLOURIDE LC50: 4470 ppm
OECD TEST GUIDLINE 403

SKIN CORROSION/IRRITATION SLIGHTLY TO MODERATELY IRRITATING **SERIOUS EYE DAMAGE/EYE IRRITATION** SLIGHTLY TO MODERATELY IRRITATING **SENSITIZATION** PULMONARY AND DERMAL SENSITIZER IN ANIMALS AND HUMANS. EVIDENCE EXISTS THAT CROSS SENSITIZATION BETWEEN HDI AND OTHER ISOCYANATES, PARTICULARLY HYDROGENATED MDI AND TDI, CAN OCCUR.
SPECIFIC TARGET ORGAN SYSTEMIC TOXICITY (SINGLE EXPOSURE)
CATEGORY 3 (IRRITATING TO RESPIRATORY SYSTEM)
CARCINOGENIC DATA: NTP: NONE **OSHA:** NONE **IARC:** NONE
TERATOGENICITY: NO
MUTAGENICITY: NO
EMBRYOTOXICITY: NO

Section 12: Ecological Information (non-mandatory)

TOXICITY
AQUATIC TOXICITY: NO DATA ON THE PRODUCT ITSELF. BASED ON THE COMPONENTS THE PRODUCT IS ACUTELY HARMFUL FOR AQUATIC ORGANISMS.

ACUTE TOXICITY TO FISH- COMPONENTS
HEXAMETHYLENE-1,6-DIISOCYANATE LC50 (96 HRS): 100 mg/l SPECIES: FATHEAD MINNOW
PARACHLOROBENZOTRIFLOURIDE LC50 (96 HRS): 5.6 mg/l SPECIES: FATHEAD MINNOW

ACUTE TOXICITY TO AQUATIC INVERTEBRATES: COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE EC50 (48 HRS): 127 mg/l SPECIES: DAPHNIA MAGNA
PARACHLOROBENZOTRIFLOURIDE EC50 (48 HRS): 15 mg/l SPECIES: DAPHNIA MAGNA

ACUTE TOXICITY TO ALGAE/AQUATIC PLANTS: COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE EC50 (72 HRS): >1000 mg/l SPECIES: GREEN ALGAEPARACHLOROBENZOTRIFLOURIDE ND

TOXICITY TO BACTERIA: COMPONENTS
HEXAMETHYLENE-1,6- DIISOCYANATE EC50: > 880mg/l ACTIVATED SLUDGE
PARACHLOROBENZOTRIFLOURIDE ND

CHRONIC AQUATIC TOXICITY
CHRONIC TOXICITY TO AQUATIC INVERTEBRATES
LONG LASTING ADVERSE EFFECTS TO AQUATIC ORGANISMS

PERSISTANCE AND DEGRADABILITY
BIODEGRADABILITY: NOT READILY BIODEGRADABLE (BY OECD CRITERIA)

BIOACCUMULATI
VE POTENTIAL
BIOACCUMULATI
ON: ND
PARTITION COEFFECIENT: N-OCTANOL/WATER(LOG POW): ND

MOBILITY IN SOIL: ND

Section 13: Disposal Considerations (non-mandatory)

13.1 Waste Disposal Method
The packaging and material may be landfilled; however, the material should be covered to minimize the generation of airborne dust. This product is not classified as hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state, and federal regulations.
13.2 Other disposal considerations Uncleaned packaging
Recommendation: Disposal must be made by local, state, and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

Section 14: Transport Information (non-mandatory)

DOT PROPER SHIPPING NAME: UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III **PACKAGING GROUP:** III
DOT PRODUCT RQ LBS (KGS): 5000 LBS. (2272.7 KGS)
HAZARD LABEL: FLAMMABLE LIQUID HAZARD **PLACARD:** FLAMMABLE LIQUID
IMO SHIPPING DATA: UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III **ICAO/IATA SHIPPING DATA:** UN1866, RESIN SOLUTION, FLAMMABLE, (CONTAINS PCBTF), 3, PG III
PASSENGER AIR MAX QUANTITY: 60L **PASSENGER PACKING INSTRUCTION:** 309 **CARGO AIR- MAX QUANTITY:** 220L **CARGO AIR INSTRUCTION NUMBER:** 310

Section 15: Regulatory Information (non-mandatory)

VOC: COMPONENT: 0 grams/Liter AS APPLIED: 0 grams/Liter (PART OF MULTI-COMPONENT SYSTEM)
TSCA (TOXIC SUBSTANCE CONTROL ACT): ALL COMPONENTS ARE LISTED IN THE TSCA CHEMICAL SUBSTANCE INVENTORY.
CERCLA (COMPREHENSIVE RESPONSE COMPENSATION and LIABILITY ACT): NA
SARA TITLE III
SECTION 312 HAZARD CLASS: IMMEDIATE (ACUTE) HEALTH HAZARD, DELAYED HEALTH HAZARD; FIRE HAZARD.
SECTION 313 LISTED INGREDIENTS: CAS# 822-06-0 HEXAMETHYLENE DIISOCYANATE
CALIFORNIA PROPOSITION 65: The below list of compounds is known to the State of California to cause cancer, birth defects or other reproductive harm: NONE

Section 16: Other Information

Last Updated: May 12, 2025
NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made concerning the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by exposure to silica contained in our products.
HAZARD RATING
HMIS: HEALTH 2 FLAMMABILITY 1 REACTIVITY 1

LEGEND

ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

STEL: SHORT TERM EXPOSURE LIMIT TWA: TIME WEIGHTED AVERAGE PEL: PERMISSIBLE **EXPOSURE LIMIT TLV:** THRESHOLD LIMIT VALUE

NA: NOT APPLICABLE

NE: NOT ESTABLISHED

ND: NO DATA

SAFETY DATA SHEET

Section 1: Identification

Product Name: CO+ Color ORE
Product Number: CO+ Color ORE
Company: FlowStone
Address: 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688
Business Phone: +1 (949) 709-3986
Emergency Phone: Chemtrec US (800) 424-9300
Date of Current Revision: May 09, 2025

Section 2: Hazard(s) Identification

GHS Classification:

Health	Environmental	Physical
Not Classified	**Not Classified**	**Not Classified**

GHS Label Elements:
The product does not require a hazard warning label in accordance with GHS criteria.
Hazard Symbols: None
Signal Word: None
Hazard Statements: Not Classified
Precautionary Statements: Not Applicable

Emergency Overview - NA
Contact Rating: 2 - Moderate
Lab Protective Equip: Safety glasses

Section 3: Composition/ Information on Ingredients

NGREDIENT	CAS No	EINECS	WT. %	HAZARDOUS
Pigment 11	1317-61-9	215-277-5	0.75	No
Pigment 42	20344-49-4	243-746-4	10	No
TiO2 (Titanium Dioxide)	13463-67-7	236-675-5	30	No
VCAS (Glass Oxide)	65997-17-3	266-046-0	59.25	No

Section 4: First-Aid Measures

Necessary Measures:
Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with plenty of soap and water. Thoroughly clean contaminated clothing and shoes before reuse. If irritation persists, seek medical attention.
Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Symptoms / Effects:
Inhalation: Inhalation of dusts may irritate the nose, throat and upper respiratory tract. In severe cases, remove to fresh air immediately. Call physician.
Ingestion: No significant effects.
Skin Contact: May cause skin irritation if in contact for an extended period of time.
Eye Contact: The more common hazards are local irritation or abrasion. In severe cases absorption can occur through eye tissues and may cause corneal injury.
Chronic Exposure: None known.
Aggravation of Pre-existing Conditions: None known.

Section 5: Fire-Fighting Measures

Fire:
Not considered to be a fire hazard.
Explosion: Not considered to be an explosion hazard. Sealed containers may rupture when heated.
Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways. Carbon dioxide, water spray or foam are all suitable.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.
Fire Fighting Equipment:
Wear self-contained breathing apparatus and protective suit.

Section 6: Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate PPE as specified in Section 8.

Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Dispose of in accordance with Federal, State of local procedures.

Section 7: Handling and Storage

Handling: Take suitable precautions against the discharge of static electricity during powder handling operation. Wear special protective equipment (Sec. 8) for maintenance break-in. Wash hands, face, forearms and neck when exiting restricted areas. Observe all warnings and precautions listed for the product

Storage: Store in a tightly closed container in a cool, dry, ventilated area. Protect against physical damage. When wet, it can cause slippery conditions.

Section 8: Exposure Controls/Personal Protection

For Nuisance Dust (Pigment Black 11, Pigment Yellow 42, TR-93 TiO2 (Titanium Dioxide), VCAS):
OSHA Threshold Limit Value (TLV):
15 mg/m3 TWA Total Dust
5 mg/m3 Respirable Dust
For Chromium (III) Oxide:
- Long term Exposure Limit (8-hour TWA):
0.5 mg/m3 TWA (ACGIH)
- OSHA Permissible Exposure Limit (8-hour PEL):
0.5 mg/m3 TWA

Ventilation System:
Good natural ventilation will be sufficient in most circumstances. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Respirators (NIOSH Approved):
Use NIOSH approved respirator as needed to mitigate exposure. If the exposure limit is exceeded, a half-face high efficiency dust/mist respirator may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.
Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.
Eye Protection:
Safety glasses with side shields. Maintain eye wash fountain in work area.

Section 9: Physical and Chemical Properties

Appearance:	Powder	**Vapor Density (Air=1):**	Not applicable
Odor:	Odorless	**Melting Point:**	> 1600°C
Solubility:	Insoluble	**Vapor Pressure (mm Hg):**	Not applicable
Density:	4.0-5.0	**% Volatiles by volume:**	Not applicable
pH:	Range of 6.5 – 8.0	**Evaporation Rate (BuAc = 1):**	Not applicable
Boiling Point:	Not applicable		

Section 10: Stability and Reactivity

Stability:	Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:	None.

Hazardous Polymerization:	Will not occur.
Incompatibilities:	None.
Conditions to Avoid:	None.

Section 11: Toxicological Information

Toxicological Data:
Toxicological Data:
No information.
Reproductive Toxicity: Not available

Section 12: Ecological Information (non-mandatory)

Environmental Fate:
When released into the soil, this material may leach into groundwater. This material may be removed from the atmosphere to a moderate extent by wet deposition. Organic pigments are generally insoluble compounds, and as such are believed to have minimal bioaccumulation and bio-availability characteristics.

Environmental Toxicity:
No information found.

Section 13: Disposal Considerations (non-mandatory)

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14: Transport Information (non-mandatory)

U.S. Department of Transportation (D.O.T.)
International Maritime Dangerous Goods (I.M.O. / I.M.D.G.)
International Air (I.C.A.O. / I.A.T.A.)
Proper Shipping Name: Not Regulated
UN Number: Class:
Packing Group:
Information reported for product/size:

Section 15: Regulatory Information (non-mandatory)

OSHA Hazardous Substance:
This material is classified as not hazardous under OSHA regulations.

Clean Air Act: - Hazardous Air Pollutants (HAP):
This product does not contain any Hazardous Air Pollutants (HAP) as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

Clean Air Act – Volatile Organic Compounds (VOC):
This product does not contain any Volatile Organic Compounds (VOC), as defined by the U.S. Clean Air Act Section 111 (40 CFR 60.489).

Clean Air Act – Ozone Depleting Substances (DOS):
This product neither contains nor was manufactured with a Class I or Class II ozone depleting substance (DOS), as defined by the U.S. Clean Air Act, Section 602 (40 CFR 82, Subpt. A, App. A + B).

Clean Water Act – Priority Pollutants (PP):
This product does not contain any priority pollutants listed under the U.S. Clean Water Act, Section 307 (2) (1) Priority Pollutant List (40 CFR 401.15).

Pennsylvania / / Massachusetts / New Jersey Right-to-Know:
This product does not contain any component (s) currently on the Pennsylvania, Massachusetts or New Jersey Right – to – Know list of hazardous chemicals.

California Proposition 65:

WARNING: This product can expose you to chemicals including titanium dioxide (13463- 67-7, airborne, unbound particles of respirable size), which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

WHMIS:
This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

Section 16: Other Information

Last Updated: May 12, 2025
NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made concerning the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by exposure to silica contained in our products.

HMIS Information:	**NFPA Information:**
Health: 1	Health: 1
Flammability: 0	Flammability: 0
Physical Hazard: 0	Physical Hazard: 0

HMIS and NFPA uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates extreme hazard. Although similar, the two ratings systems are intended for different purposes, and use different criteria.

HMIS system – designed to communicate workplace hazard information to employees who handle hazardous chemicals.

NFPA system – developed to provide and on-the-spot alert to the hazards of a material and their severity, to emergency responders.

NE: NOT ESTABLISHED
ND: NO DATA

SAFETY DATA SHEET

Section 1: Identification

Product Name: CO+ Color ORE-M
Product Number: CO+ Color ORE-M
Company: FlowStone
Address: 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688
Business Phone: +1 (949) 709-3986
Emergency Phone: Chemtrec US (800) 424-9300
Date of Current Revision: May 09, 2025

Section 2: Hazard(s) Identification

GHS Classification:

Health	Environmental	Physical
Not Classified	**Not Classified**	**Not Classified**

GHS Label Elements:
The product does not require a hazard warning label in accordance with GHS criteria.
Hazard Symbols: None
Signal Word: None
Hazard Statements: Not Classified
Precautionary Statements: Not Applicable

Emergency Overview - NA
Contact Rating: 2 - Moderate
Lab Protective Equip: Safety glasses

Section 3: Composition/ Information on Ingredients

NGREDIENT	CAS No	EINECS	WT. %	HAZARDOUS
Pigment 11	1317-61-9	215-277-5	0.75	No
Pigment 42	20344-49-4	243-746-4	10	No
TiO2 (Titanium Dioxide)	13463-67-7	236-675-5	30	No
VCAS (Glass Oxide)	65997-17-3	266-046-0	59.25	No

Section 4: First-Aid Measures

Necessary Measures:
Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with plenty of soap and water. Thoroughly clean contaminated clothing and shoes before reuse. If irritation persists, seek medical attention.
Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.
Symptoms / Effects:
Inhalation: Inhalation of dusts may irritate the nose, throat and upper respiratory tract. In severe cases, remove to fresh air immediately. Call physician.
Ingestion: No significant effects.
Skin Contact: May cause skin irritation if in contact for an extended period of time.
Eye Contact: The more common hazards are local irritation or abrasion. In severe cases absorption can occur through eye tissues and may cause corneal injury.

Chronic Exposure: None known.
Aggravation of Pre-existing Conditions: None known.

Section 5: Fire-Fighting Measures

Fire:
Not considered to be a fire hazard.
Explosion: Not considered to be an explosion hazard. Sealed containers may rupture when heated.
Fire Extinguishing Media:
Use any means suitable for extinguishing surrounding fire. Do not allow water runoff to enter sewers or waterways. Carbon dioxide, water spray or foam are all suitable.
Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.
Fire Fighting Equipment:
Wear self-contained breathing apparatus and protective suit.

Section 6: Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate PPE as specified in Section 8.

Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Dispose of in accordance with Federal, State of local procedures.

Section 7: Handling and Storage

Handling: Take suitable precautions against the discharge of static electricity during powder handling operation. Wear special protective equipment (Sec. 8) for maintenance break-in. Wash hands, face, forearms and neck when exiting restricted areas. Observe all warnings and precautions listed for the product

Storage: Store in a tightly closed container in a cool, dry, ventilated area. Protect against physical damage. When wet, it can cause slippery conditions.

Section 8: Exposure Controls/Personal Protection

Occupational exposure limits
OSHA PEL for

Particulates Not Otherwise Regulated (PNOR) of 15 mg/m3 - total dust, 5 mg/m3 - respirable fraction is recommended. In addition, the ACGIH recommends 3 mg/m3 - respirable particles and 10 mg/m3 - inhalable particles for Particles (insoluble or poorly soluble) Not Otherwise Specified (PNOS). The following respirator is recommended if airborne concentrations exceed the appropriate standard/guideline. NIOSH approved, air-purifying particulate respirator with N-95 filters.

Appropriate engineering controls: If needed use local exhaust ventilation to keep dust concentration bellow limits cited in this Section.
Personal Protective Equipment
Respiratory Protection:. Use a properly fitted particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product, and the safe working limits of the selected respirator. Wear a respirator conforming to EN140 with type A/P2 filter or better.
Eye/Face protection: Wear appropriate chemical safety glasses/goggles.
Hand/Skin Protection: Wear appropriate protective gloves and clothing.
General Hygiene Considerations: Do not eat, drink or smoke when using this product. Wash hands thoroughly after handing.

Section 9: Physical and Chemical Properties

Appearance: Solid, fine powder.
Physical State: solid
Color: Color varies based on product

Odor: odorless
pH: 7.0-11.0
Melting Point: NA
Boiling Point: NA
Flash point: Not applicable
Flammibility (solid,gas): Not flammable
Explosive Properties: Not explosive **Vapor Pressure:** Not applicable
Vapor Density (AIR=1): Not applicable
Density: 2.8~3.4 g / cm3
Solubility in water: Insoluble
Partition Coefficient (n-octanol/water): NOT APPLICABLE
Auto-ignition temperature: Not applicable

Section 10: Stability and Reactivity

Reactivity: No hazardous reaction known under normal conditions of use
Chemical Stability: Stable under normal conditions **Hazardous Reactions:** Stable under normal conditions **Conditions to avoid:** NA
Incompatible materials: no known incompatible materials
Hazardous Decomposition.: na
Reactivity: No hazardous reaction known under normal conditions of use

Section 11: Toxicological Information

Acute Toxicity: None **Acute Oral Toxicity:** LD50 Species: rat
Value: > 2,000 mg/kg
The product has not been tested. The statement has been derived from the properties of the individual components.
Irritation / corrosion

Acute Inhalation Toxicity: Based on available data the classification criteria are not met
Chronic Toxicity: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Irritation: may irritate eyes, skin, and respiratory tract
Sensitization: Non-sensitizing **Mutagenicity:** Non-mutagenic **Carcinogenicity:** No human carcinogen
Reproductive toxicity: No known significant effects or critical hazards on reproduction.
Aspiration hazard: Not applicable

Section 12: Ecological Information (non-mandatory)

Ecotoxicity: Based on available data, the classification criteria are not met

Persistence and degradability: Not applicable
Bioaccumulative potential: Not applicable
Mobility in soil: Not applicable
Results of PBT and vPvB assessment: The substance does not meet the criteria to be identified as PBT or vPvB

Section 13: Disposal Considerations (non-mandatory)

Disposal considerations: Dispose in a safe manner in accordance with local / state / Federal regulations. Avoid release to the environment.
It is responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal method in compliance with applicable regulations.

Section 14: Transport Information (non-mandatory)

DOT: Not regulated, not dangerous good.
Transport by sea (IMO / IMDG): Not regulated. Not dangerous good
Air transport (ICAO/ IATA): Not regulated. Not dangerous good

Section 15: Regulatory Information (non-mandatory)

Contents of this SDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200
EPA SRA Title III Chemical Listings:

US Federal Regulations
TSCA Status: all components are listed or exempted
SECTION 302: None
SECTION 312
Acute: None Chronic: None Fire: None
Pressure: none
Reactive: None

SARA 313: none
Clean Water Act: not applicable
FDA: NA

US State Regulations
Does not appear on any RTK lists

International regulations
Observe the general safety regulations when handling chemicals.
The product has not been classified and marked in accordance with EU Directives/respective national laws.
The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials
The product has not classified as dangerous according to Directive 67/548/EEC, 1999/45/EC and Regulation (EC) No.1272/2008. National regulations

Section 16: Other Information

Last Updated: May 12, 2025
NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made concerning the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects

that may be caused by exposure to silica contained in our products.

Additional Information: This Safety Data Sheet complies with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HCS- 2012) and its adaptation of United Nations 'Globally Harmonized System of Classification and Labeling of Chemicals (GHS). This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

DISCLAIMER OF LIABILITY: The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling,storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, wedo not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product isused as a component in another product, this SDS information may not be applicable.

SAFETY DATA SHEET

Section 1: Identification

Product Name: Color Coat
Product Number: CI-!2
Company: FlowStone
Address: 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688
Business Phone: +1 (949) 709-3986
Emergency Phone: Chemtrec US (800) 424-9300
Date of Current Revision: May 09, 2025

Section 2: Hazard(s) Identification

OSHA/HCS status: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture:
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 1A
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 36 .2%

GHS label elements
Hazard pictograms:

Signal word: Danger
Hazard statements
May cause an allergic skin reaction.
May cause cancer.

Precautionary statements

General: Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wear protective gloves. Avoid breathing vapor. Contaminated work clothing should not be allowed out of the workplace.

Hazards identification
Response IF exposed or concerned: Get medical attention. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention.
Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements: WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Adequate ventilation required when sanding or abrading the dried film. If Adequate ventilation cannot be provided wear an approved particulate respirator (NIOSH approved). Follow respirator manufacturer's directions for respirator use. DELAYED EFFECTS FROM LONG TERM OVEREXPOSURE. Abrading or sanding of the dry film may release Crystalline Silica which has been shown to cause lung damage and cancer under long term exposure.
Please refer to the SDS for additional information. Do not transfer contents to other containers for storage.

Hazards not otherwise classified: None known.

Section 3: Composition/ Information on Ingredients

Substance/mixture: Mixture
Other means of identification: Not available.

CAS number/other identifiers

Ingredient name	% by weight	CAS number
Titanium Dioxide	13.1	13463-67-7
zinc oxide	4.4	1314-13-2
Cristobalite	1.2	14464-46-1
Pentamethyliperidyl Sebacate	0.1	41556-26-7

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.
Occupational exposure limits, if available, are listed in Section 8.

Section 4: First-Aid Measures

Description of necessary first aid measures

Eye contact	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
Skin contact	Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately.

Most important symptoms/effects, acute and delayed
Potential acute health effects

Eye contact	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Skin contact	May cause an allergic skin reaction.
Ingestion	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	No specific data
Inhalation	No specific data.
Skin contact	Adverse symptoms may include the following: irritation redness
Ingestion	No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5: Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	Decomposition products may include the following materials: metal oxide/oxides
Special protective actions for fire-fighters	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6: Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

For non-emergency personnel	No action shall be taken involving any personal risk or without suitable training. Evacuate the surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".
Environmental precautions	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
Large spill	Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. **Note:** see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7: Handling and Storage

Precautions for safe handling

Precautions for safe handling	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective

	equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool, and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep the container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8: Exposure Controls/Personal Protection

Control parameters
Occupational exposure limits

Ingredient name	Exposure limits
Titanium Dioxide	**ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours. **OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust
zinc oxide	**NIOSH REL (United States, 10/2013).** CEIL: 15 mg/m³ Form: Dust TWA: 5 mg/m³ 10 hours. Form: Dust and fumes STEL: 10 mg/m³ 15 minutes. Form: Fume **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Fume TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction STEL: 10 mg/m³ 15
Cristobalite	**OSHA PEL Z3 (United States, 2/2013).** TWA: 250 MPPCF / 2 x (%SiO2+5) 8 hours. Form: Respirable TWA: 10 MG/M3 / 2 x (%SiO2+2) 8 hours. Form: Respirable TWA: 30 MG/M3 /

Appropriate engineering controls	If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.
Skin protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before

	handling this product.
Other skin protection	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9: Physical and Chemical Properties

Appearance

Physical state	Liquid.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	9.5
Melting point	Not available.
Boiling point	100°C (212°F)
Flash point	Closed cup: >93.3°C (>199.9°F)
Evaporation rate	0.09 (butyl acetate = 1)
Flammability (solid, gas)	Not available.
Lower and upper explosive (flammable) limits	Not available.
Vapor pressure	0.31 kPa (2.333 mm Hg) [at 20°C]
Vapor density	1 [Air = 1]
Relative density	1.37
Solubility	Not available.
Partition coefficient: noctanol/ water	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature **Viscosity**	Kinematic (room temperature): >0.205 cm2/s (>20.5 cSt) Kinematic (40°C (104°F)): >0.205 cm2/s (>20.5 cSt)

Aerosol product

Heat of combustion	0.000001365 kJ/g

Section 10: Stability and Reactivity

Reactivity	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	The product is stable.
Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	No specific data.
Incompatible materials	No specific data.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11: Toxicological Information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Titanium Dioxide	Skin - Mild irritant	Human	-	72 hours 300 Micrograms Intermittent	
zinc oxide	Eyes - Mild irritant Skin - Mild irritant	Rabbit Rabbit		24 hours 500 Milligrams 24 hours 500 milligrams	

Sensitization
Not available.

Mutagenicity
Not available.

Carcinogenicity
Not available.

Product/ingredient name	OSHA	IARC	NTP
Titanium Dioxide	-	2B	-
Cristobalite	-	1	Known to be a human carcinogen.

Reproductive toxicity
Not available.

Teratogenicity
Not available.

Specific target organ toxicity (single exposure)
Not available.

Specific target organ toxicity (repeated exposure)
Not available.

Aspiration hazard
Not available.

Information on the likely routes of exposure	Not available

Potential acute health effects

Eye contact	Not available
Inhalation	No known significant effects or critical hazards.
Skin contact	May cause an allergic skin reaction.
Ingestion	No known significant effects or critical hazards.

PSymptoms related to the physical, chemical and toxicological characteristics

Eye contact	Not available
Inhalation	No known significant effects or critical hazards.
Skin contact	Adverse symptoms may include the following: irritation redness.
Ingestion	No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure
Short-term exposure

Potential immediate effects	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Potential delayed effects	Not available.

Short-term exposure

Potential immediate effects	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Potential delayed effects	Not available.

Potential chronic health effects
Not available.

General	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	May cause cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

Numerical measures of toxicity
Acute toxicity estimates
Not available

Section 12: Ecological Information (non-mandatory)

Toxicity

Product/ingredient name	Result	Species	Exposure
Titanium Dioxide	Acute LC50 >1000000 µg/l Marine water	Fish - Fundulus heteroclitus	96 hours
zinc oxide	Acute IC50 1.85 mg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute IC50 46 µg/l Fresh water	Algae - Pseudokirchneriella subcapitata - Exponential growth phase	72 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability
Not available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Titanium Dioxide	-	352	Low
zinc oxide	-	60960	High

Mobility in soil

Soil/water partition coefficient (KOC)	Not available.
Other adverse effects	No known significant effects or critical hazards.

Section 13: Disposal Considerations (non-mandatory)

Disposal methods	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14: Transport Information (non-mandatory)

	DOT Classification	TDG Classification	Mexico Classification	IATA	IMDG
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Additional information	**Special provisions** Not Applicable	**Special provisions** Not Applicable	**Special provisions** Not Applicable	**Special provisions** Not Applicable	**Emergency schedules (EmS)** **F-A, S-F**
Environmental hazards	No	No	No	No	No

Special precautions for user	Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

Section 15: Regulatory Information (non-mandatory)

U.S. Federal regulations
State regulations

California Prop. 65 :WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Section 16: Other Information

Hazardous Material Information System (U.S.A.) Health 1 Flammability 0 Physical hazards 0
Last Updated: May 12, 2025
NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made concerning the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by exposure to silica contained in our products.

SAFETY DATA SHEET

Section 1: Identification

Product Name: Crust Coat Bag
Product Number: Cr-50
Company: FlowStone
Address: 23331 Antonio Parkway, Rancho Santa Margarita, CA 92688
Business Phone: +1 (949) 709-3986
Emergency Phone: Chemtrec US (800) 424-9300
Date of Current Revision: May 09, 2025

Section 2: Hazard(s) Identification

Hazard-determining components of labeling: Silica, Portland cement

2.1 Classification of the substance or mixture

Carcinogen – Category 1A Skin
Corrosion – Category 1B
Skin Sensitization – Category 1B
Specific Target Organ Toxicity Repeat Exposure – Category 1 Specific Target Organ Toxicity: Single Exposure – Category 3

2.2a Signal word DANGER!

2.2b Hazard Statements

May cause cancer through chronic inhalation Causes severe skin burns and serious eye damage May cause an allergic skin reaction
Causes damage to lungs through prolonged or repeated inhalation May cause respiratory irritation

2.2c Pictograms

2.2d Precautionary statements

Do not handle until all safety precautions have been read and understood.
Wear impervious gloves, such as nitrile. Wear eye protection, and protective clothing. Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Use only in a well-ventilated area. Do not breathe dust.

If swallowed: Rinse mouth. Do NOT induce vomiting.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If on skin (or hair): Remove immediately all contaminated clothing and wash before re-use. Rinse skin or hair with water.
If significant skin irritation or rash occurs: get medical advice or attention.
Immediately seek medical advice or attention if symptoms are significant or persist.

Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/containers in accordance with all regulations.

2.3 Additional Information Precautions must be observed because burns occur with little warning -- little heat is sensed**.**

2.3 a HNOC – Hazards not otherwise classified: Not applicable

2.3 b Unknown Acute Toxicity: None
2.3 C WHMIS Classification
Class D2B – Skin/Eye Irritant
Class D2A – Chronic Toxic Effects – Carcinogen
Class E – Corrosive Material

Signal Word
DANGER!

Section 3: Composition/ Information on Ingredients

Hazardous Components	CAS No.	% by Weight
Sand, Silica, Quartz	14808-60-7	40-70*
Portland Cement	65997 15 1	10-30*
Calcium Sulfoaluminate	65997-16-2	10-30*
Calcium Aluminate	12042-68-1	5-10*
Calcium Sulfate	10101-41-4	1-5*
Limestone Dust	01317-65-3	1-5*

*The concentration ranges are provided due to batch-to-batch variability. None of the constituents of this material are of unknown toxicity.

Section 4: First-Aid Measures

4.1 Description of the first-aid measures General information:
After inhalation, Remove the person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. In case of unconsciousness, place the patient stably in a side position for transportation.
After skin contact: Wash the skin with cool water and pH-neutral soap or a mild detergent. If significant skin irritation or rash occurs, get medical advice or attention.
After eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present, and easy to do. Continue rinsing.
After swallowing: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed
Inhalation: May cause respiratory tract irritation. Causes damage to organs through prolonged or repeated inhalation. This product contains crystalline silica. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. Skin contact may cause sensitization. The product becomes extremely alkaline when exposed to moisture, which can cause alkali burns and affect the mucous membranes. Precautions must be observed because burns occur with little warning—little heat is sensed.

Eye Contact: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Ingestion: May be harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or vomiting.

4.3 Indication of immediate medical attention and special treaent needed:
Immediately seek medical advice or attention if symptoms are significant or persist.

Section 5: Fire-Fighting Measures

5.1 Flammability of the Product: Non-flammable and non-combustible

5.2 Suitable extinguishing agents: Treat the surrounding material

5.3 Special hazards arising from the substance or mixture: None 5.3a Products of Combustion: None

5.3b Explosion Hazards in the Presence of Various Substances: Non-explosive in the presence of shocks

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures: Wear personal protective equipment (See section VIII). Keep unprotected persons away.

6.2 Methods and materials for containment and cleaning up: Do not allow entry into sewers/ surface, or ground water. Dispose of unwanted materials and containers properly in accordance with all regulations.

Section 7: Handling and Storage

7.1 Handling
Precautions for safe handling: Ensure good ventilation/exhaustion at the workplace. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended. Wear appropriate PPE (See section 8).Do not mix with other chemical products, except as indicated by the manufacturer. Do not get in eyes, on skin or clothing. Good housekeeping is important to prevent accumulation of dust.
7.2 Storage
Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep out of the reach of children. Keep container tightly closed and prevent exposure to humidity. To preserve product utility, do not allow water to contact the product until time of use.

Section 8: Exposure Controls/Personal Protection

8.1 Components with limit values that require monitoring at the workplace:

Hazardous Components	CAS No.	PEL (OSHA) mg/M^3	TLV (ACGIH) mg/M^3
Silica Sand, crystalline	14808-60-7	0.1	0.025 (resp)
Portland Cement	65997-15-1	5 (resp) 15 (total)	10 (resp)
Calcium Sulfoaluminate	65997-16-2	15	10
Calcium Aluminate	12042-68-1	5 (resp) 15 (total)	1 (resp)
Calcium Sulfate	10101-41-4	5 (resp) 15 (total)	10 (resp)
Limestone Dust	01317-65-3	5 (resp) 15 (total)	10 (resp)

8.2 Exposure Controls
Use ventilation adequate to keep exposures below recommended exposure limits.

8.3 General protective and hygienic measures
Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.
8.3a Personal protective equipment

Protection of hands:

Wear gloves of adequate length to offer appropriate skin protection from splashes. Nitrile, Butyl and PVC gloves have been found to offer adequate protection for incidental contact. Precautions must be observed because burns occur with little warning -- little heat is sensed.

Eye protection:
Wear approved eye protection properly fitted dust- or splash-proof chemical safety glasses.

Respiratory protection:
A NIOSH-approved dust mask or filtering face piece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional, following requirements found in
OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).

Section 9: Physical and Chemical Properties

General Information
Appearance: Form: Granular Solid
Color: Gray to gray-brown colored
Odor: None
pH-value at 20°C (68 °F): 13 (10%)
Boiling point/Boiling range: Not applicable
Flash point: Not applicable
Auto-igniting: Product is not self-igniting
Vapor pressure at 21°C (70°F) Not available
Density at 25°C (77 °F): 2.6 to 3.15

Solubility in / Miscibility with
Water: Insoluble
VOC content: 0 g/L VOC

Section 10: Stability and Reactivity

10.1 Reactivity
No dangerous reaction known under conditions of normal use.
10.2 Chemical stability
Stable under normal storage conditions. Keep in dry storage.
10.3 Possibility of hazardous reaction
No dangerous reaction known under conditions of normal use.
10.4 Thermal decomposition / conditions to be avoided
No decomposition if used according to specifications.
10.5 Incompatible materials
Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires
10.6 Hazardous Decomposition or By-products
Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

Section 11: Toxicological Information

11.1 Exposure Routes: Skin contact, skin adsorption, eye contact, inhalation, or ingestion.

11.2 Symptoms related to physical/chemical/toxicological characteristics:

Inhalation: This product contains crystalline silica, which can cause respiratory tract irritation and damage to organs through prolonged or repeated exposure. Prolonged or repeated inhalation of respirable silica from this product can cause silicosis.

Skin contact: Causes skin irritation. Handling can cause dry skin, discomfort, irritation, and dermatitis. May cause sensitization by skin contact. Product becomes extremely alkaline when exposed to moisture, and can cause alkali burns and affect the mucous membranes.

Eye Contact can cause serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, and marked redness and swelling of the conjunctiva.

Ingestion: Harmful if swallowed. Ingestion may cause discomfort and/or distress, nausea or

vomiting.

11.3 Delayed, immediate, and chronic effects of short-term and long-term exposure Short Term
Skin Corrosion/Irritation causes severe skin burns. Serious Eye Damage/ Irritation causes severe eye damage.
Respiratory Sensitization: Not available
Skin Sensitization: May cause an allergic skin reaction.
Specific Target Organ Toxicity-Single Exposure: (Category 3) may cause respiratory irritation. **Aspiration Hazard:** Not available
Specific Target Organ Toxicity- Repeated Exposure: (Category 1) Causes damage to lungs through prolonged/repeated exposure
Synergistic/Antagonistic Effects: Not available.

Section 12: Ecological Information (non-mandatory)

12.1 Ecotoxicity
It may cause long-term adverse effects on the aquatic environment. Do not allow undiluted product or large quantities to reach groundwater, water course, or sewage system. Must not reach bodies of water or drainage ditches undiluted or un-neutralized

12.2 Persistence and degradability:
No further relevant information available.

12.3 Bioaccumulative potential:
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

12.5 Other Adverse Effects
No further relevant information available.

Section 13: Disposal Considerations (non-mandatory)

13.1 Waste Disposal Method
The packaging and material may be landfilled; however, the material should be covered to minimize the generation of airborne dust. This product is not classified as hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302). Disposal must be made in accordance with local, state, and federal regulations.
13.2 Other disposal considerations Uncleaned packaging
Recommendation: Disposal must be made by local, state, and federal regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

Section 14: Transport Information (non-mandatory)

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

14.1 Environmental hazards:
Not Available

14.2 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code
Not available

14.3 Special precautions for user
Do not handle until all safety precautions have been read and understood.

Section 15: Regulatory Information (non-mandatory)

15.1 Safety, Health and Environmental Regulations/Legislations specific for the chemical
Canada
WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations and subject to Health Canada's Workplace Hazardous Material Information (WHMIS) requirements. This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

15.2 US Federal Information

SARA 302/311/312/313 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302, 311, 312 or 313.
RCRA: Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et seq.
CERCLA: Crystalline silica (quartz) is not classified as a hazardous substance under regulations of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), 40 CFR §302.
Emergency Planning and Community Right to Know Act (SARA Title III): Crystalline silica (quartz) is not an extremely hazardous substance under Section 302 and is not a toxic chemical subject to the requirements of Section 313.
FDA: Silica is included in the list of substances that may be included in coatings used in food contact surfaces, 21 CFR §175.300(b)(3)(xxvi).
NTP: Respirable crystalline silica, primarily quartz dusts occurring in industrial and occupational settings, is classified as known to be a Human Carcinogen.
OSHA Carcinogen: Crystalline silica (quartz) is not listed.

15.3 State Right to Know Laws California Prop. 65 Components
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.
California Inhalation Reference Exposure Level (REL): California established a chronic REL of 3 µg for silica (crystalline, respirable). A chronic REL is an airborne level of a substance at or below which no adverse health effects are anticipated in individuals indefinitely exposed to the substance at that level.
Massachusetts Toxic Use Reduction Act: Silica, crystalline (respirable size, <10 microns) is "toxic" for purposes of the Massachusetts Toxic Use Reduction Act.

15.4 Global Inventories
DSL All components of this product are on the Canadian DSL list.
TSCA No.: Crystalline silica (quartz) appears on the EPA TSCA inventory under the CAS No. 14808-60-7. All constituents are listed in the TSCA inventory.

Section 16: Other Information

Last Updated: May 12, 2025
NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made concerning the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects that may be caused by exposure to silica contained in our products.